GAME CHANGERS: EVERYDAY GAMEMAKERS AND THE DEVELOPMENT OF THE VIDEO GAME INDUSTRY

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Faculty of Information
University of Toronto

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Abstract

This dissertation examines the emergence of everyday gamemakers and their roles in transforming the cultural norms and practices of the global video game industry. Everyday gamemakers are digital game creators who share multiple professional and leisure-based gamemaking identities, including developers, “indies,” modders, user-generated content creators, and writers of interactive fiction. Since the Apple App Store opened in 2008, game engines and digital venues have developed and enabled widespread production and distribution of digital games. Game engines such as Unity3D, GameMaker Studio, and Construct 2, which simplify the process of making a digital game using “drag-and-drop” tools and editors, have enabled a range of gamemakers with no programming or artistic experience and training to create digital games. The simultaneous release of digital platforms such as Google Play, Steam, and itch.io, has also streamlined the process of distributing digital games into new and traditional communities of players. These developments have emerged because the video game industry perceives everyday gamemakers to be innovators in diversifying and producing products, creating jobs, and increasing profits. However, I argue that the inclusion of the everyday gamemaker has simultaneously enabled local and grassroots norms and practices to transform the production process of digital game creation in the global video game industry. To demonstrate how these
gamemakers are changing norms and practices across the industry, I focus on gamemakers’ work and leisure identities as creators of digital games; the cultural activities of the scenes in which they participate; the game engines and tools of production they use to make their games; the working conditions in which they build their games; and the distribution platforms on which they release their games. I argue that gamemakers wear many labour hats within their craft of gamemaking, which not only diversifies the work and leisure contexts of digital game production, but also enables the mixing and transformation of cultural norms and practices within the mainstream industry and the places of leisure more broadly.
Dedication

I dedicate this dissertation to Paul, Teresa and Adrian Young, my parents and brother, whose endless supply of love and support made this dissertation possible.
Acknowledgements

This dissertation began with a research methods term paper submitted to Sara Grimes, my supervisor, during the first year of my master’s degree. It is difficult to imagine I would be completing a well-funded dissertation without her countless meetings, phone chats, reference letters, article and dissertation reviews, and words of inspiration and wisdom. It’s been a privilege to have such a strong ally and mentor whose intellectual guidance will shape my future scholarship and career.

I am extremely blessed to have had the opportunity to benefit from an incredible network of support, insight, and guidance over my graduate career. I would especially like to thank Nicole Cohen and Leslie Regan Shade for their feedback, questions, and for challenging me to be a better scholar. I would also like to thank my colleagues at the Faculty of Information, University of Toronto Libraries, and other institutions around the world. They include Bardia Bina, Christine Grace Chan, Mia Consalvo, Anne Dondertman, ginger coons, Greig de Peuter, Wendy Duff, Alan Galey, Elyisa Guzik, Jenna Hartel, Lynne Howarth, Asen Ivanov, Jenna Jacobson, Jessica Lapp, Ava Lew, Chaya Litvack, Heather MacNeil, Loryl McDonald, Darragh McGee, David Nieborg, Matt Ratto, Gabby Resch, Seamus Ross, Hervé Saint-Louis, Mark Sedore, Rianka Singh, Brian Cantwell Smith, Harrison Smith, Dan Southwick, Siobhan Stevenson, Elisa Tersigni, and many other colleagues whose conversations have influenced and inspired me throughout my graduate career.

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This project was funded by the Social Sciences and Humanities Research Council of Canada (SSHRC). I would like to thank the people at SSHRC for their ongoing support of my research, and acknowledge the vital importance of a federal funding program that supports academic studies focused on critical inquiry, measured analyses of media production, consideration of marginalized groups and social justice issues, as well as public policy research. It is my great hope that SSHRC will not only continue to support these types of projects in the years to come, but expand its mandate to foster theory-driven, critical research aimed above all at the advancement of knowledge.
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<tr>
<td>2D</td>
<td>Two-dimensional.</td>
</tr>
<tr>
<td>3D</td>
<td>Three-dimensional.</td>
</tr>
<tr>
<td>2DS</td>
<td>Nintendo 2DS (two-dimensional dual-screen) hand-held console.</td>
</tr>
<tr>
<td>3DS</td>
<td>Nintendo 3DS (three-dimensional dual-screen) hand-held console.</td>
</tr>
<tr>
<td>API</td>
<td>Application Program Interface.</td>
</tr>
<tr>
<td>Bento Miso</td>
<td>Bento Miso Collaborative Studio (Gamma Space Collaborative Studio).</td>
</tr>
<tr>
<td>CDN</td>
<td>Canadian Dollars.</td>
</tr>
<tr>
<td>DigiBC</td>
<td>The Interactive &amp; Digital Media Industry Association of British Columbia.</td>
</tr>
<tr>
<td>DIY</td>
<td>Do-It-Yourself.</td>
</tr>
<tr>
<td>DMG</td>
<td>Dames Making Games.</td>
</tr>
<tr>
<td>DSS</td>
<td>Developer Satisfaction Survey.</td>
</tr>
<tr>
<td>DVD</td>
<td>Digital Versatile Disc.</td>
</tr>
<tr>
<td>ESA</td>
<td>Entertainment Software Association.</td>
</tr>
<tr>
<td>ESAC</td>
<td>Entertainment Software Association of Canada.</td>
</tr>
<tr>
<td>EULA</td>
<td>End-user license agreement.</td>
</tr>
<tr>
<td>FTE/FTEs</td>
<td>Full-time equivalent(s).</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GGJ</td>
<td>Global Game Jam.</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical user interface.</td>
</tr>
<tr>
<td>ICTs</td>
<td>Information computer technologies.</td>
</tr>
<tr>
<td>IGDA</td>
<td>International Game Developer Association.</td>
</tr>
<tr>
<td>IP</td>
<td>Intellectual property.</td>
</tr>
<tr>
<td>MMOG</td>
<td>Massively multiplayer online game.</td>
</tr>
<tr>
<td>MMORPG</td>
<td>Massively multiplayer online role-playing game.</td>
</tr>
<tr>
<td>NDS</td>
<td>Nintendo DS (dual-screen) hand-held console.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>NES</td>
<td>Nintendo Entertainment System.</td>
</tr>
<tr>
<td>NDA/NDAs</td>
<td>Non-disclosure agreement(s).</td>
</tr>
<tr>
<td>OMDC</td>
<td>Ontario Media Development Corporation.</td>
</tr>
<tr>
<td>PC</td>
<td>Personal computer.</td>
</tr>
<tr>
<td>PS</td>
<td>Sony PlayStation console.</td>
</tr>
<tr>
<td>PS2</td>
<td>Sony PlayStation 2 console.</td>
</tr>
<tr>
<td>PS3</td>
<td>Sony PlayStation 3 console.</td>
</tr>
<tr>
<td>PS4</td>
<td>Sony PlayStation 4 console.</td>
</tr>
<tr>
<td>PSN</td>
<td>PlayStation Network.</td>
</tr>
<tr>
<td>PS Store</td>
<td>PlayStation Store.</td>
</tr>
<tr>
<td>QA</td>
<td>Quality Assurance.</td>
</tr>
<tr>
<td>ROM/ROMs</td>
<td>Read-only memory. Plural refers to multiple ROMs, such as game cartridges in emulation.</td>
</tr>
<tr>
<td>ROM</td>
<td>Royal Ontario Museum.</td>
</tr>
<tr>
<td>ROM Jam</td>
<td>Royal Ontario Museum Jam.</td>
</tr>
<tr>
<td>RPG</td>
<td>Role-playing game.</td>
</tr>
<tr>
<td>Scene</td>
<td>Toronto game development scene.</td>
</tr>
<tr>
<td>Switch</td>
<td>Nintendo Switch console.</td>
</tr>
<tr>
<td>TGGJ</td>
<td>Toronto Global Game Jam.</td>
</tr>
<tr>
<td>TIFF</td>
<td>Toronto International Film Festival.</td>
</tr>
<tr>
<td>TMAC</td>
<td>Toronto Media Arts Centre.</td>
</tr>
<tr>
<td>TOJam</td>
<td>Toronto Game Jam.</td>
</tr>
<tr>
<td>UGC</td>
<td>User-generated content.</td>
</tr>
<tr>
<td>USD</td>
<td>United States Dollars.</td>
</tr>
<tr>
<td>UI</td>
<td>User Interface.</td>
</tr>
<tr>
<td>UX</td>
<td>User experience.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>VCR</td>
<td>Videocassette Recorder.</td>
</tr>
<tr>
<td>Vector Festival</td>
<td>Vector Arts and New Media Festival.</td>
</tr>
<tr>
<td>Wii</td>
<td>Nintendo Wii console.</td>
</tr>
<tr>
<td>WiiU</td>
<td>Nintendo WiiU console.</td>
</tr>
<tr>
<td>Xbox</td>
<td>Microsoft Xbox console.</td>
</tr>
<tr>
<td>Xbox One</td>
<td>Microsoft Xbox One console.</td>
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Chapter 1
Introduction

“Everyone’s gotta start somewhere.”
— Benjamin, email correspondence, 6 January 2015

1 Everyday Digital Gamemaking

Between 2017 and 2020, annual revenue in the global video game industry is projected to increase from $108.9 to $128.5 billion USD (McDonald, 2017). As the film and music industries are projected to increase from $41.2 to $49.3 and $49.5 to $55 billion USD respectively, the video game industry has become the dominant cultural industry for media entertainment (PricewaterhouseCoopers [PwC], 2016, 2017). From 2017 to 2020, the mobile gaming market on smartphones through marketplaces such as the Apple App Store and Google Play is expected to increase from 34 to 42 per cent of the video game industry’s annual revenue, representing approximately $64.9 billion USD (McDonald, 2017). The introduction of these mobile distribution platforms and the diversification of media content within their marketplaces may account for how the video game industry has come to dwarf other cultural industries in revenue in recent years.

Before the Apple App Store opened in 2008, the dominant mode of production in the video game industry was to produce “Triple-A” digital games at studios or registered game companies, and release those digital games on consoles and personal computers (PCs) through the manufacturing of discs, cartridges, or CD-ROMs. Digital games were referred to as Triple-A because they required: A lot of time, A lot of resources, and A lot of money to be produced and manufactured—hence Triple-A or AAA (Demaria & Wilson, 2002). To produce a Triple-A

---

2 There are no “Single-A” or “Double-A” digital games.
digital game, studios were either owned by a publisher as a first-party in-house studio or partnered with a publisher as a second- or third-party studio (Zackariasson & Wilson, 2012). Second-party studios are typically contracted to produce publisher-owned game properties, whereas third-party studios produce their own game properties, which are distributed by publishers on consoles and PCs. In most cases, studios were required to develop their own game engine and digital tools to produce digital games, or license a game engine and digital tools from other studios, publishers, and software companies. In either case, the financial cost and exclusivity of digital game production and distribution made the video game industry a secretive cultural industry for professional game developers (O’Donnell, 2014). Table 1 shows a list of the prominent digital game publishers and their annual revenue for 2016. Notable inclusions on this top-ten list are Apple and Google, recent additions to the video game industry, and the dominant publishers in mobile game development.

Since the Apple App Store opened in 2008, two critical developments have emerged within the video game industry: more game engines and tools are available for creating digital games, and more platforms are available for distributing those digital games. A game engine is the “pipeline” for the assets that go into a digital game. These assets can include images, graphics, music, sound effects, animations, and writing. Game engines provide graphical user interfaces (GUI), such as editors, that streamline the process of putting assets into a digital game. These editors are designed to simplify the process of game development for gamemakers.⁵ The game engines GameMaker Studio and Stencyl require minimal to no programming experience

---

⁵ Throughout this dissertation, I use the term gamemaker as an umbrella term to describe the game development activities performed by leisure and professional digital game creators. I provide a definition of the concept in relation to other game production terminology later in this chapter and a thorough analysis of contemporary gamemakers themselves in Chapter 2 “Concept: Gamemakers.”
TABLE 1

List of digital game publishers in the video game industry based on annual revenue for 2016

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name of Publisher</th>
<th>Revenue in Billions USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tencent</td>
<td>$10.2</td>
</tr>
<tr>
<td>2</td>
<td>Sony</td>
<td>$7.8</td>
</tr>
<tr>
<td>3</td>
<td>Activision Blizzard</td>
<td>$6.6</td>
</tr>
<tr>
<td>4</td>
<td>Microsoft</td>
<td>$6.4</td>
</tr>
<tr>
<td>5</td>
<td>Apple</td>
<td>$5.8</td>
</tr>
<tr>
<td>6</td>
<td>Electronic Arts</td>
<td>$4.6</td>
</tr>
<tr>
<td>7</td>
<td>Netease</td>
<td>$4.1</td>
</tr>
<tr>
<td>8</td>
<td>Google</td>
<td>$4</td>
</tr>
<tr>
<td>9</td>
<td>Bandai Namco</td>
<td>$1.9</td>
</tr>
<tr>
<td>10</td>
<td>Nintendo</td>
<td>$1.8</td>
</tr>
</tbody>
</table>

Table 1: The table is based on an analysis of annual and quarterly financial reports by several game companies, collected by the market intelligence firm Newzoo (2017).

to build a two-dimensional (2D) digital game because their editors allow gamemakers to “drag and drop” assets into their digital game environment. In contrast, the game engines Unity3D and Unreal Engine 4 provide more sophisticated and customizable editors that require programming experience in C# and C++ respectively to build three-dimensional (3D) digital games. Each of these game engines provide their own editors to enable gamemakers to build specific types of digital games—whether it’s a 2D platformer on GameMaker Studio, a 3D first-person shooter on Unity3D, or interactive fiction on Twine. The important issue for contemporary gamemakers is

---

6 A platformer is a type of 2D digital game that involves guiding a player character to jump between suspended platforms to traverse obstacles within the environment. A classic example of a platformer is Super Mario Bros., and Metroid. Many platformers have been created in recent years due to the rise of 2D game engines, which have
that they have access to an abundance of game engines, which have not only simplified the process of making digital games, but are also available for free or at low cost.\(^7\)

The number of distribution platforms available to gamemakers to release their digital games has also increased. The emergence and ubiquity of smartphones with storefronts such as the App Store and Google Play has created a venue for gamemakers to self-publish and distribute digital games. Online marketplaces like the websites Newgrounds, Kongregate, and itch.io, have also emerged, which allow any gamemaker with an email address to create an account and submit a digital game. Alongside this development, traditional console platforms have established self-publishing programs for gamemakers to release their digital games. Consoles have traditionally been known for their exclusivity, only releasing games from in-house or third-party studios and publishers, but the companies Sony and Microsoft, manufacturers of the PlayStation and Xbox consoles, established developer programs for gamemakers to self-publish digital games on their consoles.\(^8\) Traditional consoles have recently made the transition to simplified the process of creating platformer-based digital games. A first-person shooter is a type of 3D digital game that involves guiding a player character from a first-person perspective through an action-adventure or multiplayer-based environment. Examples of first-person shooters include the *Doom* and *Halo* series. Interactive fiction, also referred to as a text adventure game, is a text-based digital game environment that involves guiding a player character through text commands. Classic examples of this genre are the *Zork* series and *Adventure*. The free game engine Twine allows game creators to produce interactive fiction for free with minimal coding in HTML, CSS, and JavaScript, though the community around the tool does provide numerous templates for beginners to use and edit according to their own game design.

\(^7\) Unity Technologies released a free license of Unity3D in 2009. Stencyl provided a free license when it was first released in 2011. GameMaker Studio and Unreal Engine 4 released free licenses of their game engines in 2014 and 2015, respectively. While many of these game engines can be purchased for a one-time fee or a subscription-based license, all of them provide a free license to the basic features of their game engine.

\(^8\) Established in February 2013, the self-publish program with the PlayStation Network (PSN) requires game developers to apply for the program through an online application form. If accepted into the program, developers are potentially provided with development kits, documentation, middleware, and access to the developer forums, and personnel resources at PlayStation. The ID@Xbox program helps developers self-publish digital games on their consoles. If developers are accepted into the program they are potentially provided with two Xbox One development kits at no cost, and have access to the Xbox One XDK, developer documentation, private forums, free middleware, and personnel resources at Microsoft. The Xbox Live Creators Program allows game creators to quickly and directly publish their games to Xbox One and Windows 10, with a simplified certification process and no concept approval.
publish independent games because it enables them to acquire the “best” independent content through exclusivity agreements. These exclusivity agreements limit gamemakers from distributing their digital games on other platforms for a specific length of time (for example, one year or the life-cycle of a platform). This “win-win” scenario potentially increases sales for the gamemaker because they publish their digital game on a prestigious platform and it allows the console publisher to corner the market around innovative “indie” games making their console more desirable over their competitors’. While consoles and mobile devices may require registered companies to self-publish on their platforms, the surge in venues to self-publish and distribute digital games has become increasingly accessible to a range of gamemakers who were traditionally outside the dominant mode of production within the video game industry.

The Entertainment Software Association of Canada’s (ESAC) 2016 Essential Facts report claims there are currently 472 active studios and 20,400 employed game developers that contribute to the $3 billion CDN added by the video game industry to Canada’s GDP each year (ESAC, 2016). Notably, these numbers only reflect those employed as full-time equivalents (which means full-time employees working 35 hours per week) at studios and companies, and does not include the variety of gamemakers producing digital games using the same tools, resources, and distribution platforms as mainstream game developers. These game developers typically represent first-party, second-party, third-party, and independent studios and solo “indies” that continue to produce financially-successful digital games.

In this dissertation I argue that a group of everyday gamemakers has emerged and is shaping the traditional modes of production within the video game industry. Everyday required. In March 2016, owners of Xbox One consoles could turn their console into a developer kit by creating a Dev Center account for $19 USD.
gamemakers are establishing their own cultural norms and practices that are transforming the professional infrastructures of the video game industry. These infrastructures include the tools of production, working conditions, and platforms for distribution of digital game development. I call these creators everyday gamemakers to account for the wide-ranging gamemaking activities performed by all creators of digital games, regardless of the leisure or professional leanings of their projects. These everyday gamemakers include professional game developers, independents or “indies,” modders, user-generated content (UGC) creators, and writers of interactive fiction.\(^9\) Essentially, if a creator generates, modifies, or creates a digital game, or participates in the modes of digital game production, they are an everyday gamemaker. This means that everyday gamemakers can come from all walks of life, including underrepresented demographics within discussions of the video game industry, such as youth, and workers that do not typically fall within traditional definitions of game developers, such as freelance workers and commercially-unsuccessful independents. When discussing specific types of gamemakers, I use the terms game developer, modder, UGC maker, and so on because creators themselves use or self-identify with these terms. When talking about digital gamemakers as a collective identity—even though digital game creators do not necessarily self-identify with the term—I use the term gamemaker. Likewise, I use the term game development when referring to the processes of digital game production at Triple-A and independent studios, and I use the term gamemaking to include the processes of digital game creation for all the activities of producing digital games, such as

---

\(^9\) UGC generally refers to content generated by users on social media platforms on the internet. In the context of digital games it refers to content created by gamemakers using a digital tool from a digital game. The ‘Create Mode’ feature of the digital game \textit{Little Big Planet} is a notable example where players of the game can create levels similar to the quality of levels found in the game proper. Modders are gamemakers that take a pre-existing digital game and modify the game to alter some element. A famous example of a digital game “mod” is \textit{Castle Smurfenstein} where Dead Smurf Software converted the Apple II game \textit{Castle Wolfenstein} by Silas Warner by replacing all the original artwork with Smurfs.
modding, writing interactive fiction, or game jamming. As such, gamemaker and gamemaking are umbrella terms for the wide-ranging identities and practices of creating digital games, and any other term I use throughout the dissertation refers to a specific identity with which digital game creators self-identify, or, that represents the specific activities in which these creators participate and perform.

John Vanderhoef (2016) uses the term “everyday developers” to refer to amateur, craft, or do-it-yourself (DIY) gamemakers. Vanderhoef defines everyday developers as “amateur game developers who do not have extensive professional training in key development areas like coding, art, 3D modeling, or other highly skilled positions, but still pursue game development projects on their own time” (p. 39). While Vanderhoef’s term encompasses many of the features of everyday gamemaking that I discuss throughout my dissertation, particularly the more leisure-based aspects involved in prototyping and making games at game jams, he focuses predominantly on independents and amateur game producers, excluding professionalized game developers and UGC makers. Where my term everyday gamemaker departs from Vanderhoef’s is in the inclusion of all types of gamemakers because, as I will demonstrate throughout this dissertation, these gamemakers occupy multiple identities simultaneously that come to shape the various activities in which they participate. A gamemaker can be a developer for a studio during the work week and a UGC maker on the weekend. A gamemaker can be a freelance artist for independents and a writer of interactive fiction. And a gamemaker can be a playtester for a mobile studio and make 2D platformers at a game jam in her spare time. In what follows, I discuss the ways in which these everyday gamemakers are appropriating and transforming the economic, legal, social, and cultural infrastructures of digital game production and the creative economies this industry creates.
1.1 A Window Into the Video Game Industry

On a weekend in early December 2015, the Sixth Annual Canadian Video Game Awards (CVA) were held at the Mattamy Athletic Centre, Ryerson University in Toronto. The CVAs are produced by the Canadian League of Gamers Inc. and officially endorsed by ESAC, Interactive Ontario, and The Interactive & Digital Media Industry Association of British Columbia (DigiBC). The producers are joined by a national advisory board of developers and leaders in the Canadian digital entertainment industry. The CVAs showcase and celebrate the achievements of video game industry publishers, studios, and developers by awarding them for released digital games over the past year. Some of the awards handed out each year include “Best Console Game,” “Best Game Design,” “Best Indie Game,” and “Game of the Year.”

It was my first time attending the CVAs, but I did not attend the event for the awards ceremony. This was the first year the event included Fanfest, where “Canadian fans will get to see some of Canada’s best talent and showcase a range of developers from across the country along with kiosks to try out the fall’s Canadian AAA and indie games” (Kaszor, 2015). Though the main ceremony itself took place on the final day of the event, players and fans could attend Fanfest throughout the weekend.

The Fanfest was broadly separated into three exhibition areas of digital games: Fan Zone, Canadian Game Zone, and the Bit Bazaar. Figure 1 shows a layout of the CVA exhibition areas. The Fan Zone took place on the North Arena floor, showcasing Triple-A digital games and

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10 The athletic centre is located near the intersection of Church and Carlton streets at the old Maple Leaf Gardens—the former home of the National Hockey League’s Toronto Maple Leafs and the National Basketball Association’s Toronto Raptors before they moved to the Air Canada Centre in 1999. The space was purchased by the Canadian supermarket chain Loblaws in 2004 and later shared with Ryerson University in 2009 to be used for their athletic teams. The location is an iconic landmark in the city having hosted well-known popular culture figures, such as Elvis Presley, Muhammad Ali, and Winston Churchill.
Figure 1: Map of the Mattamy Centre showing the locations of the Fan Zone, Canadian Game Zone, and Bit Bazaar at the Canadian Video Game Awards.

hardware from industry giants Microsoft, Nintendo, Ludia, and Hibernum, such as the recently released *Halo 5* and *Rainbow Six Siege*. The Fan Zone represented the popular hardware and software of the global video game industry produced in Canada, whether through publishers, studios, and manufacturers. The Canadian Game Zone was sponsored by the Ontario Media Development Corporation (OMDC), a government funding agency that supports film and
television, book and magazine publishing, interactive digital media, and the music industry. Much of this support comes in the form of grants and tax breaks as a strategy to foster the development of home-grown companies and entice foreign companies to open studios in Ontario. The Canadian Game Zone took place on the West Concourse showcasing thirteen studios and companies sponsored by the OMDC.\textsuperscript{11} Amongst these companies were established mobile and independent studios such as Uken Games and Metanet that have made several successful mobile and console digital games, as well as emergent companies run by solo or team independents, such as Jon Remedios Games and Bloom Digital.\textsuperscript{12}

In addition to being a featured “zone” at the CVAs, the Bit Bazaar is a bi-annual video game arts and crafts market, which features digital games, zines, prints, and local comic art. The festival is run by a local coworking space, Bento Miso Collaborative Studio and showcases many of the local Toronto independents and everyday gamemakers.\textsuperscript{13} Typically, the festival is held at Bento Miso, but the CVAs asked the space to host their Winter Bit Bazaar at the newly-formed Fanfest on the East Concourse. This change in location highlights how the larger industry recognizes the importance of local scenes and uses the labour of organizations like Bento Miso to organize and curate a festival showcasing their “best” talent and games. The Bit Bazaar at the CVAs featured a range of local gamemakers, comic artists, and zine creators showing and selling their cultural products along with a range of one-of-a-kind, limited-edition and handmade/DIY items, such as pins, zines, boxed digital games, card decks, art prints, comics, t-shirts, game

\textsuperscript{11} The 13 companies were: Stitch Media, Massive Damage, Clapfoot Games, MK Ultra, Snakehead Games, Guru Studio, Bloom Digital, Uken, Jon Remedios Games, Joydrop, Metanet, Phantom Compass, and Rocket 5 Studios.

\textsuperscript{12} Jon Remedios Games has since changed its company name to Actual Humans.

\textsuperscript{13} The Bento Miso Collaborative Studio was renamed Gamma Space Collaborative Studio in April 2016. As this name change occurred at the end of my research project I use Bento Miso throughout my dissertation because it is the term used by my participants in interviews and by members of the scene in my field notes.
soundtracks on vinyl, mixtapes, papercraft, and toys. Many of these gamemakers can make a living from their craft, but most supplement their income through service work, such as freelance contracts, and employment in other occupations. In many ways, the Bit Bazaar represents a synthesis of a range of work and leisure activities, which I explore in later chapters.

Fanfest was a fascinating window into how the video game industry, and particularly, the Canadian video game industry, perceives itself and the people who make digital games. On the North Arena floor were the professional and Triple-A studios and manufacturers that most players and “fans” of digital games would be familiar with. On the West Concourse were the “indie” gamemakers who represent the studios and independents that have been successful in securing OMDC funding, many of which have gone on to achieve financial and critical success in the global marketplace, press, and popular game culture. And on the East Concourse were dozens of emerging “indie” gamemakers who hoped to one day be on the other side of the arena with the financially-successful and government-funded independents. The contrast of these three curated groups of gamemakers not only emphasizes the diversity of the people who make digital games, but also the industry’s perception of “value”: cultural movements such as “indie”-produced games are perceived by publishers as new products that diversify marketplaces and increase profits. The inclusion of the Bit Bazaar suggests that the Canadian video game industry more broadly recognizes the importance of local, grassroots everyday gamemakers and the digital games they produce because they provide new sources of economic revenue, job creation, and innovate the wider industry. However, I argue throughout this dissertation that the inclusion

14 In chapter 2 “Concept: Gamemakers,” I provide an overview of my participants and many of the work and leisure jobs, responsibilities, and activities they perform that enable them to work on their digital game projects. While my participants are only a snapshot of the everyday gamemakers I discuss throughout my dissertation, the aim is to challenge and unravel the perception that to be a gamemaker, and to be a gamemaker that contributes to and influences the global video game industry, one must work for a professional studio or be a successful independent.
of the everyday gamemaker has also allowed local and grassroots cultural norms and practices to transform the production processes of digital game creation in the global video game industry. By perceiving everyday gamemakers as content creators who contribute to the economic development of the video game industry, the industry has simultaneously enabled these gamemakers to contribute to the cultural discourse surrounding working conditions, information practices, and definitions of games. Allowing everyday gamemakers to produce and distribute digital games has given these gamemakers a voice within the video game industry—a voice which traditional publishers, studios, companies, and mainstream players struggle to silence.

1.2 A Note on Definitions

Throughout this dissertation, I use the term digital game rather than video game. As Aphra Kerr (2006) argues, the term “video game” refers to a specific era in the history of games when video game consoles plugged into television sets, similar to a VCR or DVD player. Though the term video game has lingered in popular culture, it does not encompass the range of digital and electronic-based games designed and made on contemporary information computer technologies. However, the term video game industry is frequently used to describe the cultural industry of digital games by scholars, the media, and the wider public. I therefore use the term video game industry rather than digital game industry when talking specifically about the organizations, structures, and practices of the wider industry of creating, producing, and distributing digital games. As such, in the first instance I am referring to the categorization of games as a technical

15 In each chapter, I examine some of the norms and practices where everyday gamemakers struggle with mainstream notions of game development and develop their own gamemaking processes. For example, in Chapter 5 “Production: Gamemaking” I analyze how gamemakers renegotiate mainstream perceptions of working conditions into their own local conditions of gamemaking. In some instances, these gamemakers that alter widely-held perceptions of game development are met with rejection, hostility, and even harassment (e.g., Chapter 2 “Concept: Gamemakers”).
medium (e.g., digital games), and in the second instance I am referring to the widely-held discourse of games (e.g., video game industry). This distinction is important because although the content produced by creators and artists are digital games, these games are embedded within an industry that is still shaped by the economic, political, legal, social, and cultural structures and discourses when electronic-based games were the technical medium of video games.

I use the term game developer to describe the professionalized digital game creators employed at first-party, second-party, third-party publishers and studios, which produce Triple-A digital games. I also use this term to describe the independent or “indie” studios with digital game creators who are salaried and subsist on income from their produced games. However, I use the term everyday gamemaker to encompass the diverse range of work and leisure activities in which gamemakers participate, regardless of their predominant craft identities. As such, when I discuss specific types of gamemakers—especially when using terms with which digital game creators themselves self-identify—I use the terms game developer, modder, UGC maker, and so on. When I examine digital game creators as a collective identity, even though digital game creators do not necessarily self-identify with the term gamemaker themselves, I use the term gamemaker.

I use the term game development when referring to the professionalized processes of digital game production, such as asset creation or programming. Similar to how I use game developer and gamemaker, I use game development when referring to the processes of digital game production at Triple-A and independent studios. I use the term gamemaking to include the processes of digital game creation for all the professionalized and leisure-based gamemakers. When discussing specific types of gamemaking, I use the terms modding, hacking, UGC, and so forth. As such, gamemaker and gamemaking are umbrella terms for the wide-ranging identities and practices of creating digital games.
1.3 Gamemaking Literature

Scholarly interest in the cultures of gamemakers has grown in recent years, ranging from youth and UGC creators to modders to “indies” and Triple-A game developers (Fisher & Harvey, 2013; Grimes & Fields, 2015; Joseph, 2013; O’Donnell, 2014; Parker, 2013; Postigo, 2007). *Digital Play* by Stephen Kline, Nick Dyer-Witheford, and Greig de Peuter (2003), is one of the first studies of the digital game production process. In it, Kline, Dyer-Witheford and de Peuter analyze the management practices of the corporations that design and market digital games to youthful audiences. They argue that the industry is a vehicle for capitalism and exploitation, and emphasize the “militarized masculinity” of its cultural products, the “net slaves” of its online and remote workers, and the “nimble fingers” of workers in *maquiladoras* and enterprise zones who manufacture the hardware on which digital games are played. Kerr (2006) also provides an overview of the video game industry in the context of its global networks of production: design, development, testing, publishing, marketing, and manufacturing. She argues that if the industry is to succeed across major global markets, “digital games must attend to local cultural practices, tastes and social structures” (p. 1). This means adapting to local governance and regulation structures, as well as legal and unofficial labour practices and working conditions—not to mention producing cultural products that can be marketed to local communities.

Over the past decade, independent game developers have become a particular group of interest for scholarly research since the emergence of online, mobile, and software platforms for digital distribution, such as the App Store, Google Play, and Steam. In a special issue of the game studies journal *Loading*... several articles examine independent digital game development, looking at production politics, gender politics, games, craft, and the “indie” scene (Fisher & Harvey, 2013; Joseph, 2013; Lipkin, 2013; Parker, 2013; Ruffino, 2013; Stein, 2013; Westecott, 2013). However, as independent gamemakers are part of an emergent culture of creatives, even
though the industry has existed for almost four decades, relatively limited research has been published when compared to other cultural industries, such as literary publishing, music, and film.

Some notable studies on the production of digital games, looking at workers, hobbyists, and youth, include: Casey O’Donnell’s (2014) ethnography of independent game studios in the United States and India; Johanna Weststar’s (2015) analysis of game workers as an occupational community; Heikki Tyni and Olli Sotamaa’s (2014) analysis of the “Assembly” game development scene in Finland; Hector Postigo’s (2003) research on hobbyist software programmers in the video game industry; Dyer-Witheford and de Peuter’s (2006) analysis of epidemic overwork in the mainstream video game industry; de Peuter and Dyer-Witheford’s (2005) examination of the conditions of digital game labour or the “work as play” mantra; and Julian Kücklich’s (2005) research on modders and their “playbour” or modding as a form of unpaid labour, veiled by the perception that labour is play. An edited volume, *The Video Game Industry*, provides a variety of case studies on the media of digital games and the industry that produces them (Zackariasson & Wilson, 2012). Most of this research has provided a rich theoretical lens from which to analyze the craft, labour, and working conditions of an industry that typically hides its practices and norms behind non-disclosure agreements (NDAs) and copyright protections. However, most of this scholarly research has used limited quantitative and qualitative methods rather than providing rich detail of the complex experiences of gamemakers from their own perspectives.

Most research of gamemakers has also tended to focus primarily on professionalized notions of digital game development, examining Triple-A, independent, freelance workers, and playtesters (Banks, 2013; Bulut, 2015a, 2015b; de Peuter, 2012; Joseph, 2013; Mcallister & Ruggill, 2011; Nichols, 2014; O’Donnell, 2009, 2014a, 2014b; Peticca-Harris, Weststar &
McKenna, 2015; Plum & Hassink, 2014; Ruffino, 2013; Ruggill et al, 2016; Vanderhoef, 2016; Weststar, 2015; Whitson, 2013). Even within scholarship that has researched underrepresented communities in the video game industry and local incubator spaces, the focus has tended to be on aspiring game developers (Fisher & Harvey, 2013; Harvey & Fisher, 2013, 2015; Kafai et al, 2008). Research into other types of gamemakers such as hobbyists and youth who produce UGC content and do not fall within professionalized notions of gamemaking has also been limited (Grimes, 2015; Hong, 2013; Hong & Hsueh-Hua, 2014; Kerr, 2011; Kücklich, 2005; Lee & Lin, 2011; Lund, 2014, 2015; Poor, 2014; Postigo, 2003, 2007, 2010; Sotomaa, 2007, 2010).

As such, scholarly research thus far has predominantly focused on specific categories of game development, such as independent game developers, modders, and freelance workers, and does not include or analyze the other activities in which gamemakers participate (e.g., Triple-A developers participating in weekend game jams). Indeed, most research has generally focused on a specific gamemaking activity rather than gamemaking as a whole where creators develop multiple projects simultaneously across work and leisure contexts. As the hegemonic discourse of digital game development surrounds the production of mainstream and commercial games, it is expected that most scholarly research will focus on the specific game developers that make those digital games, whether they are asset creators in India (O’Donnell, 2014a) or playtesters in the United States (Bulut, 2015b). Instead, I argue that gamemakers are increasingly wearing many labour hats within their craft of gamemaking, which has not only diversified the work and leisure contexts of digital game production, but has also enabled the mixing and transformation of cultural norms and practices within the professional industry and places of leisure more broadly. Moreover, almost all the game engines, tools, and distribution platforms are built and marketed towards professional developers, even though these tools are increasingly used for more leisure-based gamemaking activities. This means that, regardless of the video game
industry’s intentions, by making these game engines freely available, and streamlining
distribution platforms for self-publishing, everyday gamemakers have emerged and are creating
their own rules to play by in the production of digital games.

Some game engines, such as Stencyl or the UGC level-editors in games like the *Little Big
Planet* series and *Super Mario Maker*, are perceived by many educators as digital tools that can
develop STEM-based skill sets amongst youth (Fields & Kafai, 2009; Ito, 2009; Rafalow &
Tekinbaş, 2014). Educators also perceive that teaching children how to program in computer
languages is an effective policy to empower youth in an increasingly digital age, and will set
them up for high-paying employment in the creative economies (Kafai & Burke, 2014).

Moreover, coding is increasingly promoted as a means for creative self-expression, and even for
social interaction (Kafai and Burke, 2014). This has resulted in an increased emphasis on the
development of games and interactive media amongst youth in schools, cultural institutions, and
community organizations (deVilla, 2010; and Erskine, 2014). Sara Grimes and Deborah Fields
(2015) examine the actual contents and practices involved in children’s gamemaking and game-
related UGC in an everyday context. Their project “Playing at Making” fills some of the gaps by
youth everyday gamemakers by exploring both the opportunities and challenges associated with
children’s gamemaking and game-related UGC, with a focus on examining how available tools
can afford inclusion of marginalized children within this key area of participatory media culture.

Their research also addresses a gap in commercial and legal structures, which have yet to adapt
to the notion of children as direct participants in digital content creation. My own notion of
gamemakers follows the non-professionalized focus of Grimes & Fields’ (2015) research, as
both projects consider the everyday contexts in which people are making digital games that may
or may not fall within, or be affected by, the wider video game industry—albeit, my focus is on
adults.
Most of the research into the production of digital games has also assumed that many of these gamemakers have distinct and demarcated identities, not considering that over time, gamemakers will share and alternate between diverse gamemaking identities. A professional game developer does not simply wake up one day working at a Triple-A or independent game studio. All gamemakers have career trajectories that can fluctuate between leisure and work-related gamemaker activities. Playtesters can make a digital game at a game jam and later develop it further into a commercially-released digital game. Triple-A developers can quit their jobs and go “indie,” starting their own solo company, which may or may not be financially successful. Everyday gamemakers change over time and adjust their practices and norms according to current trends within their local cultures and the organizing structures of the video game industry. As such, my dissertation focuses on describing and analyzing the range of gamemakers and their experiences of gamemaking over a two-year period of data collection through an interpretive ethnographic approach of participant observations, open-ended semi-structured interviews, and critical discourse analysis of the predominantly used tools and resources of video game development.

1.4 Theoretical Framework

In cultural studies, John Irwin (1977) first explicitly defined the concept of “scene” at a time when ethnographic investigations into the culture and activities of urban life were dominated by the concept of subculture by the Centre for Contemporary Cultural Studies at Birmingham University (Hall & Jefferson, 1993 [1975]). In my dissertation, I use Will Straw’s (2004) conception of “cultural scene” as my theoretical frame to capture the diverse places in which gamemakers develop their digital games. According to Straw (2004), “scene designates particular clusters of social and cultural activity without specifying the nature of the boundaries
which circumscribe them” (p. 412). Cultural scenes can be situated by location (e.g., Toronto’s Queen Street West), genre of cultural production (e.g., Unity3D-made digital games), or social activity (e.g., game jams). A cultural scene “invites us to map the territory of the city in new ways while, at the same time, designating certain kinds of activity whose relationship to territory is not easily asserted” (p. 412). Cultural scenes thus become important centres of social and cultural activity that allow me to locate a range of cultural norms and practices in local contexts, such as gamemaking organizations, social media spaces, and game engine communities. Research by Grimes (2015) and Holly Kruse (2010) on online gaming and music scenes, respectively, has been vital in looking at how creators are exposed to a range of “cultural scenes” that are simultaneously local and global.

Conceptualizing the boundaries of a gamemaker scene can be problematic when the theory behind what constitutes a cultural scene is elusive. Straw (2004) suggests that cultural scenes “take shape, much of the time, on the edges of cultural institutions which can only partially absorb and channel clusters of expressive energy which form within urban life” (p. 416). In my research, institutions can range from university clubs and programs to non-profit gamemaker organizations to online forums surrounding a specific developer tool. Straw (2004) further suggests “scenes may be ways of ‘processing’ the abundance of artifacts and spaces which sediment within cities over time” (p. 416). Identifying which artifacts (e.g., digital tools) and places are relevant to the cultural scene of game development is critical to understanding the production processes of digital games. What constitutes a unit of analysis within a cultural scene can be contextually-bound moments in space and time. Participation in a social activity, such as a game jam, could be pivotal in the development of a gamemaker’s social network and their perceptions of what are considered acceptable working conditions. Working at a game studio located in Toronto could place a gamemaker amongst a group of experienced developers with
established industry practices and norms. Developing a game using Unity3D as a genre of production could direct an everyday gamemaker towards certain tools and resources, or even set them on a career path working for a studio that uses Unity3D. Over the course of my ethnography, I paid close attention to the artifacts and places embedded within the locations, social activities, and genres of production, which surround each stage of a gamemaker’s game and career development.

But what do gamemakers do with these artifacts once they have gained access to them? The second component of my theoretical framework uses Michel de Certeau’s (1984) theory of the practice of everyday life to examine how gamemakers “make-do” with the artifacts, the tools and resources, provided to them by the wider commercial video game industry. The development of a digital game requires game engines and other tools and editors, which cannot be developed by gamemakers on their own. As such, gamemakers rely on the accessibility of tools and resources, which are either free or available at low cost to develop their digital games. Gamemakers, therefore, are susceptible to the organizational strategies embedded within these tools and resources, which can include industry norms and practices.

Gamemakers make-do with these tools and resources, and appropriate them according to their current gamemaking needs, whether it is for a long-term project or a 48-hour game jam. de Certeau (1984) calls these make-do practices “tactics” where “the imposed knowledge and symbolisms become objects manipulated by practitioners who have not produced them” (p. 32). de Certeau (1984) refers to these tactics as acts of “poaching” where practitioners “are travellers; they move across lands belonging to someone else, like nomads poaching their way across fields they did not write” (p. 174). de Certeau’s (1984) theory of tactics reveals how people essentially make-do with the imposed organizational strategies of cultural production.
Gamemakers poach these tools and resources from different cultural scenes to complete their activity of gamemaking because of their own lack of agency and resources to develop tools within the wider industry. Acknowledging that most of the tools and resources used by gamemakers are not of their own making allows me to explore and examine how these tools and resources are used, and how they influence each stage of game production.

In tandem with de Certeau’s (1984) theory of everyday life, I conduct a critical discourse analysis (Fairclough, 1995) of predominantly used tools and resources in the gamemaking process, and analyze how gamemakers make-do with and appropriate industry-developed tools and resources, such as game engines and their documentation, distribution platforms and their developer guidelines, and developer community forums. Critical discourse analysis is an interdisciplinary approach to the study of discourse, which focuses on the social relations surrounding discourse (Fairclough, 1995). As Fairclough argues, critical discourse analysis is relational in the sense that its primary focus is not on entities or individuals, but on social relations, which can include how an individual interacts with a tool and resource. I critically analyze these selected tools and resources to understand how gamemakers develop digital games in a wider global discourse of cultural industries and creative professions. Once participants released their digital games, I played through them, contrasting interviews and participant observations with an examination of how their use of certain tools and resources affected the development process of the produced digital game. In most cases, participants gave me access to early-builds of their games so that I had a variety of versions narrating their project’s development. Some tools and resources that I analyze include game engines, audio and music creation programs, art and design programs, online blogs and game developer forums, and organization and association events in the scene.
Underpinning these discourses are a set of political economic factors that dictate how a cultural activity unfolds. Political economy is an approach to studying media that focuses on investigating the ways in which media is produced, distributed, and consumed (McChesney, 1999; Mosco, 1996, 2008, 2009; Schiller, 1999; Wasko, 2003). While most of this literature looks at class-specific manifestations of transnational corporate and state power, distinguished by political economy’s concern to participate in ongoing social movements and oppositional struggles to change the dominant media and to create alternatives, I focus on “analyzing social relations, particularly the power relations, that mutually constitute the production, distribution, and consumption of resources” (Mosco, 2009, p. 2). Gamemakers, like all cultural workers, do not necessarily know how to produce all the hardware, software, and resources necessarily to make digital games, they make-do with the pre-existing political-economic conditions, norms, and culture of the video game industry that shape the production processes of gamemaking. In this sense, I not only analyze the social relations surrounding discourse, but also the political economic conditions that underpin and form those social relations into hierarchical structures of cultural hegemony (i.e., the perceived prestige of people working as developers and indies over playtesters and modders). As such, I specifically engage with the literature on critical cultural labour studies, which analyzes the underlying motivations, which facilitate these conditions. In most instances, cultural workers accept poor working conditions, such as “risk” (Neff, Wissinger & Zukin, 2005), in exchange for the perceived benefit of “flexible labour” around domestic commitments (Cady, 2013), establishing their own company (Neff, 2012), or undertaking unpaid labour in the “hope” it creates future opportunities (Kuehn & Corrigan, 2013). Throughout this dissertation, I examine these motivations to understand why gamemakers accept industry conditions and resources, and analyze the ways in which they transform these processes of production into their own localized norms and practices within work and leisure contexts.
1.5 Methodology

I conducted an ethnography for my study because it gave me the flexibility to talk to the gamemakers who inhabit the Toronto scene over a two-year period. This extended form of data gathering enabled me to observe and record a wide variety of cultural activities and allowed me to follow participants as they developed their digital games, from conception to release and maintenance.

I completed an “interpretive” ethnography, which analyzes the ways in which gamemakers construct and live their own local version of reality. Clifford Geertz (1973) argues: “man [sic] is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning” (p. 5). Further, “the whole point of the semiotic approach to culture is… to aid us in gaining access to the conceptual world in which our subjects live so that we can, in some extended sense of the term, converse with them” (p. 24). By focusing on the “conceptual worlds” and cultures of gamemakers, I gained insight into how gamemakers produced their digital games from their own perspectives. Interpretive ethnography offers a useful assessment for exploring how gamemakers produce digital games and apply gamemaking knowledge from their perspective. As such, interpretive ethnography is particularly useful for gaining a better understanding of the meaning gamemakers derive from their use of tools and resources, and the conditions in which they develop their digital games.

Establishing rapport with members of the scene was thus critical to accessing the community’s discourse, such as their networks and resources. As Geertz (2000 [1983]) states, regarding access to a community, “the trick is to figure out what the devil [members] think they are up to. No one knows this better than they do themselves; hence the passion to swim in the stream of their experience” (p. 58). As an emergent gamemaker who spent my own free time
making digital games, I established rapport as a “marginal native” (Freilich, 1970). A marginal
native is a trained researcher who is a member of the scene, but who can remove themself at any
point in time. This balance allowed me to participate in all the activities scene members
participated in to access and observe their experiences. This balance also prevented me from
developing “over-rapport”: the process of becoming too integrated and absorbed in the scene
(Ballinger, 2008; Denzin, 1997; Hammersley & Atkinson, 2007; Irwin, 2006). Developing over-
rapport can lead to potential bias in participant observations and any subsequent analysis.

Martyn Hammersley and Paul Atkinson (2007) discuss the myths of being an “insider”
(i.e., participating in gamemaking activities) versus an “outsider” (i.e., not participating in
gamemaking activities) in establishing rapport with participants. They argue that “the usual aim
throughout [ethnography] is to maintain a more or less marginal position, thereby providing
access to participant perspectives but at the same time minimizing the dangers of over-rapport”
(p. 88-89). Furthermore, “the ethnographer needs to be intellectually poised between familiarity
and strangeness; and, in overt participant observation, socially he or she will usually be poised
between stranger and friend” (p. 89). Establishing rapport through my position as a marginal
native was thus the ideal approach in allowing me to gain an understanding of how gamemakers
produce digital games and apply gamemaking knowledge from the experiences they describe.

For Geertz (1973), the goal of interpretive ethnography is to work towards a “thick
description” (p. 6). Thick description is the process of explaining the context of an action within
a cultural activity’s “interworked systems of construable signs” (p. 14), “structures of meaning…
and systems of symbols” (p. 182); and “mutually reinforcing network of social understandings”
(1983, p. 156). Simply put, thick description is the ethnographer’s account of the discourse used
by a social group to construct a scene and community of fellow gamemakers. Ethnographers
achieve thick description by bridging the “experience-near” and “experience-distant”
observations of a participant (Geertz, 1957, 2000 [1983]). An experience-near concept is the discourse used by a member of the scene that is easily understandable to other members of the scene, such as game jam, modding, and game engine. An experience-distant concept is the discourse used by myself or other researchers to explain the phenomena under study, such as gamemaker, gamemaking, and digital game. The result of this bridge between the participant’s and the ethnographer’s account provides a detailed and balanced interpretation of gamemaking activities. As such, interpretive ethnography, using the methodological approach of a marginal native, offers a unique methodology for producing a study of the cultural activities of gamemakers. This ethnographic approach was critical to my data gathering because gamemakers in the scene recognized me as a fellow gamemaker.

1.5.1 Data Gathering

This study involved qualitative data gathering in the form of open-ended semi-structured interviews and participant observations. I completed each method of the research design simultaneously over a period of two years from November 2014 to October 2016. I aimed to recruit approximately eight to twelve participants and record three to five interviews intermittently over twelve to eighteen months, while also conducting participant observations of their gamemaking activities. I recorded multiple interviews with fewer participants rather than one interview with more participants because the goal of the project was to follow gamemakers through the process of developing digital games. Recording one interview with many participants would have revealed snapshots of their lives as gamemakers and would not have captured details, such as the different stages of their digital game production and their careers as gamemakers, as they transitioned between diverse labour and working conditions.
1.5.1.1 Participants and Access

To gather data for my interviews and participant observations, I gained permission to recruit participants and record participant observations from several prominent gamemaker organizations in the scene. Prior to gathering my data, I identified multiple gamemaker organizations to contact, including Bento Miso, Dames Making Games (DMG), the Hand Eye Society, Toronto chapter of the International Game Developer Association (IGDA), and Torontaru.16 As I continued my ethnography and learned more about the scene and the experiences of its members, I identified other organizations: the Vector Art and New Media Festival, Toronto Unity Developers Meetup, TOJam, and Toronto Global Game Jam, and other field sites for recruiting participants and recording participant observations. I contacted each organization by email through an identifiable contact or a prominent member of the organization. I drafted an introductory email message (see Appendix A) and attached a consent letter (see Appendix B), which outlined my project and what participation would involve. I also attached a recruitment flyer (see Appendix C) to attract potential participants for interviews. All the organizations I contacted gave consent for me to attend their cultural activities as a researcher to recruit participants and record participant observations. In my contact with these organizations, I encouraged them to inform their members that I would be attending their cultural activities and approaching them to talk about gamemaking. Some organizations sent emails or social media messages to their members to inform them of my attendance at their cultural activities. Several organizations, such as DMG, the Hand Eye Society, and the Toronto chapter of the IGDA, allowed me to give a one-minute presentation at one of their social events to introduce my

16 I provide descriptions and analyses of these organizations in Chapter 3 “Design: Scenes”.
Most organizations allowed me to post my recruitment flyer to their social media spaces, such as Facebook groups.

I was able to recruit nine participants who self-identified as gamemakers. I recruited six people through the initial call for participants by attending cultural activities in the scene and posting the recruitment flyer to organizations’ social media spaces. The other three participants were recruited using a combination of purposive, convenience, and snowball sampling. One of the organization’s leaders recommended one participant to me, while a member of the scene that I met while attending an event recommended the other two participants to me. Once I established contact with each person, I corresponded with them via email or private social media messaging to answer their questions and provide them with a participant recruitment letter (see Appendix D) and consent form (see Appendix E). I then met the potential participants, usually at a café or a library, to talk more about the project, explain their commitments in the study, and to sign the consent form. All participants completed the study.

1.5.1.2 Open-Ended Semi-Structured Interviews

Interviews are the principal data collection method in all ethnographic work (Bernard, et. al, 1986). Interviews can be unstructured or semi-structured. Unstructured interviews are similar to a series of “friendly conversations” (Spradley, 1979, p. 58). They are topics explored in depth, with fluidity, and without an interview guide. Unstructured interviews are ideal for interpretive ethnography because they get to the participant’s natural perspective. However, a critique of unstructured interviews is that they do not produce comparable accounts between participants and can make it difficult to infer generalizations about a social group. Semi-structured interviews on the other hand follow a predetermined outline using an interview guide, which allow interviews to shift focus according to participant’s responses (Bernard, et. al. 1986, p. 384).
Unlike unstructured interviews, semi-structured interviews produce comparable accounts of a single question or topic. Moreover, the use of an interview guide contributes to the reliability of the study, with an order of listed questions upholding stability throughout the interview (Knight, 2002, p. 64). Maintaining some structure throughout the interview process allowed me to grasp participants’ cultural norms and practices, as well as the context in which they develop their digital games. I designed the questions to be open-ended, which allowed participants to describe their game making experiences in detail from their own perspectives, keeping in line with the ethnographic approach of interpretive ethnography.

I interviewed nine participants between three and five times each, totaling 41 interviews. Table 1 shows how many interviews I conducted with each participant. Recording multiple interviews over a two-year period allowed me to follow my participants’ gamemaker careers and understand how they were using industry tools and resources to create their digital games during different stages of the gamemaking process, ranging from concept, design, pre-production, production, release, and maintenance. Many of these stages can and do overlap with one another and are certainly not mutually exclusive concepts or activities of gamemaking. Gamemakers performed different norms and practices as they progressed through their projects and their careers, which in turn affected the context in which they developed their digital games. As such, periodic interviews over an extended period covered most, if not all, stages of gamemaking for each participant. As digital game projects can take months or years to develop, this method was particularly useful as I could follow my participants as they completed multiple projects. I recorded interviews in relatively quiet spaces that were chosen by and comfortable for the participants, such as their place of work or employment, their homes, or coffee shops and bars. Most of these spaces were located close to field sites in the scene, such as a coffee shop down the road from a participant’s place of employment, or at a bar following an event.
TABLE 2

<table>
<thead>
<tr>
<th>Participant</th>
<th>Self-Identified Gender</th>
<th>Total Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
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<td>4</td>
<td>Female</td>
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<tr>
<td>6</td>
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<td>7</td>
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<td>8</td>
<td>Male</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Male</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2: List of participants, their self-identified gender, and total number of interviews recorded.

I employed three strategies of ethnographic interviewing during the semi-structured open-ended interviews: descriptive, structural, and contrast (Spradley, 1979). Descriptive questions “form the basis of all ethnographic interviewing. They lead directly to a large sample of utterances, which are expressed in the language used by informants in the cultural scene under investigation” (Spradley, 1979, p. 90). Descriptive questions elicit participant’s general perceptions and experiences. This allows the researcher to know the settings, “in which the informant carries out routine activities” (Spradley, 1979, p. 85). Structural questions followed descriptive ones, and they allowed the participant to elaborate on the features and organizations of phenomena in their gamemaking activities. Structural questions “enable the ethnographer to discover information about domains, the basic units in an informant’s cultural knowledge. They allow us to find out how informants have organized their knowledge” (Spradley, 1979, p. 60). Contrast questions revealed the dimensions of meaning of various objects and events in the
participant’s conceptual world. Contrast questions were useful when differences occurred between participants’ use of certain folk terms. Contrast questions provided additional techniques to capture these subtle nuances and revealed gamemakers’ perceptions and experiences. These three varieties of questions moved from broad to specific in nature, allowing for the participant and myself to gain rapport with general to precise questions and description. While I pursued this format style in my interview schedule (see Appendix F), I also interjected from time-to-time with descriptive, structural, or contrast style questions where needed and also encouraged my participants to interject and pursue any line of thought within the bounds of the study. I also used the concept of “probe” when conducting my interviews, which was a short interrogatory or declarative remark that stimulated participants to produce more information (Bernard, 2002), such as “what do you mean by this?” or “can you think of another example?” This method was particularly useful as participants tended to take their knowledge for granted, assuming I knew all their gamemaker references and terminology. Simply adding these probe questions meant I could understand what they meant when they used a certain concept or reference of a given activity, maintaining my methodology of interpretive ethnography.

The interview schedule contained three separate interview guides (see Appendix F). The first interview focused on the gamemaker themselves, outlining their gamemaker careers to date and projects they have worked on. This first interview also included a demographic question, which allowed my participants to describe how they self-identified with specific social groups, traits, and experiences of marginalization. Participants typically provided information on their age, gender, sexual orientation, and ethnic background. If they did not, I would use probe questions to gather this information either during this interview or during a later interview, such as “which gender do you self-identify with?” The second interview addressed the tools and resources of gamemaking and the working conditions of gamemakers. The third interview asked
questions on the Toronto scene using Straw’s (2004) notion of cultural scenes as a guiding framework, as well as questions gauging participants’ impressions of the wider video game industry. Each interview opened with a broad discussion of the participant’s current stage in their gamemaker career, the projects they were working on, and any events they had recently attended. Typical questions that I would ask at this point of the interview included “what have you been up to?” “how is your game progressing?” “have you been to any events recently?” or, if I had seen them at an activity in the scene “what did you think about [blank]?”. After about 10 to 20 minutes of catching up with the participant on their projects and activities, I then began the questions scheduled for that interview. These first three interviews took approximately 60 to 100 minutes to complete. If a participant cut an interview short for an emergency, I would finish the questions at the following interview. After the first three semi-structured interviews, I recorded additional unstructured interviews with participants to follow-up on some of the topics and issues raised during previous interviews. For these follow-up interviews, I asked questions that were typically unique to this participant. As such, these interviews were unstructured because they did not include questions for cross-analysis with other participants. However, I based these follow-up questions on answers provided by the participants in previous interviews, which meant the questions were thematically similar. In many cases, follow-up questions revolved around a recent issue in the Toronto scene or the wider video game industry, usually brought on by a casual conversation I may have had with the participant when we crossed paths at activities outside of the interview. When I did cross paths with participants in the scene, I would record those participant observations in the form of ethnographic field notes.
1.5.1.3 Participant Observations

The second method of my research design involved participant observations, based on observations, impressions, and notes taken during the interviews, at gamemaker activities in the scene, and in my participants’ own leisure and workspaces where they developed their digital games (Spradley, 1980). Using Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw’s (2011) model for writing ethnographic field notes, I recorded “head notes,” “scratch notes,” and “full notes” to capture the conceptual world of my participants and other members of the scene. I typed all field notes on my smartphone using the iPhone’s Notes application. The ubiquity of smartphones in social interactions meant that I could type head notes in the form of one-line sentences and keywords to record the observations, impressions, and jottings I witnessed while participating in the scene. Once I left an activity, I wrote an extended scratch note in the form of sentences and short paragraphs, based on the head note, to illuminate the context of the headnote. When I returned home, I would then type up full notes that evening or the following morning to expand the participant observations into thick description field notes of gamemakers’ norms and practices.

Activities in which I participated over the ethnography included speaker and micro-talk events, workshops, online and in-person discussion groups for gamemakers, social gatherings, game jams, social media scenes, and collaborative coworking spaces. Appendix G lists all the activities I participated in, including the date, duration, and location of the activity. I spent approximately 400 hours at cultural activities across the city of Toronto, writing roughly 54,000 words of field notes, which include head notes, scratch notes, and full notes. Although I recorded participant observations over two years, I gathered most of my data from January to December 2015. In this first year of the ethnography, I attended as many events as I could and attended several events numerous times, as I found them to be important events in the scene. It was also
during this first year when I completed most of my interviews. From January to October of 2016, I attended fewer and selected events, either because they were one-time annual events or because my participants invited me to join them at that specific event.

1.5.2 Data Analysis

To analyze my interviews, I transcribed the audio recordings into Microsoft Word documents using HyperTranscribe, a software transcription tool. I then used the qualitative data analysis software NVivo to manage my interviews and field notes for coding. NVivo offers various coding tools to manage and sort data. For the purposes of my research project, I used the feature “nodes” to code my data according to my project themes of scenes, information, and working conditions. Analysis of the data was recursive and ongoing (Creswell, 2013). My methodological approach to coding followed three cycles: “pre-coding” of terms and concepts as they emerged in an initial overview of the data; “first cycle” of exploratory coding with a holistic and provisional approach; and a “second cycle” of pattern coding, which identified similarly coded data and attributed meaning to that organization (Saldana, 2016).

Pre-coding is the process of noting significant participant quotes or passages within your data—finding “codable moments” (Boyatzis, 1998). Coding at this stage does not follow a rigorous methodological approach. The purpose of pre-coding is to locate standout passages that formulate themes for coding in the first and second cycles. Pre-coding was particularly useful during this early stage of analysis as it helped me isolate the nuanced issues in the scene, tools and resources, and working conditions.

The first cycle of coding was exploratory. I assigned preliminary codes to the data before developing a refined coding system using a combination of “provisional” and “holistic” coding. Provisional coding is the application of a researcher-generated list on what preparatory
investigation suggests might appear in the data before they are collection and analyzed. This provisional-based list was determined by my research topics of interest (e.g., scenes, information, and labour) and a literature review of those topics to identify relevant concepts. I organized these codes by organizations or activities in the scene (e.g., Bento Miso), types of tools and resources used by gamemakers (e.g., Unity3D), and diverse working conditions (e.g., “crunch”). Holistic coding provides a single code to a large unit of data. This approach was useful in identifying large passages relevant to a given topic. These passages tended to include both the question asked by the interviewer and the lengthy response by the participant. However, I did also code smaller sentences during this first phase of coding as some of the responses by participants could be brief. In this first cycle of coding, I identified 32 codes for analysis.

For the second cycle of coding, I used the approach of “pattern coding.” Pattern coding is a category label that identifies similarly coded data into a “meta code” (Saldana, 2016, p. 235). Pattern codes not only organize the data into categories for large-scale, topical analysis, but also attribute meaning to that code. The process of pattern coding connects several of the concepts coded in the first cycle of coding into broader themes of analysis. In this phase, I identified five meta codes for analysis: identity, scenes, resources, practices, and working conditions. While scenes, resources, practices, and working conditions had developed from my preliminary research, the concept of identity was a meta code which developed out of coding and analyzing my data. The concept identity in social science research typically focuses on research issues, such as gender and sexuality, and race and ethnicity. While this type of identity was important to my participants and coded as such when it appeared in the data, the coding of identity focused primarily on issues of labour and craft. As noted earlier, my project looked at gamemakers over two years, which is a significant period to follow gamemakers’ careers and record how they self-identify with distinct work and leisure identities. Over this time, my participants transitioned
between a variety of work and leisure identities, such as “indie” and game jammer, and craft identities, such as designer or artist. These transitions revealed nuances in the process of developing digital games that not only helped inform my definition of gamemaker and the people who make games, but also the variety of practices, resources, and working conditions associated with those work and leisure identities.

1.6 Chapter Overview

In this introductory chapter, I have outlined my research project, provided a literature review, and described my theoretical framework and methodology. The structure of this dissertation follows the general development of a digital game: it begins with the concept and progresses into the design, pre-production, production, release, and maintenance stages of digital game development. Much like digital game production and most forms of cultural and creative production, this research project has been a theoretical and methodological process of iterative design, adapting to changing social circumstances to capture qualitative data that effectively describes and analyzes the current moment of gamemaking and the people who create those digital games. As I conclude this chapter, I explain each development stage of a digital game and provide an overview of the focus for that chapter and how it contributes to our understanding of how everyday gamemakers develop the wider video game industry. To demonstrate how these

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17 I did not take this game development outline from any specific resource. It derived from reading several game design texts (Adams, 2013; Braithwaite & Schreiber, 2008; Chandler, 2014; Salen & Zimmerman, 2003) and multiple game developer blogs and forums, and from informal conversations with gamemakers during my ethnography. Most of the resources I consulted tend to follow the first five phases I have outlined of digital game development. However, the last phase—maintenance—has become a recent trend in game development due to platforms and online game stores’ ability to provide software patches, fixing any glitches, breaks, bugs, and hacks, as well as the periodic release of downloadable content (DLC) that can potentially extend the life-span of a digital game. It is important to note that not all gamemaking activities follow this trajectory: this is just a general outline of game development.
gamemakers are changing the cultural norms and practices of the industry, I focus on their identities as creators of digital games, the cultural activities of the scenes in which they participate, the game engines and tools of production they use to make their games, the working conditions in which they build their games, and the distribution platforms on which they release their games. Such an analysis emphasizes the gradual shift in perceptions of what constitutes a digital game, who can make a digital game, and the role of digital games in everyday life.

Much like the initial concept for a digital game where gamemakers hash out and articulate their first ideas and mechanics for a playable game, Chapter 2 “Concept: Gamemakers” explores my concept of the everyday gamemaker and maps out the “characters” (i.e., participants) and their “traits” (i.e., identities) in my dissertation. In this chapter, I focus on the gamemaker identities of the nine participants in my ethnography and discuss who they are and their complex work and leisure identities. Throughout my ethnography, gamemakers self-identified as game developers, designers, and indies. I analyze the “moveable feast” (Hall, 1992) of cultural identities experienced by my participant gamemakers as they created their digital games; meaning, how gamemakers’ identities are formed and transformed continuously in relation to the ways they are represented or addressed in the cultural systems which surround them. While most of these gamemakers worked within the wider video game industry as full-time, part-time, and freelance workers, they also participated in a range of leisure activities such as game jams and home-based projects, which supplemented their skill-sets and enhanced their professional aspirations. This chapter navigates these amorphous identities, addressing the blurred relationship between work and leisure and how it defines the contemporary everyday gamemaker.

Once a concept is formulated for a digital game, the next stage of development is design, where a gamemaker creates the rules and content of the digital game, outlining its affordances
and limitations. Gamemakers at this stage of digital game development begin to finesse their
game design document or prototype based on initial feedback from other gamemakers and
stakeholders, considering the scope of their digital game project and whether it can be completed
within a specific timeframe using the specific tools and resources at their disposal. In Chapter 3,
“Design: Scenes,” I examine the Toronto scene focusing on both geographic and online places of
gamemaking activities. Using Straw’s (2004) notion of “cultural scenes,” I survey the locations,
genres of cultural production, and social activities of the scenes surrounding gamemaking. In an
increasingly globalized and networked society, the local can include online spaces of shared
cultural and social activities, not just geographic notions of physical proximity. The chapter
analyzes the diverse scenes that gamemakers from Toronto participate in to undertake their
gamemaking projects. I analyze online forums, social media communities, and technical groups,
as well as local meetups, workshops, and urban events. Moreover, I examine the shared
boundaries between online and physical scenes to understand what the local means in a period of
increased globalization and networked communities.

Following the design of a digital game, gamemakers enter pre-production, where they
begin to develop the video game. At this stage, gamemakers assess the tools and resources at
their disposal and create the game’s content and assets such as art, audio, and animations, to
program the digital game into a functional prototype. In Chapter 4, “Pre-Production: Tools of the
Trade,” I examine the predominantly-used tools and resources available to and used by
gamemakers. Since 2008, many developer tools became widely accessible to gamemakers
through changing end-user license agreements (EULAs), which companies either made available
for free or at low-purchase and subscription cost. This meant that tools only previously
accessible to developers working at mainstream industry studios were now accessible to non-
professional gamemakers, allowing for the emergence of the everyday gamemaker. One of the
early-adopters to this open-access model of game development was the company Unity Technologies, which released the game engine Unity3D in 2009 to allow everyday gamemakers, particularly students, to create digital games using a non-commercial license. While Unity Technologies has numerous license agreements, which have either changed or become obsolete with the release of new products over the years, Unity3D has become a staple game engine for hobbyist, student, freelance, indie, and professional gamemaking activities. This chapter conducts a critical discourse analysis of the product, Unity3D, along with other predominantly-used resources in the gamemaking process, and analyzes how gamemakers “make-do” with and appropriate industry developed tools and resources as a form of information practice.

Once the design and pre-production tools for digital game production are determined, gamemakers enter the production stage: the hands-on gamemaking where they create and develop the digital game. In Chapter 5, “Production: Gamemaking,” I focus on the primary venues of gamemaking, such as game jams, coworking spaces, the home, workspaces, and third places, to analyze the working conditions of digital game development. In this chapter, I argue that gamemakers negotiate their gamemaking experiences with what I call the video game industry’s rules of engagement: the established, pre-defined, and normative working conditions, which represent the standard and expected practices of digital game development. While it is easy to overstate how gamemakers create their own working conditions in these diverse venues of gamemaking, in many ways gamemakers perpetuate industry expectations and perceptions of digital game development. However, gamemakers also shape the available working conditions into a range of leisurely settings, which enable them to make digital games on their own terms. I refer to these renegotiated terms as informal working conditions: the process through which workers appropriate and “make-do” with the working conditions at their disposal to create cultural products. This is not to say that gamemakers are completely autonomous in how they
make digital games; rather, they make-do with the available working conditions of digital game production to negotiate their own gamemaking norms and practices.

Once all the bugs, glitches, and breaks are removed, patched, and fixed, the digital game is ready to be released. While the digital game may not be in its final computational version, it is ready to be publicly released. In many instances a digital game is shelved by its creator as a portfolio piece, or put on hold for further development at a later stage in the gamemaker’s career. However, it is at this stage of development when most digital games reach their completion in the development process and are released into the wider video game industry as creative and cultural products. In Chapter 6, “Release: Distribution,” I focus on four types of distribution—online, mobile, software, and console—and the predominant distributors used by Toronto’s local gamemakers. While venues of distribution have significantly expanded to allow the everyday gamemaker to release their digital games, this development has had the reciprocal effect of creating a gluttony of what I call penny dreadful games. These emergent forms of online distribution have created a testing ground for traditional platforms to select grassroots digital games for mainstream distribution. This testing ground has become an unofficial and accepted practice for aspiring gamemakers and publishers to release commercial digital games, which would have previously remained in leisure-based and non-financial online spaces. Traditional platforms recruit gamemakers who have acquired a sizable following of players to release their digital game on their established, and perhaps, prestigious, platform. Throughout this process of appropriation, gamemakers adjust and develop their digital game’s initial design, code, and assets to meet the requirements of the new platform. In many ways, these digital games cease to be local, grassroots, and “indie” and become global, mainstream, and professional.

Finally, after a digital game is released, there is a process of maintenance where gamemakers determine whether they will update the digital game based on player and
community feedback through software patches, or release additional downloadable content. The afterlife of the digital game fluctuates, dependent upon gamemakers’ and players’ active participation in the life-cycle of the digital game. In Chapter 7, “Maintenance: Conclusion,” I conclude the dissertation by returning to the CVAs and discuss how everyday gamemakers have transformed the infrastructures of the video game industry. Again, it is easy to overstate everyday gamemakers’ impact upon the video game industry, it is also easy to downplay their influence upon the norms and practices of everyday gamemaking. In the concluding chapter, I recap how everyday gamemakers have shaped our perceptions of gamemaking, inscribed the materialities of scenes into global networks, appropriated industry tools and resources, renegotiated the established rules of production, and created online platforms for distributing their local digital games within the global video game industry.

This dissertation is not only about recording and describing the lives of gamemakers in local scenes, but is also about measuring and examining their impact within a much larger cultural industry. Much of the scholarly research and media coverage of gamemakers or game developers as they are widely referred to has privileged the auteurs and prominent media personalities within gamemaking as representative examples of the people who constitute the video game industry. If the post modern turn in qualitative and ethnographic research has taught us anything, it is that researchers have an ethical responsibility to capture, to the best of our abilities, the diverse and nuanced voices that embody a given social phenomenon; even if many of those voices adhere to industry and media perceptions. Gamemaking is a nuanced form of cultural production developed by diverse local scenes of gamemakers whose aim is to develop their own cultural norms and practices of gamemaking. These acts of cultural appropriation, where gamemakers self-determine what it means to be a gamemaker, ultimately impacts the diversity of digital games and cultural products developed by the video game industry.
Chapter 2
Concept

“I heard about people making games, and I hadn't really considered that to be a possibility for a long time. When they came out with those little game engines back in the day, it just opened up this world to me.”
— Lisa, Interview 1, 24 February 2015

2 Gamemakers

The International Game Developer Association (IGDA) is an independent, non-profit membership association for approximately 8,000 game developers worldwide (IGDA, 2017). The IGDA is the only global association for game developers, and has active partnerships with many regional and local organizations around the world. As there is no international union, guild, or trade organization for game developers the IGDA is the de facto game developer organization. While the membership of the organization is small compared to the tens of thousands of game developers worldwide, the IGDA is recognized as an international authority, representing the collective interests of game developers outside of their respective studios, companies, and publishers.

Since 2014, the IGDA has collected quantitative and qualitative data on game developers annually through its Developer Satisfaction Survey (DSS). The survey is distributed widely and released in several languages to capture a broad sample of game developers worldwide—even though approximately 60 per cent of respondents tend to reside in North America (Weststar & Legault, 2014, 2015, 2016). The DSS provides a snapshot into the demographics, issues, and working conditions of professional game developers. In the 2016 survey, 10 per cent worked at first-party studios, 23 per cent worked at second-party studios, 17 per cent worked at third-party studios, and 39 per cent worked at independent studios (Weststar & Legault, 2016). Of those
game developers 66 per cent were employed full-time, with 19 per cent and 10 per cent self-employed or working as freelancers, respectively (Weststar & Legault, 2016).

As the IGDA is a professional association, the DSS focuses on the professional roles and working conditions of game developers, including salaries, incentives and overtime, benefits and time off, hours of work, and career path and advancement. For example, the 2015 DSS respondents were asked if they believe there is equal opportunity and treatment for all workers in the industry. According to Weststar & Legault (2016), the results suggest that the majority do not believe there is equal opportunity and treatment for all workers in the industry. Approximately 49 per cent responded “no” there is not equal treatment and opportunity in the game industry, 39 per cent responded “yes” there is equal treatment, and 13 per cent were “unsure.” Such data sets are invaluable in understanding how workers in the industry perceive their profession, working conditions, and opportunities for development and growth. This is particularly important as 51 per cent of respondents to the DSS reported that their primary work was to make games in a core creation or development role. If professional game developers are creatively and professionally unsatisfied with the opportunities provided in their workplace, they will seek out other venues to build digital games.

Though the survey provides a detailed overview of the professional side of game developers, it does not consider their leisure-based activities that contribute to their development as everyday gamemakers, such as home projects, participation in game jams, attendance at workshops, online training, and contributions to collective resources, like documentation and community forums. As I argue throughout this chapter, everyday gamemakers participate in a wide range of work and leisure activities to learn, modify, and make digital games. Their motivations for participating in these wider leisure activities can include: learning skill-sets to broaden their professional responsibilities; experimenting with new digital tools to work for a
different company; or designing a mechanic in an unfamiliar genre to push the limits of digital game knowledge. Simply put, everyday gamemakers want to make games regardless of the context in which they make them, and sometimes, making digital games in leisure contexts is the only way they can satisfy this creative itch.

In this chapter, I introduce my research participants to discuss the concept of the everyday gamemaker and examine how their gamemaker identities are formed and transformed continuously in relation to the ways they are represented or addressed in the cultural systems which surround them. I apply Stuart Hall’s (1992) notion of a “moveable feast”—the way multiple cultural identities can be shared and transformed over time—to describe how everyday gamemakers share multiple work and leisure identities simultaneously when participating in the activities of digital gamemaking; hence, everyday gamemaker. During my ethnography, I conducted multiple interviews, participated in game jams, collaborated on home projects, and even released digital games to commercial platforms alongside my participants. These activities, and the data I collected, reveal a range of work and leisure activities related to the shared and continually transforming gamemaker identities of my participants. This analysis provides an overview of the participants in my ethnography to contextualize the remaining chapters in my dissertation, and emphasizes the multiple work and leisure identities shared by everyday gamemakers. Framing the craft of game development in this way not only acknowledges the important role of professional game developers and their organizations in shaping the trends and norms of the industry, but also recognizes the nuanced leisure activities which shape the development of the everyday gamemaker in contemporary society, and, ultimately, the digital games they contribute to and produce.

I argue throughout this chapter that the motivations behind these fluctuating identities are gamemakers’ passions to be involved in the creative process of game development and move
“beyond alienation” (Hesmondhalgh & Baker. 2011). Karl Marx (1978) argues alienation separates workers from autonomy within the labour process, from the products they produce, from other workers in their industry, and from their own species-essence (i.e., human essence). Alienation is defined here as isolation from the creative process of game development, such as designing the game or producing the game from beginning to end. David Hesmondhalgh and Sarah Baker (2011) argue that cultural workers move beyond alienation by their motivation to attain “good work”: autonomy, interest and involvement, sociality, self-esteem, self-realization, work-life balance, and security. All my participants felt alienated from the creative process of game development and attained “good work” by making employment and career changes or participating in leisure activities, such as game jams. Gamemakers draw pleasure, meaning, and creative fulfillment from their work and will find a way to make digital games regardless of their alienation from the processes of game development—either through creating the same asset again and again or are removed from the creative process entirely as a playtester. I highlight these gamemakers’ stories and the steps they take, successfully or unsuccessfully, to transcend alienation and enjoy the creative process of game production.

2.1 Everyday Gamemakers

Stuart Hall (1992) referred to identity as a “moveable feast” where it is “formed and transformed continuously in relation to the ways we are represented or addressed in the cultural systems which surround us” (p. 277). Hall theorized the post modern subject as an individual that has no fixed, essential, or permanent identity by looking at how globalization had impacted our modern

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19 “Gattungswesen” roughly translates to species-essence or species-being, which can approximately mean human essence. It does not translate to human nature.
notions of cultural identity. By de-centering the subject, Hall (1992) emphasized how individuals not only shared multiple identities simultaneously, but also how their identities shifted depending on the cultural systems that influence their everyday life. While Hall’s (1992) focus was on notions of gender, race, and larger social groups, his work is relevant to cultural identities surrounding producers of cultural products—especially when these groups are influenced by effects of globalization, such as mass migration, increased connectivity, the distribution of labour across geo-political boundaries, and the breakdown of homogenous forms of identity.

Hall (1992) also discusses the “unconscious formation of the subject” (p. 287) where identity is formed through unconscious processes over time, rather than innate in consciousness at birth. Individuals inherit identities through established cultural systems of hegemony: the dominant discourse surrounding a cultural industry (i.e., professional and commercial game development). In other words, if the only discourse surrounding digital gamemaking is the video game industry, and the only terminology to describe gamemakers is game developer, or acronyms along those lines, then most gamemakers will self-identify as game developers, regardless of the gamemaking activities they participate in. These “unconscious” formations of identity, though inherited, can and do shift over time, and cultural systems, such as the video game industry, change according to fluctuating norms and trends.

During my ethnography, it was rare for gamemakers to refer to themselves as anything but a game developer. This was particularly evident during the recruitment phase of my study when gamemakers would consistently describe themselves as “game developers,” “game devs,” “devs,” or “indies.” Out of my nine participants, all of them could be considered professional game developers, ranging from full-time employees to freelance and indie, but the degree of their professionalized status was not always clear-cut as their growth as a gamemaker developed and as their participation in a range of work and leisure-based gamemaking activities varied. The
names of the nine gamemakers I discuss throughout this chapter are: Cody, Benjamin, Christine, Margot, Cameron, Michael, Lisa, Clay, and George. I analyze their gamemaker identities in turn to show how everyday gamemakers produce digital games.

2.1.1 Cody

Cody began his gamemaker career building games with level editors during high school and later enrolled in a game development program at a post-secondary institution in Toronto. While he was in the program, he learned how to make digital games using the game engine Flash. He made approximately half-a-dozen small prototype-based games, which he released on his own personal website and several online marketplaces and web communities. In the final year of his program in 2012, he participated in the Glorious Trainwrecks “2012-in-one” game jam, where gamemakers had to make as many digital games as they could over the weekend of 25-26 February 2012. Cody explains his experience making this game:

There’s about thirty different design variations on [game title] ’cause there was a game jam where collectively everyone in the jam wanted to make 2012 [apocalyptic] games ’cause it was for the year 2012. My goal was to be the person who made the most games, so I made [game title], and then would make a small tweak; I’d change the colour palette, give it a different title, and count that as a second game. I ended up making like 35 games during that jam. They’re all just slight tweaks on your basic [game title] (Cody, Interview 1, 11 February 2015).

After the game jam, Cody programmed his game variations into one digital game, which he released on his website and the online marketplace, Kongregate. Within the first two months

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20 I use pseudonyms for my participants throughout.

21 Submissions were made to Pirate Kart Dot Com as part of the “Pirate Kart V: Glorious Developers Konference Kollection” that would be showcased at a booth during the Game Developers Conference, 5-9 March 2012. The game jam received 1,005 submissions from 378 contributors, including Cody.

22 Kongregate is a mobile game publisher and web gaming portal. Created in 2006, Kongregate’s portal allows for the submission of Flash, HTML 5, JavaScript, Shockwave, Java, and Unity games.
the game had been played over 100,000 times by Kongregate’s player community. Over the next year, he released the game on several other websites, which brought the total play count to over 1,000,000. Cody gradually generated a stable income from the ad-revenue accumulated from these various online distributors, which enabled him to make more games and to quit his job as a part-time cook.

As his success as a game designer grew, he took on freelance contracts with companies and independent game developers to incorporate his art aesthetic into their games. Cody’s goal though, was to achieve sustainability as a gamemaker:

It’d be cool to get nominated for the IGF [Independent Games Festival] or something like that but … that’s not nearly as important to me as just making something that’s self-sustaining … or even contract work, like I’m cool with [it] if it’s stuff like [contract with game company]. If it’s all cool contract stuff that I really want to do and I am actually really hyped about a project, something I’d feel super proud to put my name on (Cody, Participant 1, 11 February, 2015).

Part of his strategy for achieving sustainability, outside of continuing to make digital games and take on freelance contracts, which bring in a stable income, was to establish a collective with other like-minded gamemakers in Toronto that could mutually benefit from each other’s contacts and resources. This does not mean they would necessarily build digital games together, though some of them did, but that they collaborate on projects to increase their collective visibility as gamemakers for contracts on digital games and installations at events and exhibits, and to potentially bring other talented gamemakers into the partnership. Says Cody,

We registered that as a partnership … I don’t really know anything about business stuff. But I’m pretty sure that we have a piece [of] paper somewhere saying that we are a [game collective] officially. Yeah, so it’s more just like create a project on a game or something that will allow us to support ourselves, and maybe hire a few cool people (Cody, Interview 1, 11 February 2015).
It is notable that this collective is not a corporation or a registered company that produces digital games, but a partnership agreement that brings in business to benefit the collective.\textsuperscript{23} This form of collective effort enables the group to not only reap the profits generated by the group, but also allows them to continue to work on their own independent digital game projects and other contract work, while they work on these profit-generating contracts and projects.

2.1.2 Benjamin

Benjamin’s gamemaker career began after high school when he enrolled in a game design program in Toronto. While in the program, he made games through class projects and at game jams across the city. When he graduated from the program, he began to work on a mobile game with a classmate in the summer of 2015. At the time, he was working part-time at a retail store while living at home with his parents. This allowed him to save money so that he could make games full-time and start his own registered game company.

In fall 2015, he quit his job and formed a game studio with his classmate, Andrew, to publish mobile games for iOS and Android. In the following excerpt, Benjamin describes his experiences over the past year while forming his game studio:

I kind of feel I’m in my fourth year of school, cause my course was only three years. And, I just kind of feel like this is a co-op. I’m kind of just doing my own thing and like my confidence for going into a job interview and trying to get a job now since I’ve been making this game has like, quadrupled. Before it was like, “Oh, I’ll just intern anywhere”. But now it’s like, “Alright, I know so much more now.” I know my shit. I think this has been a good portfolio and maybe I get a job at a studio for a couple years and I come back to making games. But right now, I just don't, I don't really have that much of a risk factor cause I’m living at home. So … I start my own company and see where this takes me. If I’m ever going to do it, it should be now when there’s less of a risk. So yeah, hopefully, or, instead of getting a job where in the first year of a small company that can be successful, hopefully. But I think something like 70 per cent of

\textsuperscript{23} A corporation is an independent legal entity owned by shareholders, in which the shareholders decide on how the company is run and who manages it. A partnership is a business in which two or more individuals share ownership.
game studios go under in the first couple of years, or something crazy [like that]. Cause a lot of people want to focus on the game and they forget it’s a business, right? You still got to pay people. But yeah, I think I’m just in my fourth year of school pretty much (Benjamin, Interview 1, 16 January 2015).

Over our five interviews, the company made and released two game titles on the Apple App Store and Google Play. While the digital games were not financially successful in the sense that they enabled Benjamin and Andrew to subsist on the profits generated from their game company, it was important for Benjamin that he gain valuable experience as a gamemaker, not just making games, but also learning how to run a company and produce commercially-released digital games.

Though Benjamin’s gamemaking activities can be considered a “risk” as his company was not generating enough profit to produce a stable income (Neff, 2012). However, Benjamin developed his company from his parents’ home, which freed him from the financial burdens of rent, food, and other necessities of living independently. Dave O’Brien and Kate Oakley (2015) argue that the ability of parents to support their children not only through higher education but beyond, such as staying at home without paying rent and borrowing small amounts of funds, has a clear impact on the ability of cultural workers from lower-income families from entering professions in the cultural industries. In comparison, Andrew also worked full-time at an architecture firm building 3D-models. Andrew used the 3D-modelling skills he developed at school to ‘pay his bills’ while starting-up their game company.

Gina Neff (2012) refers to this type of risk as “venture labour” where workers think of their jobs as an investment or as having a future payoff other than regular wages. In Benjamin’s case, he can start his own company and learn from the experiences of starting that company with minimal risk. Because he lives with his parents, if the company fails to generate profits, Benjamin avoids accumulating significant financial debt, and has the bonus of developing
multiple digital games, which have been released on commercial platforms. The work experience and the digital games in his portfolio would potentially give him a leg-up in the workforce when applying for jobs at digital game studios. In this sense, Benjamin has the luxury of making games for fun without the necessity of designing a digital game whose aim is to specifically make profits. It is the current condition of cultural industries that to break into the professional industry and acquire success and income, gamemakers must first make digital games in their leisure time (i.e., not working for a wage).

2.1.3 Christine

Christine got into making games following an internship with an independent game developer. She had just completed a three-year animation program in Toronto creating 2D and 3D animations for courses when a paid opportunity became available to create 2D art assets, such as characters and environments, for an independent digital game. She was paid hourly for her work creating these assets, sprites, and animations. The game was released in 2013 on the platform Steam and became an instant financial success. The independent game developer renegotiated Christine’s contract, which allowed her to receive royalties for every copy sold. As their game was a financial success, by indie standards, they began to create downloadable content (DLC) for the digital game, which would include new levels and storylines. Christine was given the opportunity to design some of these levels, which were released in 2014 and 2015. The financial success of the game allowed her to subsist on the royalties of the digital game, while she continued to create new additional content for it. However, royalties are not an indefinite source of income, and Christine had to either find or create additional work for herself, hence the DLC. As Christine explains, she chose the latter option because it enabled her to develop her own DLC for the digital game, even if it placed her in a financially precarious position:
One of the scariest things about being an indie is that you don’t know what your paycheque is going to be like if the project is done and you’re just kind of working on DLC. You know, my contract isn’t over. I don’t get paid hourly by [developer name] anymore, right? I get paid in royalties, you know. After the DLC that I made is sold, I get my cut of the royalties from the DLC. I’m always breathing a sigh of relief when I have enough money for rent this month sort of deal, which is why I’ve actually ended up having to—I’m also working sort of part time at [retail store] ‘cause it helped pad my income a little bit just to make sure that I have enough money for my monthly things. Like we really are kind of living cheque to cheque, and not all indies have to live like this but a lot of them kind of do, and it’s scary. So, having the financial stability will definitely be welcomed (Christine, Interview 1, 9 May 2015).

When we conducted our first interview Christine was approaching a situation where she would be without work and relying on royalties and a part-time job at a retail store.

As her work with the independent game developer wound down and her royalties had begun to dwindle, she searched for employment at digital game studios in Toronto. By our final interview, Christine was hired as a game designer for an international mobile game publisher’s studio in Toronto. It was a full-time position that provided her with a stable income, but it also meant she lost her status as an indie, and spare time to work on other game projects, such as rapidly producing digital games at game jams. As Christine describes, if she does have any free time, it’s going to be used for rest:

Technically, I actually could sort of put in time on the weekend, and just like make a little game, I’m just not allowed to sell it. And I feel like a lot of times unless it’s a little jam game that I spend a few days on and call it a day it was like, you know, that’s fine. But I want to spend my weekends [working on game project], and spending and investing like a lot of time and energy into this project. It would be nice to be able to profit on that, you know? So, for now, that’s not a thing; especially, since I essentially, I kind of work six days a week because I work at [mobile game publisher studio] and then I also work at [retail store], and it’s really, really nice to have that one extra day off (Christine, Interview 3, 5 November 2015).

One of the challenges for full-time workers, not just game developers, is that their day-to-day activities are monopolized by their place of employment and the domestic responsibilities they have at home. Any free time that would be dedicated to leisure-based activities, such as gamemaking, is quickly set aside for rest and other activities, which create a work-life balance.
Though overwork is certainly a concern for many gamemakers who work for studios and publishers in the video game industry, working full-time on a digital game project makes it difficult for gamemakers to work on, and consider working on, any other digital games outside of their place of employment.

Maintaining a work-life balance is an issue that affects many gamemakers in the video game industry (Edwards et al., 2014; Weststar & Legault, 2016). While I discuss working conditions within the video game industry in Chapter 5, it is important to note here that working for studios and publishers limits gamemakers’ ability to build digital games. Typical roles for game developers include artist, programmer, animator, engineer, designer, and tester, which alienate gamemakers from the creative processes of game development, such as designing a digital game from beginning to end. Previous research by Hector Postigo (2003) and Julian Kücklich (2005) has found that ‘modding’ was an attempt by modders to transcend alienation, where instead of working as one developer amongst hundreds on a Triple-A commercial game, modders could modify a Triple-A game by themselves in their leisure time. Even though Christine wants to continue to make digital games, and potentially profit from them, working six days a week prevents her from participating in one of the most prolific gamemaking activities in the Toronto scene: the game jam.

2.1.4 Margot

Margot started her gamemaker career building small games in high school with RPG maker 2000, a game engine developed by Enterbrain, which allowed gamemakers to build role-playing games (RPGs). She later went to a 3D animation school and went on to work for several animation studios before moving into the video game industry as an animator for console-based video game studios. She then went to work for a major media industry publisher working in their
games department before moving to Toronto to work as a lead artist for a PC-based digital game company. From there she transitioned to art director for a mobile game publisher. Margot’s career is the sort of career typically imagined when one thinks of game developers: working for industry studios and publishers, moving from entry-level developer to lead and creative developer, and gradually increasingly your role as the creative designer on game projects.

However, throughout her gamemaker career she experienced layoffs, sexual harassment, and precarious contracts, which meant she had to constantly move around and search for new work. This was particularly evident when she contemplated leaving her current position as an art director, because of issues with male colleagues at her mobile game studio:

I think he feels threatened because I’m this young person who was brought in to run “his” department. This young woman was brought in to run “his” department and he’s like, “She’s not even a mobile game person she’s a video game person”. And I think that really scares him. And there were times where me and [another developer], who’s this director of products, tried to design bonus games that were more like a regular video game, like more super basic RPG mechanics or other things. And he would get super mad about it and would very passionately fight it. And all the way up to this day, if you try to introduce something that’s new he gets mad. And he tries to fight it. And he refuses to understand. So, that’s been tough… I’ve been actively looking to move on. I have like zero trust now, and its just kind of like, the money’s great, it’s like a “good role”, but I don’t want to be there. I’m kind of done with it in my head, and I’m just like going through the motions and I’m doing my job. I’m not-not doing my job, and I’m not fucking with people, but I don’t want to be there (Margot, Interview 2, 13 April 2015).

Over our next several interviews her relationship with several of her colleagues continued to deteriorate. She began to look for work elsewhere in Toronto, preferably in a similar management position to the one she currently had, but she also started to focus on other gamemaker activities, such as making prototypes with her partner at game jams, creating art assets to add to her portfolio, participating in gamemaker workshops and attending socials in the Toronto scene.

These extra-curricular activities, or professional development activities, were Margot’s way of enjoying gamemaking outside of her role as a gamemaker, and to continue to develop her
skills and understanding of the creative practice of gamemaking. As Margot clarifies, gamemaking is something she is passionate about, and not being able to enjoy, let alone, work on games at her mobile studio is why she makes games at home and at game jams:

I have very separate projects at work and at home. I don’t normally think about my work projects at home, partially because they’re dreadfully boring … It’s like, who cares? But at home, it’s like, I can really dig into stuff that I’m actually interested in, and I learn a lot of new stuff and then that stuff that I learn I take back to my day-to-day life and in the workplace, and I can share what I’ve learned with people (Margot, Interview 2, 13 April 2015).

For Margot, gamemaking is more than just a job or a profession, it’s a craft and an activity that she dedicates her work and leisure time to. Like Christine, Margot feels alienated from the creative processes of game development at her studio because she only designs and creates art assets, but unlike Christine, Margot faces harassment, sexism, and misogyny daily from a male colleague who undermines her contributions to the creative process. These gendered issues in the workplace are endemic to the video game industry (Fisher & Harvey, 2012; Fisher & Jensen, 2017; Jensen & Castell, 2013). In 2012, women gamemakers used Twitter under the hashtag #1reasonwhy to explain why women are underrepresented in the video game industry. Women developers described their gamemaking experiences, which included having their work dismissed and ignored, having designs for non-sexualized female characters rejected, their clothing and appearance being used to dismiss them on gendered grounds, and, at the more extreme end, sexual harassment at conferences (Hamilton, 2012).

For Margot, working on digital games outside of her studio not only allowed her to transcend alienation from the processes of game development, but also enabled her to transcend the misogyny, sexism, and harassment, which prevented her from working and enjoying developing digital games. Brooke Duffy (2016) has labelled this gendered phenomenon “aspirational labour”: where cultural workers pursue creative activities that hold the promise of
social and economic capital, even though the reward system for these aspirants is highly uneven. Duffy (2016) identified three salient features of aspirational labourers: authenticity and the celebration of ‘realness’; the instrumentality of affective relationships; and entrepreneurial brand devotion. Margot’s situation resonates with the ‘instrumentality of affective relationships’ where she built active relationships with other gamemakers and organizations outside of her company to develop digital games. The drive to participate and control the creative act of gamemaking is one, which most, if not all, gamemakers hope to achieve.

2.1.5 Cameron

Cameron began his gamemaker career in a game development program in Toronto, focusing in programming and design. When he was in high school he had a summer job at a mobile game company as a playtester. While he was at the game development program, he maintained this summer position within the company. After graduation, the company offered him a contract as a full-time playtester with some responsibility as a game designer where he would focus on playtesting, but could also assist the game designers in their design work. However, the position was not as desirable as one would think. As Cameron explains:

Because these two guys, they have this vision of how the game’s going to look and sound and feel in their head, and how it’s going to play, they aren’t really easy to work with. They’re very opinionated and they make things difficult for people who don’t play ball with them. Everyone’s got problems with them. They’re also my direct managers. So, basically, I’ve been doing that job for two years now … I’ve been trying to constantly shift my area of expertise to do something that they will hire me for [other than playtester], that they will let me like advance to. Whether it’s they need a 3D animator, “Well, let me just whip up a 3D animation portfolio in a month”. That didn’t happen, because that doesn’t happen. You just don’t get that good at something in such a short amount of time. Or like 2D artist, or 3D modeler, programmer. You don’t get good by trying to do those things for a month and then hoping that you have something good by the end of it. And that’s kind of the same reason that all my experience is doing game jams every year (Cameron, Interview 1, 4 February 2015).
Like Margot, Cameron is working on digital games at home or at game jams so he can build-up his gamemaker skills over time. Ultimately, Cameron wants to shift away from his position as a playtester and become a full-time game developer working as a programmer, 2D artist, or 3D modeler. The issue for Cameron though, is that he does not have professional experience in those areas, and building-up his portfolio is perceived as the best approach to showcasing to potential employers that he can perform the job.

This balancing act for gamemakers between their work and leisure gamemaking activities underlines how gamemaking is a way of life for some game creators, and the context in which they make digital games does not always matter to them: what matters is that they continue to make digital games, regardless of their employment situation, and that they are getting the opportunity to participate in some stage of the production process. Cameron talks about this balance between his work and leisure-based gamemaking activities, and the frustrations of being “discouraged” from making games at home by his colleagues:

I just want to be good at what I do, and I wish that I had a job where on a day-to-day basis I wrote code, designed levels or games or did art or did, or even did production and managed people to do all of their stuff better because I have a moderate understanding of each part; however, I’m not very happy that my job is not skill-heavy at all and that it’s discouraged me to do that… My hobbyist life is, I think, the most important part. It’s the part that hopefully will replace my current job of not having skills. I want to use my hobbyist life to get a job where I have skills, and then I can worry about hobbies that aren’t directly related to my skills, so I can have a more varied, so I can—oh my God I’m so obsessed with game involvement, basically. I want to get hobbies for the express purpose of having interests that make more interesting games (Cameron, Interview 2, 13 April 2015).

Making digital games at home is a way for Cameron to participate in the activities of gamemaking, which he does not get to work on in his day job as a playtester. But there is a simultaneous frustration because Cameron can learn these skills and get quite proficient at them, but cannot use them on any of the projects at his studio. As such, his desire to make digital games at home is doubly fueled by his ambitions as a gamemaker and his lack of professional
opportunities to practice his gamemaking skills. He is therefore in the precarious position of constantly improving his portfolio and gamemaking skills without any guarantee of an opportunity to achieve his career goal of becoming a professional game developer.

Ergin Bulut (2015) argues that playtesters participate in the “degradation of fun” where they are alienated from play and forced to develop instrumental and selective ways of play (i.e., repeating the same game mechanic repeatedly). In addition to Bulut’s (2015) definition, I argue that this alienation is specifically designed by the video game industry to remove testers from the processes of game development. Playtesters are typically only given access to ‘builds’ of games, which are pre-release versions of the game. In most, if not all cases, playtesters do not have access to the game engine the digital game is developed on. In short, playtesters, compared to other gamemakers, are the most alienated from the processes of game development. As such, for gamemakers like Cameron, who know how to make digital games, this is not only frustrating, but also removes them from the possibility of applying for and getting other developer roles within the company because they are the people who ‘play’ digital games, and are not people who ‘develop’ digital games.

2.1.6 Michael

Michael began his gamemaker career in Vancouver where he completed a game design program, focusing on becoming a developer for Triple-A industry studios located there. With limited opportunities available upon graduation, Michael moved back to Toronto to live with his parents and started networking in the Toronto scene to look and apply for game developer positions. While looking for employment, Michael participated in a game jam and developed a digital game prototype. He kept working on the game, getting feedback from other gamemakers in the community, and built a puzzle-based digital game, which he planned to release on the Apple App
Store and Google Play. Before he released the game, he got a full-time position as a playtester for an international mobile publisher studio in Toronto.

Typically, gamemakers are not allowed to work on digital games, which are not the intellectual property of the studio at where they are employed due to non-disclosure agreements (NDAs) and employee contracts. Since this was a digital game Michael had worked on before he was hired, he had reached an agreement with the studio so he could finish the game in his off-work hours, release it, and receive any subsequent royalties, which the game generated. However, working at a professional studio also gave him several other perks for his independent activities.

From a legal standpoint, as long as they don’t have a similar theme or concept then they’re mine [i.e., digital games made outside of work]. But otherwise, it’s like, I get to bounce my ideas off of people at work… I try to learn and apply as much of the stuff that I do at work to my personal projects primarily because I find that, a lot of the projects that, or a lot of the methodologies that I work on at work, I can like, scale down to a one-person development team ’cause a lot of it is dealing with taking functionality and breaking it down into its actions, and then like testing whether or not those actions are functioning properly. And I could take care of all of that as an independent. But I also have access to like other documentation, so I could analyze how they structure all their information and then apply that to my personal projects, which is extremely useful. So, like the relationship is that it’s almost like a mentor to a student where like I’m learning a lot from my day job and then applying a lot of what I learn to my personal prototypes and commercial endeavors (Michael, Interview 2, 17 March 2015).

Michael uses the professional experience he is gaining as a playtester to improve the testing phase for his own digital game. He is not taking the documentation from the studio per se, but, rather, reading the documentation carefully and using that knowledge to develop his own methodologies as an independent gamemaker.

de Certeau (1984) refers to this practice as “la perruque”: “the worker’s own work disguised as work for his employer” (p. 25). The worker diverts time, using workspace and resources, to perform activities, which would typically be done outside of the work environment. In Michael’s case, he’s using the opportunity of working within a major mobile studio to
understand how professional digital games are made and tested. As he himself is making mobile games, this knowledge is invaluable and is unlikely to be acquired outside of a professional game development environment. Experiences like Michael’s are not uncommon in workplaces where workers take the knowledge they have acquired and use it for other contexts. Many, if not most, independent gamemakers and other cultural industry artists and workers, will use the knowledge they have acquired throughout their professional experiences to apply them to their own commercial releases when they “go indie” (Lipkin, 2013; Newman, 2009).

A notable example of this transition from mainstream to indie is the Fullbright Company, known for making the award-winning indie game *Gone Home* in 2013. The three founding developers of the company had previously worked together at publisher 2K Games on their blockbuster titles *BioShock 2* and *BioShock Infinite* (Fullbright Company, 2017). In an interview with *Gamasutra*, Steve Gaynor, one of Fullbright’s founders, describes how the three co-founders had worked closely together on the DLC for *BioShock 2*, titled *Minerva’s Den*, and establishing Fullbright was how they would recapture the small-team environment they had developed on that project (Alexander, 2012). Gaynor goes on to say that the experience of working at a major Triple-A publisher had given them the knowledge and experience to go indie: “If anything, it has prepared us better than anything else could to start a small enterprise like this… how good it is to know we’re using some version of best practices” (Alexander, 2012). This type of opportune labour indicates how gamemakers situated within professional work environments, but are alienated from the processes of game development, see their place of employment as an opportunity to improve their craft of gamemaking regardless of whether they get to make games at their place of work. The founders of Fullbright took their development experiences making a DLC for 2K Games and used it to make a comparable-sized indie game.
For Michael, he took the knowledge he acquired from work to improve, and consequently, professionalize, playtesting for his indie games.

2.1.7 Lisa

Lisa began making games in her teens with RPG Maker 2000 and Flash. She went to university to study in the physical sciences and later enrolled in an art and design program in the United Kingdom where she gained expertise in user interface (UI) and user experience (UX) design. She moved to Toronto to work as a UI designer for a social media firm before becoming the UX lead at a major Canadian bank for website and mobile applications. While Lisa has experience making games, she did not work on them all the time, so she found her experience in certain areas of game development to be limited:

> It kind of depends, as I do have experience in UI design and a lot of other types of design and art through work. So, I'm not completely inexperienced. But at the same time, doing a game by yourself is a lot of work, and my development skills are kind of, you know [limited], just because I'm starting off with development really. So, unless I can work in a team with people, I don't see me getting to where I'd love to be or where I'd really like to be for a while. Hopefully, I can do both at the same time. I can work on my own projects and develop my own skills better, maybe work with a person or two, like a bigger project that can push me to where I want to do (Lisa, Interview 1, 24 February 2015).

Lisa develops these skill sets at game jams and makes small prototypes over a weekend, which she publishes to her personal website, not her professional website for clients. Lisa struggles to find more time to spend on these gamemaking activities. Although there is some overlap for Lisa with her experience as a UI/UX designer, that experience only crosses over with a specific aspect of game development. To become a gamemaker who can work on larger-scale projects independently she would need more focused time to become familiar with a game engine and the various technical and functional knowledge that entails; it would require her to work more flexible hours and on projects that had relevant crossovers with her gamemaker aspirations.
As an experienced UI/UX designer, Lisa also worked freelance contracts, which supplemented her income and allowed her to build a clientele. During our interviews, she left her job at the bank to pursue independent work as a UI/UX designer. Part of the reason for this change in employment status was so she could pick and choose more creative opportunities, and spend more time working on becoming a gamemaker:

Freelance is good. I’ve had more time to do things I want. Like work on the site. Pay is probably a lot less. I should probably keep a better track of my finances and actual monthly pay and stuff. It’s probably a lot less money, but it’s not like I’m struggling, so I don’t mind. I’m happier to have some time to do the things that I want to do. And the freelance projects I’m working on are really cool (Lisa, Interview 5, 8 February 2016).

A desire for creative autonomy over work projects is not just an aspect unique to gamemakers, but to all cultural workers and their respective industries (Hesmondhalgh & Baker, 2013). In their analysis of the cultural industries, David Hesmondhalgh and Sarah Baker (2013) analyze two types of autonomous work: workplace autonomy and creative autonomy. Workplace autonomy is the “degree of self-determination that individual workers or groups of workers have within a certain work situation” (p. 40). Creative autonomy is the “degree to which ‘art’, knowledge, symbol-making and so on can and/or should operate independently of the influence of other determinants” (p. 40). Whereas most the examples in this chapter can be categorized as workplace autonomy, where gamemakers “make-do” with their situation to be creative (de Certeau, 1984). But these gamemakers also work on other gamemaking activities simultaneously to achieve creative autonomy. However, Lisa was the only participant who quit her job to attain creative autonomy, not only in her gamemaking projects, but also her freelance work in UI and UX design. For Lisa, taking a significant cut in income is worth it if she gets to work on the projects she wants to work on. Moreover, getting to work on projects that enable her to use and express her creative-based skills, develops opportunities for her to stamp her mark as an artistic and unique designer. What makes Lisa’s comments intriguing is how she balances her life
between the work she *must* do to subsist and the work she *wants* to do to reach creative autonomy.

2.1.8 Clay

Clay got into gamemaking during his teens working with level editors and designing board games. He went to university to study the humanities and met his partner there. While she worked on fiction writing, he would work on his gamemaking. Early in their relationship they both got positions as tutors where they would work with children for half the day; spending mornings working on their creative pursuits, and evenings participating in their respective scenes. As Clay says,

I had these hours in the morning where she [Clay’s partner] would just lock herself in her room and just write for a few hours and I had nothing to do. So, it was like “oh OK. Well maybe I’ll try to take a stab at making games.” So, when I took this job it was like I know that it always might have been a good idea to get some other job, you know, as a career. It’s not really a career that I’ve got, but the fact that it sort of allowed me to spend my mornings programming and doing whatever creative work I wanted for ten years was just too tempting for me to give up. And I still haven’t given it up. I’ve not needed to because the job pays, it’s a stressful job. I mean, it’s working with autistic children, and there’s a lot of stresses that come with that. So, I get well compensated for the few hours that I put in (Clay, Interview 2, 30 April 2015).

Clay’s situation meant that while he lived on paid work, he could use a significant portion of his day to work on his digital games, and could then network and show them off to other gamemakers in the scene.

By the time I met Clay, he had been making games for almost a decade, and had become proficient at game design, programming, 2D art creation, and music creation. He began to develop games with the intent to sell them commercially:

I have a corporation. I’m incorporated. I run a corporation. But I’m not a corporate stooge, it doesn’t take almost anything to have a corporation, but I do have one that oversees all the different business things I do and my wife does. And so, if I’m going to make any money doing this, it’s got to go into the corporation (Clay, Interview 4, 27 August 2015).
As I discuss later in chapter 6, forming a company and becoming incorporated is a requirement to release a digital game on commercial platforms, such as the App Store, Steam, and Google Play, regardless if any profits are made. Although Clay’s aspirations are to one day become an independent game developer, gamemaking was still predominantly a leisure pursuit for him as his success as a gamemaker did not determine his financial stability. Clay could experiment, dabble, and not complete any of his digital games. By our final interview, Clay had released his first commercial mobile game on the Apple App Store, even though he made been a gamemaker for almost a decade.

Like Lisa, Clay kept his job as a tutor precisely because it enabled him to have creative autonomy over his gamemaking activities (Hesmondhalgh & Baker, 2013). Hesmondhalgh and Baker (2013) label this type of creative autonomy as ‘aesthetic’ or ‘artistic’ because Clay wants the time to produce, or not produce, the digital games he wants to make. He has the luxury to fail, which is an indulgence many creatives do not have. For example, Hesmondhalgh & Baker (2013) also define ‘professional’ creative autonomy, which is work by cultural workers that find creative autonomy in professional projects, such as freelance work for other game companies, like the UI/UX work by Lisa and the art assets produced by Cody. While Clay has fixed hours every day where he tutors, Lisa and Cody take on freelance work, which can potentially lead to an overload of professional work limiting the amount of time they can spend on their own projects. This differentiation is critical because Clay has the time every day to potentially create experimental digital games, which push the boundaries of what can be considered a game without the pressure and stress of producing a game that must be marketed to audiences for profits to be achieved.
2.1.9 George

George began making games in university when he joined his university’s game design club and created games at game jams in the city and in-house game jams at the university. At university, he made five games with some of the other members of the game design club. Though he is not a professional game developer and works for a software company as a programmer, he continued to make digital games at game jams with the friends he made at the game design club. Following the Royal Ontario Museum (ROM) Game Jam, where gamemakers create games based on a theme organized by the ROM, they were asked to develop the game further to be used by the ROM in their yearly programming. They finished the game for the ROM and then released it on their personal website and other distributors for attendees at the ROM to purchase afterwards.

While the game did not make enough sales for the team to subsist on, the process enabled them to form their own company and to take on other freelance projects through the attention they acquired from the game. Though George worked on these projects in his spare time, some of his team members did not have full-time work and considered this to be their main source of subsistence. Towards the end of our interviews, George was in-between jobs, and had about a month to work on these digital game projects with his team:

We did register a business so the ROM could have a contract with us, and that is how we got a contract with these other guys as well, right? That said, we haven’t quite come to a “companywide” consensus on hours and things like that. At least since the other programmer is working during the day-time for the most part. And so, things don’t always line up very well. I have tried to make myself a proper work schedule around here, given that my time is probably the most flexible given that I don’t have any commitments during the day. That gets a little stymied when these guys ask for a meeting at 8 o’clock at night. So, success on that varies, let’s put it that way. But one of the things that I did find very necessary was to just put up a barrier [around this work]: “I’m working now, come and talk to me,” but if I’m somewhere else working on something else I will not be answering anything, because I need to put those barriers up for sure (George, Interview 4, 14 August 2015).
George’s colleagues at their company all had different schedules because of their different identities as gamemakers. Some worked full-time in other professions and worked on these digital games on the side, whereas others had part-time work or were temporarily unemployed and could spend more time working on their company projects. In many ways, their company was unorthodox as there were no fixed company hours or dictated roles, responsibilities, and contractual obligations. Projects and the process of digital game development was mostly leisure-based for George’s company. They registered a company because they had to work with the ROM and ‘potentially’ generate profits. As such, this company created a situation where they could work on the digital game projects they wanted to, but had to rectify these leisure-based projects (i.e., a prototype made at a game jam) with the professional expectations of a digital game company (i.e., transforming the digital game into a commercial product).

2.2 Conclusion

Hall’s (1992) theorization of cultural identity as a “moveable feast” shows how everyday gamemakers work on a variety of game projects, which shape how they associate with the craft of gamemaking. As the research experiences of my research participants demonstrate there are a variety of gamemaking activities outside the professionalized notions of game developers. The aim of this chapter was to include a profile of the range of everyday gamemakers that contribute to the economic and cultural value of the video game industry. Most of my participants share aspects of both professional and leisure digital game development, which come to shape their gamemaker identities in interesting and nuanced ways.

Over time, these identities constantly shifted according to the work or employment that brought in their main source of income. For example, Clay and Benjamin were in financial situations where they had the autonomy to work on their digital games for several hours daily,
whereas Christine’s mobile studio gave her so little free-time that she used it for rest. However, the motivations for all these everyday gamemakers was tied to their desire to be more creatively involved in their digital game projects. For some, such as Margot, Cameron, Michael, and George, this meant they had to work on leisure projects outside of their industry profession. Others, such as Cody and Lisa, took on freelance contracts, which enabled them to place their creative stamp on a digital game. This struggle between alienation and autonomy over making digital games constantly motivates the actions of everyday gamemakers: alienation from the processes of digital game development, and autonomy over how digital games are made.

In the rest of this dissertation, I analyze how these gamemakers, and other gamemakers in the Toronto game development scene engage with the places, tools and resources, working conditions, forms of distribution, and processes of digital game development. While the video game industry establishes the terms through which these gamemakers create their digital games, gamemakers shape these creative processes of development to produce the digital games they want to produce. Though it is acknowledged that these created digital games are, in several ways, created through an industry pipeline of development, gamemakers are challenging what it means to make digital games by taking on work and employment that best achieves autonomy over the processes of development. In short, they are making their situation work so they can keep making games and attain pleasure, meaning, and creative fulfillment in their craft.
Chapter 3
Design

“... the Toronto scene is far more diverse, and because of that we’re not afraid to make games that are personal ...”
— Michael, Interview 3, 29 June 2015

3 Scenes

In this chapter, I survey the Toronto game development scene and examine how gamemakers maintain and challenge the expected cultural norms and practices of the wider video game industry. The scene has numerous physical and online spaces for participants to engage in the shared cultural activity of gamemaking, including game jams, festivals, socials, exhibitions, workshops, talks, and conferences. Many of these activities were established by local gamemakers with the intention of building and networking the “game developer” community in Toronto. Other activities founded by external stakeholders, such as post-secondary institutions, arts-based organizations and organizations from the wider video game industry, tap into the emerging game developer scene in Toronto. Within the scene’s history, organizations, social groups, and individuals have generated a myriad of cultural norms and practices for what it means to be an everyday gamemaker in Toronto.

To analyze these norms and practices, I use Will Straw’s (2004) notion of “cultural scenes.” Straw (2004) provides an outline for how to focus on different aspects of scenes, such as its geographic and online locations (i.e., Toronto’s West Queen West or Twitter), the genres of cultural production that give coherence around themes and styles (i.e., action-adventure games and Unity3D-made games), and the social activities that comprise the organized events and
“happenings” of the scene (i.e., game jams and festivals). While I do not categorize the scene into these three notions, I use Straw’s outline to interrogate the attributes of a scene that makes it local and distinct from globalized notions and communities of gamemaking, and how those distinctions influence the development of other local and global cultures.

Gamemakers use social media to coordinate activities, share expertise, and create a place for members of the scene to discuss their craft regardless of their current geographic location. Social media here refers to networked digital environments, which enable users to create and share content or to participate in social activities. Typical venues of social media in the scene are Facebook, Twitter, and Slack, but in this chapter I also discuss websites and applications frequently used by gamemakers, such as live-streams, game jam sites, and online forums for digital tools. Scenes have typically been perceived as ephemeral and fleeting activities within a city’s history. Most activities of the scene take place in spaces that are not exclusive to its activities. Bars are typical examples of places where scenes happen, allowing space for socials and gatherings around a given activity. But bars are primarily spaces for drinking and eating, which means most customers who use the space are not likely to be participants of the scene. Consequently, when a scene declines there is little to no documentary evidence that the scene ever existed. Many places in the city, especially bars, will sometimes place photographs, posters, and other textual documents of inscription in its spaces, but in many cases these documents are eventually taken down, leaving little trace that a scene once used the place for its activities. As such, scenes are not perceived as permanent or fixed structures. However, the ubiquity of social

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24 Happenings are unplanned, improvised, and non-linear social events. Typical examples of happenings are block parties and street raves that develop organically. In the context of gamemaking, happenings typically occur as spill-over activities following an organized event, such as a group of gamemakers organizing to socialize at a bar nearby.
media has embodied scenes within digital platforms, which are now visible for all to see, even if they are not participants in the scene.

To hone in on these emergent digital and textual venues of scenes, I use Gérard Genette’s (1997 [1982]) concept of “palimpsest,” which focuses on how material surfaces are scraped and written upon several times, often with remnants of the erased inscriptions still visible. Inscription here refers to the process by which individuals inscribe their meaning upon the material world. In the context of this chapter, inscription can refer to textual and other forms of semiotic transmission and dissemination, such as coding digital games, tweeting, posting images and documents Facebook and Instagram, and conversing through other social media and online forums. While inscription implies textual-based communication, the emphasis here is to highlight the created explicit knowledge (i.e., documents) and not the ephemeral and fleeting moments of communication that are remembered as tacit knowledge (i.e., memory). I theorize the scene as a palimpsest: a cultural activity that has been written upon several times by various stakeholders through the inscription of their cultural norms and practices, often with remnants of the erased inscriptions still visible across the platforms of the scene.

Social media has enabled forms of participation in scenes that were not possible in previous years and has shaped the scene in ways that were only emergent when this ethnography was conducted. As the scene extends its surface across geographic landscapes of urban life and online boundaries of digital environments, its increasing materialities of inscription reveal the constant struggles of cultural appropriation and resistance between local and global stakeholders in Toronto and the video game industry. While this chapter discusses the activities of the scene

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25 Throughout my research, I was frequently informed of events, trends, and developments in the scene via social media rather than the passing of ephemeral conversation.
and those who participate in them, it is also about the decline of a scene’s ephemerality and its unique happenings, and how online forms of digital inscription have created localized infrastructures within globalized networks. The data discussed in this chapter draws from interviews and field notes documenting the scene’s ephemerality and the recorded inscriptions of scene members on social media. It is only through these documented inscriptions that the hidden involvement of scenes in the development of infrastructures in the city, the video game industry, and shared places of gamemaking becomes visible. This chapter is about how the cultural activities of scenes are shifting into online environments, and how these emergent digital cultures are transforming the cultural norms and practices of gamemaking and its associated activities, such as socials, ‘talking shop,’ and professional networking.

3.1 The Concept of Scene

The concept of scene is a colloquial term frequently used to describe cultural activities in a specific place. Throughout my ethnography, gamemakers referred to the scene as the “game dev scene” or, simply, the “dev scene.” These gamemakers were referring to professionalized game developers and their participation in the scene. Their interpretation of gamemaking was highly professionalized, which captured everyday gamemakers from the mainstream developers working for Ubisoft Toronto to students at George Brown College to the independents working at Bento Miso Collaborative Studio and the hobbyists participating at the annual TOJam game jam. Even though these developers were not necessarily developers in the professionalized sense of the term, they were none the less captured in participants’ perceptions of what it meant to participate and be a member of the Toronto scene.

The term scene also has a disciplinary history within the field of cultural studies. John Irwin (1977) first explicitly defined the concept of scene at a time when ethnographic
investigations into the cultural activities of urban life were dominated by deviance studies, which focused on the non-conforming behaviours of gangs, subcultures, and other perceived delinquent systems of organization. Deviance studies was a prominent paradigm within social sciences until the discipline was gradually overtaken by the study of youth and lifestyle subcultures by the Centre for Contemporary Cultural Studies at Birmingham University (Hall & Jefferson, 1993 [1975]). However, the focus on subcultures and deviant-based activities did not account for the casualness of the activities Irwin researched. Irwin (1977) researched everyday social activities in the city, such as watching movies, attending art shows, and dining in restaurants, which did not involve “an exclusive or lifetime commitment” (p. 17). To participate in these activities did not require an individual to identify with a subculture, such as “ punks,” “ravers,” “leathermen,” and other social groups that differentiate themselves from mainstream culture; rather, it only required them to participate in a cultural activity. This is not to say that subcultures do not exist within scenes and influence their emergence, development, and decline, but that the focus for the study of scenes is on the cultural activity itself, the places where that activity occurs, and then the people, social groups, subcultures, and tribes who shape the scene through their norms and practices.26

As with my own ethnography, Irwin (1977) found that the term “scene” was frequently used in the vernacular to convey participation in an activity. As such, the term scene “indicates that these worlds are expressive—that is, people participate in them for direct rather than future gratification—that they are voluntary, and that they are available to the public” (p. 23). The

26 Subculture is defined here as an ephemeral grouping that constantly differentiates itself over time from mainstream culture (Hodkinson, 2002). Tribe is defined here as relatively small groups that tend to have similar worldviews, dress styles and behavioral patterns, which entail greater levels of commitment, continuity, and distinctiveness (Maffesoli, 1996).
concept of scene focused on the activity and the place within which the activity took place. Scenes, therefore, have central gathering places for these activities to occur, such as bars, art galleries, and parks that are not necessarily exclusive to different subcultures and tribes. This makes the scene both public and visible to different social groups to participate in at different times. In many cases, one place can host multiple scenes simultaneously throughout the year. Within these places are semi-structured communities that have “been embellished with a set of special meanings, rules, symbols and subsidiary activities which have emerged out of the interaction of the participants” (Irwin, 1977, p. 27). Scenes infer localized norms and usual meeting places, which are not firmly defined, but are more like guidelines, allowing a certain degree of flexibility for participation.

Although Irwin (1977) defined the concept of scene, it was not until Barry Shank’s (1994) study of the “rock’n’roll scene” in Austin, Texas, when the term began to gain traction within cultural studies, particularly the field of popular music. Shank’s study Dissonant Identities (1994) was a detailed description of local music practices, which revealed changes within the locality of Austin from the 1960s to the 1980s, and its resistance to and appropriation by the mainstream music industry. Music tastes in bars were predominantly determined by college students’ tastes, at first resisting the temptation of mainstream popular music in favour of the traditional “honky tonk,” folk, and “Cowboy music” style. This traditional music represented pre-commercialized cultural practices, which delivered an aura of authenticity and Texan values for participants of the Austin scene.

As progressive country gradually took hold in Austin, followed by waves of punk and rock music, students’ tastes began to shift in favour of mainstream music. This transition meant that bars and clubs playing local music were no longer popular among the trans-American college student population. Venues in Austin would have to transition to emergent popular styles
or perish, whether these tastes adhered to traditional local practices or mainstream American culture. Like Irwin’s (1977) study of casual scenes within urban life, Shank’s (1994) emphasis on the importance of local places, such as bars and clubs, reveals their critical roles in creating spaces with unique aesthetics and forms of meaning-making.

According to Shank (1994), “a scene itself can be defined as an overproductive signifying community; that is, far more semiotic information is produced than can be rationally parsed” (p. 122). With a gluttony of information circulating within these spaces, participants in the Austin music scene developed their own forms of identity and musical tastes, consequently impacting the local music and entertainment industry. As such, a necessary condition for the development of a scene is “a situated swirling mass of transformative signs and sweating bodies, continually restructuring the meaning of a communion of individuals in a primary group” (p. 128). Participants of the scene, through developing their own meaning-making within these spaces would constantly structure and shift the scene according to their music tastes. For Shank, a scene is foremost a cultural space, with sets of symbols and signs, shared by its members.

Much like Shank’s study of the Austin music scene, Geoff Stahl’s (2001) study of musicmakers in Montréal’s “Anglo-Bohemia”27 focused on how its members privileged “the virtues of cultural productivity and creative labour over economic or commercial success” (p. 101). Members of Montréal’s music scene defined it as a social space with its own moral economy, independent from what they perceived to be the mainstream culture. For Stahl (2001), the organizing and unifying principles of a scene “are based on a logic of differentiation (from

27 Stahl (2001) focuses on the Anglo (English speaking) areas within Montréal and the “shadow cultural economy” of aesthetic and social codes, embodied in the behaviours, attitudes, and signifying practices which define a bohemian lifestyle (i.e., artists, disenchanted adolescents, disaffected students, and café habitués that occupy cafés, lofts, abandoned warehouses, and ‘dive’ bars to create an Anglo-based music scene). Anglo-bohemia is the term Stahl uses throughout the article even though it does not appear to be the term used by locals (i.e., Anglo music scene). Instead, it is how Stahl defines and explains the scene and those that participate in it.
the mainstream/straight society). Members of a music scene work to establish their own moral
economy in order to denote the scene’s distinctiveness as well as their disdain for the straight
world” (p. 102). Resistance to mainstream culture is what demarcates the place of the scene
from hegemonic appropriation. In this sense, a scene “signifies the quality of a city’s ‘cityness’”
(102); it signifies the local in contrast to the global and mainstream.

These tensions between the maintenance of local identities versus mainstream cultures
determine how the city is inhabited and imagined by members of the scene. As musicmakers
work through these imposed, complex cultural practices from within and outside the scene, they
negotiate or reaffirm these logics of differentiation—the city’s cityness of place. Like Shank’s
Austin music scene, Stahl also found that universities were key points of entry to Montréal’s
numerous artistic scenes, with students’ surplus income providing the scene’s primary source of
investment. Musicmakers abilities to function within the scene to ensure its survival were
determined by their ability to acquire these local resources versus other scenes and mainstream
cultures, as well as how effectively they could muster trans-local support beyond the geographic
place of Montréal’s Anglo neighbourhoods.

Straw (1991, 2001, 2004), analyzed the culture of cities, focusing on the music centres of
urban life. In a collaborative study that looked at the city cultures of Montréal, Toronto, Dublin,
and Berlin, Straw (2004) researched the “capacity of cities to retain their distinctiveness in an
age marked by global cultural flows and by the rise of cultural development models that threaten
to produce a new uniformity across different cities” (p. 411). The notion of scene was thus a
tempting concept to explore the cultural uniqueness of cities, as city-dwellers would use the term
to refer to local cultural activity, even though its colloquial usage would vary from city to city.

28 Straight, in the sense used by Stahl (2001), means mainstream or hegemonic forms of appropriation.
For Straw, “scene designates particular clusters of social and cultural activity without specifying the nature of the boundaries which circumscribe them” (p. 412). Straw names these scenes cultural scenes because of their predominance as places of cultural production. These cultural scenes can be situated by location, a place; genre of cultural production, an art form; or social activity, a shared practice. Scenes, “invites us to map the territory of the city in new ways while, at the same time, designating certain kinds of activity whose relationship to territory is not easily asserted” (Straw, 2004, p. 412). Straw’s assertion that activities within the scene are not easily attributed to geographic notions of place was innovative, because it emphasized how scenes can migrate across cities, as neighbourhoods become gentrified and appropriated by municipal governments for urban development, and how scenes can be shared in multiple geographic locations, such as the heavy metal rock scene in cities across the United Kingdom and the United States.

Although most literature has focused on geographical notions of place, such as neighbourhoods, streets, and buildings within the city, Straw’s (2004) notion of cultural scenes enables a more inclusive definition of place and what can be considered the “local.” Grimes (2015) researched the LittleBigPlanet scene, a digital game, which allows members to create levels with their do-it-yourself (DIY) game creation tools and share their user-generated content (UGC) to the wider online community. Grimes investigated how Straw’s notion of “cultural scene” might be used to analyze games-based, collaborative cultural activities, such as gamemaking. She discusses how “the term’s emphasis on a shared temporal and spatial place suggests that it might also be useful for analysing digital examples such as the LittleBigPlanet community” (Grimes, 2015, p. 380).

While LittleBigPlanet players would predominantly play the video game in homes and other private places—in contrast to most research on scenes located in publically accessible
urban areas of the city—the bounded nature of *LittleBigPlanet* tethered players to a corporately-owned network within a specific platform and virtual environment. Grimes’s focus on the “Little Big scene” represents a break from traditional research of scenes, which focus on geographic locations of place and redefines the local, particularly when an increasing proportion of social interaction is mediated through online spaces. Moreover, her research emphasizes how scenes are not always publicly accessible and can be mediated through privately-owned companies, which bind members of the scene to end-user license agreements (EULA) and copyright restrictions that limit members’ ability to share their remixed UGC outside of the confined online network of the *LittleBigPlanet* community.

Straw (2015) acknowledges that if the study of scenes has a future within academic scholarship, the concept would have “to hover above the materialities of cultural life as their expressive surplus, designate the social glue which makes these material elements cohere, or organize the mobility of material forms and their attachment to place” (p. 484). The scene thus centers on cultural activity, not place. While members choose to participate in the scene because of the cultural activity, place also enables certain affordances that affect how a cultural activity is undertaken. As such, when I investigated the Toronto game development scene, I followed the cultural activity of gamemaking, which took me to places beyond the geographic places of scenes. This meant, in the spirit of Grimes’ and Straw’s insights, I also considered the textual-based, online places of scenes; not just the ephemeral social activities and happenings across the urban landscape. I therefore expanded the scope of what it meant to participate, identify, and engage with the scene, regardless of the medium in which the activity took place. With the rise

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29 *LittleBigPlanet* was released exclusively on the PlayStation 3 (PS3) platform, which meant players would have to own a copy of the game, the PS3 console, and be connected to the internet to gain access to this privately-owned scene.
of social media and other online spaces for social activity, the everyday activities of scenes are increasingly transforming into formalized inscriptions saved on servers, accessible via the internet, for anyone to access. The flexibility of situatedness, and the ephemeral nature of being there for that unique moment, is increasingly set against the documented and fixed landscape of networked digital environments.

3.2 Scenes as Palimpsests

In *Palimpsests*, Genette (1997 [1982]) examines the relationships between literary texts and how they were reread and rewritten over time. All hypertexts, the texts under examination, can be traced to hypotexts, earlier texts, which represent transtextual relationships that bridge previous works to contemporary ones. These transtextual relationships are transformations, a kind of bricolage, where authors create their works based-upon the hypotexts that come before them. These forms of transtextuality are what Genette (1997 [1982]) referred to as palimpsests: a surface that has been written upon several times, often with remnants of the erased inscriptions still visible. The etymology of the term comes from monks in medieval scriptoriums that reused vellum or parchment to inscribe new texts after the surface of a previous text had been scraped and washed. Though monks were economical in their use of expensive book-making materials, they were usually rewriting texts to censor interpretations, which challenged established doctrine (Genette, 1997 [1982]).

Palimpsests are the process of making something new with something old. In communication and media studies, this process is widely referred to as a form of “remix culture,” which can be found in grassroots movements that produce textual formats, such as zines, mixtapes, and video game mods (Jenkins, 1992, 2006). With the rise of social media, scenes are increasingly becoming palimpsests, where members and external stakeholders inscribe their
norms and practices across the platforms of the internet. When tethered to online spaces, scenes reveal the scrapings and inscriptions of stakeholders struggling to assert their authority upon the surface of the scene—each Twitter handle and hashtag reveals a history of struggle between competing stakeholders. These stakeholders include mainstream establishments, local organizations, and grassroots movements, which inscribe their culture across a scene, while appropriating and resisting one another’s physical and social infrastructures. These infrastructures range from physical and geographic locations to digital systems and architectures, which place the surface of the scene across disparate ecologies of shared cultural activities.

Facebook, Twitter, Instagram, Slack, and other social media platforms, accessed via mobile apps on smartphones, have become the point through which members of the scene interact to inscribe their competing norms and practices. As with most cultural activities in the twenty-first century, materialities are shared between real-world and virtual environments. Gamemakers participate in local meetups situated in urban neighbourhoods and online spaces to experience the activity of gamemaking. While the initial entry point to the scene is Toronto, gamemakers access information about the activities of their local communities through Facebook groups, following Twitter handles and Instagram accounts, and joining Slack channels. For example, Facebook allows groups and organizations to create their own webpages where they can send out notifications for events and activities. Social media is essential for any gamemaking organization to inform their members and to recruit potential participants for activities in the scene.

When I conversed with gamemakers at local events in the scene, contact information was typically exchanged through the sharing of Twitter handles. Most of the time, gamemakers would open the Twitter application on their smartphone and search for my Twitter handle before stating, “I’ll see you on there;” implying Twitter was a mediated place for us to continue our
conversation on gamemaking in the scene. Although these globally-connected venues of online mediation are not located geographically in Toronto, they are still spaces that connect gamemakers geographically. In many ways, online locations both complement the scene’s geographic locations and serve as additional entry points for aspiring or interested gamemakers to participate.

These online sites of inscription are also venues for other scenes where gamemakers participate in online game jams, such as Ludem Dare, and online workshops, such as Unity Technologies live training. While these other scenes are not part of the Toronto scene, they highlight the ways in which activities typically associated with geographic scenes, such as game jams and workshops, have been appropriated by other organizations to draw global communities of gamemakers. Companies like Unity Technologies have been effective at tapping into these local gamemaker scenes by providing free access to their developer tools and documentation. This “gift economy” approach, where free labour is conducted by users in exchange for the use of otherwise inaccessible tools, resources, opportunities (Benkler, 2006; Terranova, 2000; Velkova, 2016), enables these companies to build a community of everyday gamemakers around their tool, and to directly engage and influence the norms and practices of local scenes.

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30 Ludem Dare is a tri-annual game jam that takes place over a weekend in April, August, and December. Established in 2002, Ludem Dare is considered the longest running and largest online game jam in the world. Participants create a digital game over 72 hours following a pre-selected theme by the Ludem Dare organization, and submit a link to their game to the Ludem Dare website.

31 Unity3D live training allows participants join an interactive live-stream to learn different functionalities of Unity3D. The training sessions are typically 2-hours in length and the instructor live-streams their tutorial and answers any questions that subscribers to the stream in-real-time. As such, these live-streams share similarities to improvised ‘happenings’.

32 In chapter 4, titled “Pre-Production: Tools of the Trade” I review some of these “gift economy” approaches by Unity Technologies and how they are controlling the information landscape when it comes to accumulating knowledge of gamemaking online.
3.3 The Toronto Game Development Scene

On Friday 4 September 2015, I was asked to join a panel at Fan Expo Canada on “How to get involved in Toronto video game culture” (Hand Eye Society, 2015). The panel was held at Fan Expo Canada in the Toronto Metro Convention Centre. Fan Expo is an annual event, typically held in Toronto at the end of August or early September, where notable and independent comic book artists, television and film celebrities, and digital game studios and publishers showcase their latest cultural products to their fans. The panel I participated on showcased Toronto video game culture more broadly, as well as the various gamemaking activities in the game development scene.

At the end of the panel I ran into an acquaintance I will call Frances, who I had gotten to know over the previous year in the Toronto scene. We were chatting about the Hand Eye Society Ball at the end of the month and how I had volunteered to be a Safe Space Officer for the event. The Hand Eye Society Ball is an annual event hosted by the Hand Eye Society, where gamemakers and the public are encouraged to dress-up in fancy clothing, socialize, drink alcohol, and play games at an iconic venue in Toronto.33 Frances told me how the safe space policy at the Hand Eye Society had developed from the Torontaru safe space policy, which was in response to an incident in February 2015.34 Frances explained that at the February social of Torontaru, a couple of men had harassed and made several assumptions about the capabilities

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33 The first Ball was held at the Art Gallery of Ontario, a well-known cultural institution in Toronto, and the later events were held at the Masonic Temple, famous for hosting live shows in Toronto since 1918, including Led Zeppelin, Run DMC, Red Hot Chili Peppers, and Bob Dylan. At the 2015 Ball, the Hand Eye Society introduced “Safe Space Officers”, who are volunteer members of the community that file anonymous complaints, concerns, or harassment reports from attendees and can issue warnings to attendees on their behavior. They also provide a list of emergency contacts in a safe spaces guide for attendees if a specific incident occurs, such as sexual harassment.

34 Torontaru is a monthly social hosted at the bar Get Well, located near the intersection of Dundas Street West and Ossington Avenue, where approximately 30-100 gamemakers and friends socialize, typically over pints of beer, and network.
and accomplishments of several female gamemakers. Torontaru is held at the bar Get Well, and is not hosted within a private space, which means anyone from the public can drink and socialize, intentionally or unintentionally, with the participants at Torontaru. Torontaru implemented a new safe spaces policy at the March 2015 social, where co-founders and trusted volunteers wore Octopus buttons to address any concerns from attending gamemakers (Torontaru 2015). At the time, I did not know the motivations for the new safe spaces policy. I also remembered participating in the Torontaru social in February, and I did not recall any incidents. When I mentioned to Frances that I did not know these incidents had occurred, she mentioned it was documented on Twitter.

After my conversation with Frances, I went home and searched on Twitter for the harassment incident that occurred at the February Torontaru. I began with Torontaru’s Twitter handle, and the day after Torontaru was held on 25 February 2015 who released the following tweet that stated: “Just a reminder that Torontaru is an inclusive, no-nonsense drinking night for **ALL** video game humans. Harassment will not be tolerated” (Torontaru, 2015). As I looked at other Twitter handles that engaged with the tweet from Torontaru I discovered several tweets referring to the incidents at Torontaru on the night of 25 February 2015. One Twitter user stated that a man had claimed a friend was a “diversity hire,” and assumed that herself and a friend worked in “HR or something” and were not gamemakers (Riddel, 2015a, 2015b). Though this incident revealed to me the etymology of the safe spaces policy in the Toronto scene, which I had seen at other events and organizations in Toronto, such as Bento Miso, the Hand Eye Society, and Dames Making Games, it was also the point in my ethnography when I realized scenes were heavily textualized from the incorporation of social media into the cultural activities of gamemaking.
Most organizations and gamemakers in the Toronto scene have social media accounts, primarily Twitter handles and Facebook profiles. Gamemakers and organizations alike keep in contact with each other and stay informed within the scene. For example, Cody uses Twitter to know what’s going on in the video game industry, and, more specifically, follows Toronto gamemakers to follow events and trends in Toronto:

… So I have, you know, just the main Twitter, which I barely read. I glance over at it whenever I go on Twitter. I glance over it, but I move so fast that I’d say I miss like ninety-nine point nine per cent of the tweets… Then I have a second list that I’ll watch much more closely. I’d say I probably see about like eighty per cent of the tweets on that list and I’d say the core for that list is people that don’t tweet too often and people that tweet really good stuff whether it be their own work or, you know, stuff that they retweet for their work. There is probably a reason why they retweeted it. I’d say I find most of the stuff through that, that second list, Twitter list. I think it’s only around fifty people or so. I feel that’s the way to use Twitter… (Cody, Interview 2, 22 April 2015)

As Cody notes, he ignores most tweets on his Twitter feed because they are not relevant to his gamemaker interests. To address this issue, he created his own, separate, gamemaker list that predominantly includes gamemakers from Toronto. While this list does not represent a scene in and of itself, it emphasizes how gamemakers parse through information to identify other gamemakers within the scene. Not all gamemakers attend every single event in the scene, but Twitter acts as another way to participate in the scene. An advantage of using Twitter in the scene is that you can view other gamemakers’ happenings as they tweet about social activities, such as talks, workshops, and game jams. In this sense, gamemakers who are excluded because of their physical location or perceived status within gamemaking can participate in the scene remotely.

Gamemakers frequently post links to presentation slides, workshop resources, photographs of social activities, and screenshots of video game builds in-progress—the latter of which is a global trend on Twitter, known as “#screenshotsaturday.” Though Twitter is not a place in the geographic sense, it is a location that offers valuable resources for gamemakers to
FIGURE 2: Geographic map of locations in the Toronto game development scene from 2014-2016.

participate and stay up-to-date on what is happening in the scene and the wider video game industry that no other place offers. The overlap between geographical and online documentations of the local offers an interesting view into the activities of the scene and how not only my participants and people I meet gain value from the scene, but also how others who I am less familiar with or have never met engage with the scene.

In the rest of this chapter, I analyze the dominant organizations, meetups, game jams, and happenings of the scene, analyzing their symbiotic nature of ephemerality and inscription. Figure 2 shows some of the geographic locations in the Toronto scene where gamemaking activities are typically organized. I focus on local gamemaker organizations, such as the Hand Eye Society and
Dames Making Games and their numerous events and happenings, festivals, such as the Vector Art and New Media Festival, coworking spaces, such as Bento Miso, socials, such as Torontaru, and external stakeholders from the video game industry, such as Unity Technologies, which hope to channel the capital of the local and distribute their game engine platform to more gamemakers.

3.3.1 TOJam

Game jams are a unique environment of the video game industry: short and intense gamemaking events that typically take place over a weekend from anywhere between 24 and 72 hours. The term plays on the word jam, which refers to the musical practice of jamming where musicians would jam-out music over a short period of time in a jam session. Like these musicians, gamemakers at game jams design and create a digital game, or, at least, a prototype of a digital game. The brevity and intensity of the game jam means that gamemakers must be efficient in their use of time and resources, and simple in designing the scope of their digital game.

The first known game jam to occur was the 0th Annual Indie Game Jam. From 15-18 March 2002, a group of 14 gamemakers got together in a barn in Oakland, California, and developed 12 new games, all based on an experimental IGJ0 (i.e., Indie Game Jam 0) game engine (Indie Game Jam, 2002). The four-day game jam took place just before the annual Game Developer’s Conference in San Jose. The impetus behind the game jam was to “encourage experimentation and innovation in the game industry” (Indie Game Jam, 2002). In 2002, most digital games were produced with custom-made game engines, usually developed in-house by studios and publishers of the video game industry. Flash was only just emerging as an alternative animation program to make digital games, and had not yet taken hold as an everyday gamemaker tool. As such, the options for gamemakers to create digital games outside of the video game industry’s primary environments of game development, such as studios and companies, were
limited. The 0th Annual Indie Game Jam was the first in a long line of game jams that have sprung up across the globe, in both geographic and digital locations, where gamemakers can create, experiment, and develop their own digital games without the limitations of the industry’s working conditions.

Game jams are the defining feature of the Toronto scene. Today, there are several annual game jams, including the Royal Ontario Museum Jam, Board Game Jam, and the Toronto Global Game Jam, as well as seasonal game jams organized by organizations like DMG, but it was the Toronto Game Jam, commonly referred as TOJam (pronounced Toe-jam) that started it all in 2006. In 2006, the founders of TOJam, Nelson Yu, Jim McGinley, and Emily McGinley, along with other gamemakers in Toronto, discussed the idea of hosting a game jam at their IGDA Toronto Chapter meetings. The IGDA Toronto Chapter was founded in 2000 and held monthly meetings where developers would socialize and talk about gamemaking. Many of these gamemakers did not work for game companies, and a game jam was perceived as their only entry into making a digital game; especially when there were only a handful of game studios in Toronto at that time, such as Pseudo Interactive and Groove Games, which closed in 2008 and 2010 respectively. As the Annual Indie Game Jam was held in San Francisco, and was also invitation-only, the founders of TOJam decided to host their own game jam in Toronto.

The first TOJam was hosted over a weekend from the 5-7 May 2006 with 35 participants, and produced ten completed games and seven “valiant attempts,” or unfinished games (TOJam, 2006). Since then, TOJam has been held annually over a weekend at the beginning of spring, either at the end of April or the beginning of May. Over the years, TOJam has expanded, moving

35 The following description of the founding of TOJam is based on conversations I documented as field notes with founders and participants of TOJam.
to larger venues and drawing gamemakers from around Toronto and the globe. During my ethnography, I attended TOJam 10 Tentacular and 11 bELEVEN in 2015 and 2016 respectively. TOJam moved to the George Brown College (GBC) School of Design in 2011 for TOJam 6 Sixy Times at 230 Richmond Street East, before settling at 341 King Street East where the School of Design’s Game Development Program is located for TOJam 7 The Sevening in 2012. At TOJam 10 and 11, there were over 450 participants stretched out over dozens of rooms on the fifth and sixth floors of the building. Figure 3 is a digital photograph of a typical room at TOJam 10. Rooms are packed with roughly 20-30 “jammers,” and are provided with iMac computers used daily by GBC students. Jammers typically worked on their digital game projects from late morning until the early hours of the next morning. Sometimes jammers sleep on the floor by their computers or pull an all-nighter to finish their digital games before the Sunday deadline at 5pm. Once their digital games are complete, they upload them onto the online distribution platform, itch.io, under the TOJam game jam event, so users of the website and organizers of TOJam can find and play completed games.

Social media was a dominant feature of TOJam 10 and 11, especially Twitter. Primarily using the hashtag #TOJam, gamemakers tweeted frequently about both their TOJam and gamemaking experiences. Jammers provided frequent updates on their games-in-progress by providing screen captures of GIF images of their digital games, such as game menus, art assets, 3D models, and in-engine game captures. Once the game jam was over, these jammers would post itch.io links to their uploaded digital games. Jammers also followed the #TOJam hashtag throughout the game jam, replying and commenting on each other’s games-in-progress and the
FIGURE 3

Figure 3: Digital Photograph of a game jam room at TOJam 10, 2015.

various happenings throughout the jam, such as when food was ready to be eaten. While Twitter does not replace the actual experience of attending and participating in a game jam, it does provide a timeline of the game jam, how its various jammers are developing their games, and a window into their experiences of gamemaking.

Though not frequent, some jammers would tweet about their late nights working on their games and waking up early the next morning. For example, one jammer tweeted: “After a two hour sleep, back at it. Games don't make themselves” (McGregor, 2016). While not representative of all gamemakers’ game jam experiences, including my own, the tweet

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36 Each year, the organizers of TOJam get sponsors for the game jam so jammers can get free meals throughout the day. Pizza and Chinese cuisine were frequent options for attendees.
emphasizes the poor working conditions some gamemakers are willing to endure to complete a digital game in a weekend. In chapter 5, I analyze some of these working conditions in depth, but for the purposes of this chapter, it is important to note that while social media like Twitter documents the activities of the scene, it also highlights gamemakers’ processes of game development and their experiences creating digital games.

3.3.2 Torontaru

The Get Well Bar is located near the intersection of Dundas Street West and Ossington Avenue in West Queen West. The space is approximately 10,000 square feet and has a bricolage aesthetic of reused furniture and ornaments, dispersed along white brick walls with vintage-styled oil paintings in gold-decorated frames. At the back of the bar are a dozen retro video game arcade cabinets with titles such as *Ms. Pacman*, *Donkey Kong Junior*, and *Teenage Mutant Ninja Turtles*, to name but a few. Get Well has over a dozen craft beers on tap, mostly from the Toronto area. This non-mainstream environment along with retro video game cabinets makes the bar a natural place for local gamemakers to meet socially for the monthly social event Torontaru.

The organizers of the event describe it as:

… a monthly meet-up with the simple aspirations of providing a place for friendly, game-inclined ladies and gents (whether you make ‘em or you like ‘em!) to chat and have a pint. No-fuss funtimes, every last Wednesday of the month! (Torontaru, 2017).

At any monthly meetup, Torontaru hosts approximately 30 to 100 gamemakers, particularly aspiring gamemakers, who chat about their games projects over pints. The event was initiated by a few prominent gamemakers in June 2013 who felt a social event for local gamemakers was necessary (Torontaru, 2014). The event took inspiration from the Tokyo gamemaker scene’s Otaru Nomikai, which broadly translates to Otaru drinking party (Torontaru, 2014). Organized by 8-4, a video game studio in Shibuya, Tokyo, Otaru began in 2003 as a weekly meetup every
Thursday night for people interested in gamemaking (Otaru, 2017). Held at the restaurant Taishuukappoutouhachi, gamemakers would sit, drink, and discuss their craft. Torontaru bridges the essence of Otaru with the locality of Toronto—hence Torontaru. While gamemakers talk about their craft over pints at Torontaru, the event is also an unofficial networking event for gamemakers to recruit potential collaborators. Margot describes one of her networking experiences at Torontaru, which led to a potential collaboration on a gamemaking project:

Margot: Ah, I can’t remember the guy’s name, but I see him all the time. He’s at Torontaru and he was an engineer at [game studio], and he hated his job and he quit and started a one-man show and put it in an iPhone app.

Chris: [Name]?

Margot: Yes! He wants to meet me on Saturday and have lunch with me because he needs someone to help him … He’s making a new app that he wants good assets for. I think he made a lot of the assets himself, but I think he wants to tow the waters with a partner, and I’d be cool with that (Margot, Interview 4, 4 August 2015).

Margot networked with a gamemaker that we had both met at Torontaru, hence my familiarity with their name when she described his working background. It turned out this gamemaker required an artist to create all the assets for a mobile game he was designing and programming after he went independent following his departure from a prominent studio in Toronto. This aspect underlines how Torontaru is not just a social gathering for gamemakers to discuss their craft, but also a testing ground for gamemakers to network and find potential collaborators. While much of gamemaking revolves around computational and artistic forms of development, gamemakers require collaborators, playtesters, and venues to market and showcase their video games.

3.3.3 Hand Eye Society

Founded in 2009, the Hand Eye Society is a not-for-profit digital game arts organization dedicated to supporting and showcasing digital games made primarily as a form of creative
expression (Hand Eye Society, 2017a). As such, the organization is not necessarily focused on making digital games as it is on promoting digital games as a cultural medium. In this regard, some of the events and programming they produce throughout the year focus on introducing people to digital games, such as Games Curious, a two-hour play session event held over six weekends where a selection of digital games are showcased following a wide variety of themes, stories, and artistic expression. The first hour of these sessions is an open-arcade where participants play a variety of digital games selected for that session—typically digital games made by Toronto gamemakers. The second hour focuses on group discussion where participants talk and share their thoughts about their play experiences. The event began in October 2013 to encourage individuals who did not necessarily identify as gamers to play and discuss digital games (Hand Eye Society, 2017b). The event has had widespread success with hundreds of participants, as the event moves to different neighbourhoods in Toronto each year, such as the Junction, downtown Toronto, and Scarborough.

The Hand Eye Society has several other social activities, which focus on introducing Toronto locals to digital games, such as the Torontrons, the Hand Eye Society Ball, and WordPlay. Torontrons are classic arcade video game cabinets retrofitted with digital games developed in Toronto and transported to different venues across the city, sometimes left in permanent locations or setup temporarily at another social event in the city. As mentioned earlier, the Hand Eye Society Ball, or “The Fancy Video Game Party,” is an annual evening event, which showcases Toronto-made digital games in a pseudo black-and-tie event with food, alcohol, and music. WordPlay is a one-day festival of literary video games, which allows

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37 I have been a volunteer with the Hand Eye Society since 2012. Moreover, from 2015-2017, my supervisor, Sara Grimes, was on the board of directors for the organization. The research presented here does not come from insider knowledge, but I acknowledged that I have a connection to the organization beyond it being a place of research.
participants to play, watch talks, and interact with literary video game creators. Figure 4 is a photograph of a billboard advertising the Torontron at the Workplay festival.

Though the goal of the organization is to introduce a diversity of people to the medium of digital games, the Hand Eye Society initially began with a small social event, which has since discontinued. Originally known as the Hand Eye Social, and later referred to as the Hand Eye Society when the Society branched out its programming into other activities, the social was an evening meetup for local gamemakers to discuss their craft over pints in a bar. The format typically began with a talk by a local or visiting gamemaker, followed by a social where gamemakers networked and socialized, sometimes into the late hours of the evening. One of my participants recollects the event when it first began in 2009:
When I first started, I was going to these events called the Hand Eye Society, I don’t think they happen anymore. The Hand Eye Society still exists, but the events that they had don’t really exist anymore … it used to be an event at a bar when the scene was quite a bit smaller and you could fit everyone into one bar and they would have someone showing off like a little—they’d do like a little presentation or something like that. That has disappeared. Once that disappeared that [event] kind of turned into Torontaru, which is kind of the same group of people running it, but only in small ways—it’s just not the same event (Clay, Interview 3, 1 July 2015).

The eleventh and last Hand Eye Social occurred on 4 July 2011 at the Gladstone Hotel. Though the event no longer exists, it is evident from my participant’s comments that Torontaru has become its successor in the scene, even though Torontaru does not host short talks or presentations.

Over the years, the Hand Eye Society held several other gamemaker activities. Games Curious Make was similar to Games Curious, but included an annual six-week incubator workshop series where participants learned how to make digital games with a variety of tools. These included the Difference Engine Initiative, where the Hand Eye Society along with the financial support of the Ontario Media Development Corporation and TIFF Nexus hosted two gamemaking incubators for women and other underrepresented groups in Toronto. Several of the attending participants would later found DMG in 2012. The Original Artsy Game Incubators, which ran from 2007 to 2009 by the then would-be founders of the Hand Eye Society as six-week gamemaking sessions, was similar to that of Games Curious Make. Anyone involved in the scene is familiar with the Hand Eye Society and the organization’s social activities. Their impact upon the scene has been immense, not because of their role as one of the longest serving organizations, nor as one of the largest event-producing establishments, but their influence on the founding of other influential groups within the scene, such as DMG and Torontaru. Many of these other organizations have taken their lead from the Hand Eye Society, and many of the
initial gamemakers that worked with the Hand Eye Society in its early years are now integral leaders within these other groups.

3.3.4 Bento Miso

The Bento Miso Collective Studio, now renamed Gamma Space Collaborative Studio, but henceforth referred to as Bento Miso, is a membership-based collaborative workspace for independent designers and developers, food makers and beer brewers, writers, comic artists, gamemakers, and social justice organizers. The collective studio opened in 2012 as a collaborative workspace initially intended for start-ups and web developers. Bento Miso was a physical extension of co-owners Henry Faber and Jennie Faber’s web application and business development venture, Bento Box, which began in Vancouver in 1999 before relocating to Toronto in 2006 (Sarkari, 2013).

Although initially envisioned as a collaborative workspace for startups and web developers, Bento Miso quickly became a studio for gamemakers ranging from indie developers to arts and craft hobbyists. This was, in part, due to the establishment of DMG, a feminist game making organization hosted by Bento Miso and co-directed by Jennie Faber. Shortly after Bento Miso opened in 2012, Henry Faber and Jennie Faber met gamemakers from the Difference Engine Initiative, which led to their collaboration to form a women-run incubator space for gamemakers in Toronto. The incubator space quickly situated at Bento Miso, and the workspace has been home to DMG since its establishment in 2013.

Situated on the ground floor of a three-story brick-and-beam industrial building, the workspace itself is located at 866 Richmond Street West, in the heart of West Queen West. The space on the ground floor totals approximately 10,000 square feet, with a large central-space connected to three breakaway rooms and a private office where the Bento Box and Bento Miso
team work during opening-hours. Breakaway rooms are used for team meetings or as workspaces for members working into the evening while events are going on in the central-space. During festivals and largescale events these rooms are opened up for the whole workspace to be used, such as the seasonal Bit Bazaar festival, which showcase local gamemakers, arts and craft makers, as well as local craft beer and artisanal cuisine to keep attendees well-fed and hydrated.

Walled by brown and tan bricks with wooden beams connecting wooden floors and ceilings, the space includes several plastered walls painted over with dry-erase paint to allow workspace users to brainstorm and develop concepts and design. Hanging from the ceiling are dozens of power bars that drop down onto bright red tables below for members to work on their respective projects with uninterrupted power sources.

When largescale events are held in the workspace, the tables and chairs are stacked or moved to the sides of the room and power bars coiled to hang near the top of ceiling. This makes the space ideal for transitions between gamemaking and gamemaking-related activities, such as informal socials, showcases, and networking events. Some of the notable video game titles developed out of the workspace are *They Bleed Pixels* (2012), *Analogue: A Hate Story* (2012), *Starseed Pilgrim* (2013), *Lovers in a Dangerous Spacetime* (2015), and *Fate Tectonics* (2015).

The workspace is not only a hub of gamemaker activities, but also a key location of the gamemaker scene in Toronto, with mini-celebrity gamemakers, such as Christine Love, Droqen (Alex Martin), Miguel Sternberg, and Will O’Neill frequenting the space.

Over the two years of my ethnography, I visited the space frequently for game jams, local meetups, workshops, games and art festivals, and the occasional video game launch by local gamemakers, frequently co-run with DMG. One event was particularly useful for gamemakers in the scene: Games with Friends. Games with Friends is a bi-weekly event open to the public to play games in the collective studio. Games with Friends began not long after Bento Miso opened
in 2012 as a meetup for members of the community to come together and play games on Mondays. Over time, the event has drawn numerous gamemakers from across Toronto to play their colleagues’ in-development video games. The Games with Friends event is, in many ways, an informal playtesting event for gamemakers to get feedback on their games-in-progress. The following excerpt is a typical description of the event when posted to Bento Miso’s website:

We play local multiplayer games, indie games, card games, boardgames, tabletop games in any state: rough, ready and released. Games with Friends is always free and open to the public. Bring whatever you want to play—and friends to play with—and we’ll supply the consoles (PS3, PS4, Xbox 360, Ouya), laptops (Mac and Windows), wired gamepads (Xbox and SNES-style), projectors, TVs, tables, chairs, couches and pizza! Playtesting your own in-development games is welcome and encouraged. Let us know if you’re bringing along something special and we’ll get the word out (Bento Miso, 2014).

Games with Friends events usually start with a brief announcement from the event organizer, welcoming attendees and describing the games available for casual play or playtesting.

Games with Friends is also a critical resource for gamemakers to get free playtesters for their in-development digital games. Michael described the event as the following:

… Games with Friends is literally you just hang out with a bunch of game devs and either play games, make them, or give criticisms on them. It’s amazing, it’s the best thing I’ve run into as an independent on the games scene … (Michael, Interview 3, 29 June 2015).

It is difficult for independent gamemakers to find playtesters, particularly as they do not have the financial and personnel resources to effectively playtest their digital games like a Triple-A studio or publisher. Play testing is typically conducted by a studio with either its own in-house playtesters, invited volunteer playtesters that are compensated with gift certificates, or outsourced to play testing companies.38 Michael frequented the event with his in-development digital game by including an application build on his smartphone. To receive feedback, he would

38 For example, Ubisoft Toronto recruits playtesters via their Playtest Lab website to play pre-released (sometimes pre-announced) titles and are then compensated with gift cards to use at local shopping malls.
hand the phone to an attendee and watch them play his game. Games with Friends offers an unofficial venue for gamemakers to receive feedback about their games in-progress.

Clay described Games with Friends as the main event he attended within the scene:

… I’d say my main thing right now is Games with Friends at Bento Miso. I have a set of friends that I hang out with at Games with Friends, and we all keep in touch and so sometimes we’ll just get together in small groups for things. My best friend is a game designer and sometimes he and I just get together to work on making little prototypes together and talk about games and stuff. So I would say that’s the bulk of my socializing (Clay, Interview 3, 1 July 2015).

Games with Friends is also a social gathering for gamemakers who work across Toronto on different projects. In this sense, the event is a hub for gamemakers to make friends, network, and socialize about their craft.

3.3.5 Dames Making Games

As noted earlier, DMG is a feminist gamemaking organization hosted at Bento Miso. While DMG shares the same space and, indeed, many of the gamemakers at Bento Miso, the organization has its own agenda and programming of social activities. Founded in 2012, DMG is a not-for-profit organization with the mission to:

Provide a community and venue for trans and cis women, nonbinary, and genderqueer folks to confidently explore playing, critiquing, and creating games; Demonstrate the value and impact of diversity in a broad range of disciplines related to games; Highlight the achievements and stories of diverse Toronto-based gamemakers (Dames Making Games, 2017).

The Difference Engine Initiative inspired the founders of DMG through its two temporary incubator spaces for women and other underrepresented groups to make digital games. In 2011, several participants of the Difference Engine Initiative presented their experiences at the Toronto International Film Festival (TIFF) Nexus Women in Film, Games and New Media Day. Jennie Faber, co-founder of Bento Miso approached one of the presenters, Cecily Carver, who would later become another co-founder of DMG, to offer Bento Miso’s space and establish a similar
initiative. Following a successful six-week workshop in July 2012, DMG incorporated into a not-for-profit and DMG has been hosted at Bento Miso ever since with a permanent space for women and other underrepresented minorities to make digital games and participate in a range of activities around gamemaking. Industry surveys frequently show how women represent approximately a quarter of game developers in the video game industry (Weststar & Legault, 2016). As misogyny, sexism, and harassment towards women are endemic issues within the video game industry, the development of an incubator space for women enables women gamemakers the opportunity to make digital games in a safe space (Fisher & Harvey, 2012; Fisher & Jensen, 2017; Jensen & Castell, 2013).

DMG is a women-run organization, which plans, coordinates, and executes technical programming, art and design workshops, professional training and mentorship, applying for grants, and, of course, making games. Some of the activities run by DMG include monthly social events, where women present on aspects of their gamemaking to the community followed by a casual social; hands-on workshops covering various aspects of gamemaking over one session or several sessions; quarterly salons and roundtables, discussion-based events led by women on issues relevant to gamemaking and social justice; quarterly game jams, held over a weekend in Bento Miso on a themed topic; and jam-style mentorship programs, for women and groups not necessarily associated with DMG over a weekend or several sessions. Figure 5 shows DMG members participating in a game jam at Bento Miso. These participation-focused activities enable a range of gamemakers, typically underrepresented within the scene and the wider video game industry, to engage in a variety of gamemaking opportunities that would otherwise be unavailable to them. That is not to say that DMG is exclusive to women. The organization is inclusive and encourages participation from persons with perceived privileged identities, but the
primary aim is to provide gamemaking opportunities for women, run by women. This inclusive approach to DMG was how I was able to participate in their social activities over my ethnography, even though I do not identify as a woman.

DMG has had a significant impact within the wider global video games industry, creating opportunities for women to participate in larger industry events. At the beginning of my ethnography in November 2014, the Game Developers’ Conference (GDC) donated 25 all-access conference passes, valued at $2,095 USD each, for DMG community members to attend GDC in March 2015. According to the application process for the GDC passes, as outlined in DMG’s newly-formed GDC Scholarship:

We especially encourage submissions from Black and indigenous individuals, people of colour, individuals living with disabilities, transgender people, women, LGBTQ people, and those who identify as genderqueer and/or non-binary … While applications are open
to all, priority will be given to GTA-based DMG community members (Dames Making Games, 2014).

The following spring, 25 women went to GDC as part of DMG’s GDC Convoy. GDC is the main video game industry event for professional developers working at large-scale studios and publishers. However, in recent years, other types of gamemakers have attended the annual conference, such as independents, hobbyists, and students. The conference itself draws approximately 27,000 attendees annually, with lectures, panels, tutorials, round-table discussions, a range of video game showcases, and infamous after-parties where developers get to mingle with their peers and mini-celebrity developers. At GDC 2016, the conference opened a new program, Amplifying New Voices, designed to refine the presentation skills of mid-career professionals from under-represented backgrounds, including women, people of colour, and members of the LGBTQ community (Sapieha, 2016). It is not a coincidence that such a program emerged following the successful development of DMG and similar organizations, such as Pixelles in Montreal, which provide opportunities for women and other underrepresented minorities to attend GDC.

Though the philosophy behind DMG is feminist-driven, encouraging a space for women to make digital games, the organization has larger industry goals. In an interview with the Financial Post, co-Director Jennie Faber discussed one of the challenges the organization faces:

… On the practical side, we are dissatisfied with technology available for making games. Yes, there are more options than ever, but for the most part, they just make it really easy to reproduce the types of games that have always been made. Many new gamemakers think well outside historical forms and representations, and trying to squeeze new kinds of games out of these tools doesn’t always work well … (Kaszor, 2014).

While the scene has greatly expanded in Toronto over the last few years, alongside the range of tools available for gamemakers to develop with, communities within the scene make-do with the resources provided to them by the video game industry. This is not to say that organizations like
DMG do not subvert these tools through unique game designs and hacks, but it does emphasize the challenges facing underrepresented groups in the scene when it comes to participating in the cultural activities of their craft. DMG itself does not necessarily have the financial resources to develop gamemaker tools themselves for the communities they serve, but their inroads into shaping the wider scene and participating in larger-scale industry events suggests they could contribute to this area of gamemaking in the future (Fisher & Harvey, 2012; Huntemann, 2013).

### 3.3.6 Unity Technologies

While the discussion above has focussed on organizations within the Toronto scene, the following section on Unity Technologies examines how some companies have established online scenes for their game engines and created localized events within the Toronto scene and other geographic scenes. Some of the predominantly used game engines include Unity3D, Unreal Engine 4, GameMaker Studio, Construct 2, Twine, and Pico 8. Game engines are software tools, which streamline the creation of digital games through simplified processes of “drag-and-drop”, or minimal coding and technical knowledge. In their online scenes, these game engines have thousands of participants, many of which are also members of the Toronto scene. For these game engines to be a genre of cultural production in the Toronto scene, however, there needs to be a forum through which local gamemakers connect to one another. During my ethnography, only two game engines had local communities in the scene: Unity3D and Unreal Engine 4. The latter game engine community only emerged at the end of my study. Both Unity3D and Unreal Engine 4 have extensive online scenes, which connect thousands of gamemakers around the globe, but they also have Meetup groups that represent local, geographic chapters of the game engines. Meetup is a social media site that connects people around a shared cultural activity—a software application, which facilitates the creation and development of geographic scenes. Founded in
2002, Meetup is a way for organizers to manage in-person meetings and for individuals to find groups, which suit their interests. Organizers of Meetup create individual profiles and Meetup groups by paying an initial monthly fee of $9.99 (USD) for 50 meetup members and 4 organizers, or $14.99 (USD) for unlimited members and unlimited organizers. Members of Meetup create profiles free-of-charge and can join and participate in as many Meetup groups as they desire. According to Meetup’s website:

Meetup brings people together in thousands of cities to do more of what they want to do in life. It is organized around one simple idea: when we get together and do the things that matter to us, we’re at our best. And that’s what Meetup does. It brings people together to do, explore, teach and learn the things that help them come alive (Meetup, 2017).

Meetup localizes members around urban, geographical areas. It achieves this by geolocation of members’ postal codes. In the case of the Toronto scene, members will usually enter a postal code beginning with M5S, but Meetup groups can be located if a user is aware of a Meetup group’s name, or localized cultural activities, such as “Unity,” “Video Game Development” and “Toronto.” Unity3D was the first game engine to have a Meetup organized for the purposes of connecting gamemakers in Toronto. Named Toronto Unity Developers, the Meetup describes itself as “… a group for Toronto based developers interested in the Unity3D game engine. Developers, artists and designers of all skill levels are welcome. Learn from professionals and be inspired by independent game developers” (Toronto Unity Developers, 2017). Founded in August 2013, the group held its first meetup on 12 September 2013 at the independent mobile game studio, Uken Games. Founded in 2009, Uken has developed ten commercially released mobile games for iOS, Android, BlackBerry, Windows Phone, and Facebook. Located at 266 King Street West, just south of the Queen West area, the studio currently employs over fifty game developers. Uken along with the company Unity Technologies, henceforth referred to as Unity, are also co-sponsors of the Meetup, which likely pay the $14.99 (USD) monthly
subscription fee of the group. Uken and Unity’s financial investment in the Meetup acts as publicity for Uken as a facilitator of the scene, and as an opportunity for Unity to expand its reach into local scenes of gamemakers.

Although Uken does not explicitly state in press releases that it develops mobile games with Unity3D, job postings at the studio frequently include the phrase: “expertise with the Unity game engine” (Uken, 2017). It is also unlikely Uken would host a Unity3D meetup if the company was not already using the tool to build mobile games. Events such as these are ways for the studio to meet other talented gamemakers with expertise in Unity3D for possible recruitment. On several occasions, the organizers announced job postings for positions at Uken and other local studios looking for trained Unity3D gamemakers. The discussion board on the Meetup group site also frequently included job postings for Unity3D-based projects. By the end of my ethnography, the meetup claimed 1,425 online members; though anywhere from 50 to 100 participants attended any given event. The Meetup itself was held infrequently over the year, varying between a month to several months apart. This was likely due to the co-organizers’ availability to coordinate the event and invite guest speakers. As almost all game studios go through periods of “crunch”—the overload of working hours that limits sleep, negatively affects health, and distorts a work life balance (Dyer-Witheford & de Peuter, 2006)—it is also possible that the organizers only held Meetup events, who also worked for Uken, when they were not busy working towards a deadline. The format for the meetup typically involved an introduction by one of the co-organizers, followed by several presentations from guest speakers, and a post-talk social where gamemakers had the opportunity to show-off their Unity3D-made games-in-progress. The latter part of this event was particularly interesting, especially if it fell shortly after a game jam where many attendees would have just made a video game with Unity3D.
In 2015, Unity held its annual Unity Roadshow where they travel around the globe, particularly the United States, providing full-day introductory workshops to Unity3D in selected cities (Unity Technologies, 2017c). On 6 June 2015, the Unity Roadshow visited Toronto and held an overview workshop where participants learned the basic functionality of Unity3D, and created a predesigned video game with prefabricated assets (Unity Technologies, 2015). Held in a conference room at the Toronto Metro Convention Centre, the workshop hosted approximately 200 aspiring gamemakers. At the workshop, the instructor made an interesting comment when he explained that numerous gamemakers would use Unity3D’s prefabricated assets to release video games on the Apple App Store and Google Play without making any modifications to the predesigned video game. The workshop instructor even went so far as to say “plagiarize all you want!” (Field notes, 6 June 2015). This gift economy approach emphasized how companies, like Unity, establish networks of globalized and localized gamemakers to embed their tools within systems of cultural production. Unity has been particularly successful with this approach as most gamemakers developing video games in the scene predominantly used Unity3D over other available tools. Though Unity is one of several companies providing 3D and 2D tools for gamemaking, its ability to foster online, as well as urban, scenes has established it as the primary game engine for aspiring gamemakers in Toronto.

Two days before the workshop on 4 June 2015, a Unity Roadshow coordinator, presented to the meetup some of the new features of Unity3D in their recent update, 5.1. Most attendees did not participate in the Unity Roadshow workshop because they are generally more experienced with Unity3D, and, therefore, do not require an introductory overview to the game engine. However, the session at the meetup was far more technical than an introductory workshop. The coordinator discussed their new feature of a highly-optimized pipeline for virtual reality (VR) and augmented reality (AR) devices, such as the Oculus Rift, Samsung Gear VR,
and the HTC vive, to name a few. Many gamemakers at the Meetup had already experimented with various VR and AR devices within Unity, and were particularly interested in the new streamlined pipeline, which would potentially reduce their time and labour designing VR/AR-based video games. At previous meetups, several gamemakers had brought in some of their VR/AR-based video games for the post-talk open-demo social where other gamemakers could playtest their in-development video games. Though other 5.1 features were discussed, the talk from Unity to the meetup revealed how they established networks to not only communicate with gamemakers, but to also address issues relevant to gamemakers in their updates. Moreover, as many of these gamemakers spent countless hours of labour building plugins and various workaround to develop their video games for VR/AR-based technologies, Unity’s presentation to the meetup also revealed the company’s ability to tailor their presentation to the needs of the scene.

In the 28 July 2016 meetup, the organizers announced there was now a Slack channel for users Unity3D, which would include gamemakers from across the globe. Within this Slack channel was a newly created sub-channel various topics and local chapters, such as the Toronto Unity Developers meetup. Slack is a free, cloud-based collaboration tool for groups to organize workflows and communication on projects. Slack was a communication tool developed by Tiny Speck to coordinate its offices in Vancouver and San Francisco during the development of Glitch, a social massively multiplayer online role-playing game (MMORPG), which launched in 2011. Despite gaining a cult following, it was apparent to Tiny Speck by the end of 2012 that Glitch was a financially unsuccessful video game release. In December 2012, Tiny Speck closed the video game’s servers, resulting in the downsizing of the company (Lumb, 2014). Over the next year, the reduced company expanded the application, developing features and hacks, and distributed the platform to colleagues in other tech-based firms to playtest. The application began
to accrue a following with over 16,000 users, which led to the tool’s soft-launch in the fall of 2013. Since then, the company has rapidly expanded with over three million users worldwide (Hesseldahl, 2016).

The Toronto chapter of the Unity Slack channel included 36 members by the end of my ethnography. Though the group was relatively new, discussions on the channel resembled those of the meetup with job postings, event announcements, and the promotion of recently released video games that used Unity3D. However, the group has also included technical discussions around the functionality and affordances of Unity3D where gamemakers posted screenshots of their video games in-development. One of the first substantial posts in the group, beyond the initial ‘Hello’ messages, was a programming issue that a gamemaker had run into. A short discussion quickly developed around the issue, like that of a public forum on Unity’s community website. Other gamemakers on the sub-channel quickly responded, and the issue was resolved following a few screenshots back-and-forth addressing the problem at-hand. The integration of Slack around Unity3D has been an interesting development for the meetup, as it emphasizes how Unity has been adept at connecting gamemakers within their globalized and localized scenes to the tools and resources around their community. Though Unity3D was not the first nor the simplest tool for gamemakers to access and use, Unity has been the most effective at developing a genre of cultural production within the scene and beyond.

3.4 Conclusion

Alan Blum (2003) in The Imaginative Structure of the City, referred to scenes “as a work in progress” (p. 188). As this chapter demonstrates, the scene is anything but a work in progress. Rather, the scene is a palimpsest: a cultural activity that has been written upon several times by stakeholders through the inscription of their cultural norms and practices, often with remnants of
the erased inscriptions still visible across the platforms of the scene. Though the scene still relies upon word-of-mouth for gamemakers to know about the various gamemaking happenings, events, and activities, it has become increasingly digital, not just as a place for information to be posted (i.e., Facebook events), but as a space where conversations about gamemaking and the production of digital games can continue (i.e., Twitter conversations and online streaming).

While most of this chapter has focused on the local gamemaking organizations in the Toronto scene, which make it distinct from other scenes around the globe, I have also discussed how companies like Unity have begun to tap into these scenes by creating their own global scene of gamemaking around their game engine. For gamemakers that do not live in cities with active gamemaking scenes, online spaces like Unity will be an enticing and likely destination for emergent gamemakers that want to break into the industry. However, the hands-on nature of local scenes is what makes them valuable and why people participate in them. A critical feature of the Toronto scene is its game jams as it allows gamemakers the opportunity to potentially make several digital games a year. Moreover, the variety of workshops and socials available to gamemakers means that they have opportunities to network and establish teams to make digital games at these game jams.

Another notable feature of the Toronto scene is DMG, which stands out not only for its prominence in the Toronto scene as a women-run organization to enable women to produce digital games, but also for its activism beyond the scene. The DMG convoy to the international developer conference, Game Developer Conference (GDC), puts approximately 25 women gamemakers at a notable event where women are significantly underrepresented in the video game industry. It is unclear yet what effect this has at GDC or within the video game industry more broadly, but as GDC is a well-publicized event in game news outlets, such as Kotaku and Polygon, it places these women in a more prominent venue to discuss their gamemaking
activities. And as DMG continues to send women to GDC it will encourage similar feminist-based organizations to do the same. For example, after their first GDC convoy in 2014 for the 2015 GDC, the Montréal women-run organization Pixelles organized its own GDC convoy in 2015 for the 2016 GDC.

Though the future of the Toronto scene is unclear, its strength resides in its emphasis on a community of gamemakers. There are very few large-scale publisher studios in Toronto when compared to other Canadian cities, such as Vancouver and Montréal, which employ hundreds of developers like Square Enix, Warner Brothers, Rockstar, Bethesda, Bioware, Capcom, Electronic Arts, Bandai Namco, Microsoft, and Nintendo. While these publisher studios have established Vancouver and Montréal as powerhouses within the video game industry in Canada (Consalvo, 2014), this has enabled Toronto to become a diverse centre of indie and small-scale game development with companies of five or fewer employees, as is the case with several of my participants like Benjamin, Clay, and George. This is, perhaps, the main reason why Toronto has such an active game jam scene as it provides these gamemakers with a comparable dynamic to a publisher studio of hundreds of developers producing games within the same building.

Whatever the future holds for the Toronto scene one trend has become increasingly persistent and will likely shape the direction of the scene in the years to come: online game engine scenes. The defining feature of any gamemaking scene is the ability to make digital games and the Toronto scene is very effective at providing gamemakers with the space and resources to do so. However, game engine companies like Unity have become extremely effective at tapping into the Toronto scene and enticing gamemakers to use their engine by providing free training workshops and resources to make digital games. As other game engine

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39 Toronto has a Ubisoft Studio, but no other major video game industry publisher studios as of writing.
companies begin to catch on to this trend we will begin to see more and more gamemaking scenes corporatized like the way *LittleBigPlanet* has become (Grimes, 2015). This trend becomes increasingly important for the everyday gamemaker as they not only navigate the benefits and drawbacks of using a game engine and participate in its respective scene, but also traverse the EULAs and restrictions placed on using these digital tools in a society that increasingly promotes the creation and distribution of media within creative economies. In the following chapter, I examine some of these game engines, specifically Unity3D, to emphasize how companies are beginning to control the keys to gamemaking (i.e., game engines and digital tools); and if these companies control the keys to the scene how will local non-for-profit organizations compete?
Chapter 4
Pre-Production

“Literally all this information has been aggregated and you just need to know where to look”
— Michael, Interview 4, 10 August 2015

4 Tools of the Trade

The game engine is typically the first tool a gamemaker chooses for their digital game project. Game engines are the pipeline for video game development: the software codes all the assets into a functional and playable digital game. The game engine determines not only the aesthetic of the game design, but also the genre of cultural production. Game engines are powerful tools of production, which allow gamemakers to craft a certain genre of digital game based on its underlying programming language, design features, and technical affordances. It is through the game engine that gamemakers code their digital game’s design. Most game engines include art and graphics design software, music creators and sound effect editors, and 3D modelling, rendering and animation software to create and import all the digital game’s assets. These assets can include art work for characters and levels, animations for player movement and interaction, and audio for atmosphere and collisions. In several cases, gamemakers use a variety of online resources to acquire these assets for free or at low financial-cost to save time and labour on their digital game project. Gamemakers will also use a variety of external tools to create their assets based on their design requirements, such as Adobe Photoshop to create graphics and illustrations.

In this chapter, I examine the predominantly-used tools and resources, which were available to and used by gamemakers over my two-year ethnography. Over that time, many professional developer tools became widely accessible to everyday gamemakers for free or at low-purchase and subscription cost through changing end-user license agreements (EULAs). Companies such as Unity Technologies, Yoyo Games, and Epic Games, responsible for
Unity3D, GameMaker Studio, and Unreal Engine 4 respectively, made this transition because it would create a community of gamemakers around their game engine, and when these gamemakers began to make profits from the sale of their produced digital games gamemakers could either be charged a fee or be forced to purchase an enhanced license through their EULA. For example, Unity Technologies forces gamemakers to purchase a “Unity Plus” license if they make over $100,000 USD and a “Unity Pro” license if they make over $200,000 USD from the combined sales of their digital games (Unity Technologies, 2017b). Moreover, the free editions of these game engines typically come with limited features, so the purchasing of an enhanced license is beneficial for studios hoping to release their digital games on specific distribution platforms. Yoyo Games, for example, releases specific paid licenses for different distribution platforms, such as iOS and PlayStation 4 (Yoyo Games, 2017).

However, the availability of these professional quality game engines means that tools, only previously accessible to developers working at mainstream industry studios, were now accessible to the everyday gamemaker, enabling them to produce digital games in a variety of professional and leisure contexts. For example, game jams in the Toronto scene would unlikely draw hundreds of participants if there were not a variety of free or cheap game engines to download and use. One of the early-adopters to this open-access model of game development was the company Unity Technologies, which released a free non-commercial license of its game engine Unity3D in 2009 to allow anyone to create digital games (Helgason, 2009). While Unity Technologies has numerous license agreements, which have either changed or become obsolete with the release of new products over the years, Unity3D has become a game engine for hobbyist, student, freelance, independent, and professional gamemakers alike. Most of my participants used Unity3D at some point in their gamemaking activities, even if it was not their main tool of choice, and it was used predominantly by everyday gamemakers at game jams.
Other game engines, such as Flash CS3, GameMaker Studio, Unreal Engine 4, Pico 8, Construct 2, and Twine were also popular among gamemakers in the Toronto scene.

Research into the information needs and uses of people, such as how and why people use certain resources and tools over others, has typically been conducted within the discipline of information studies, known as Information Seeking Behaviour (ISB) (Bates, 1989; Belkin, Oddy & Brooks, 1982; Dervin, 1983; Kuhlthau, 1991; Wilson, 1981). A limitation of this literature in ISB is that they typically focus on the psychological motivations behind a person’s information seeking, uses, and needs, without consideration for the social and cultural factors affecting a person’s behaviour (Savolainen, 1995; Tuominen & Savolainen, 1997). ISB research focuses heavily on how the users themselves shape information seeking without serious consideration of the resources, and how they shape the context of an information environment.

To examine this information phenomenon, I break ranks from the traditional field of ISB by applying cultural studies approaches to the study of information. I use Michel de Certeau’s (1984) theory of everyday life to explain why gamemakers use specific tools and resources over others. de Certeau (1984) argues that people “make-do” with the tools and resources at their disposal to perform everyday activities. de Certeau (1984) labels these everyday people as “poachers” because they struggle to possess resources and control over its meanings. To achieve this, “poachers” employ “tactics,” which circumvent the “strategies” of the organizations that produce and control the available tools and resources.

In tandem with de Certeau’s (1984) theory of practice, I conduct a critical discourse analysis of Unity3D and its resources to analyze how gamemakers make-do with, and appropriate, industry developed tools and resources as a form of information practice. Within these communities are a set of political economic factors, which dictate how a cultural activity unfolds. Political economy is an approach to studying media, which focuses on investigating the
ways in which media is produced, distributed and consumed (McChesney, 1999; Mosco, 1996, 2008, 2009; Schiller, 1999; Wasko, 2003). While most of this literature looks at class-specific manifestations of transnational corporate and state power, distinguished by its concern to participate in ongoing social movements and oppositional struggles to change the dominant media and to create alternatives, I focus on political economy’s lens on analyzing “social relations, particularly the power relations, that mutually constitute the production, distribution, and consumption of resources” (Mosco, 2009, p. 2) including information resources and tools. Gamemakers, like all information users, do not just search for information, they search for information within a set of fluctuating political-economic conditions that shape the ways in which they search for and locate relevant resources.

To explain these conditions, I employ the term Google-Fu to grasp the myriad of activities that are undertaken by gamemakers in networked environments. Google-Fu means that one needs to know, before one can search for relevant information; simply put, to search for relevant resources on how to use a game engine or a specific feature of the tool, one needs to already have a familiarity and knowledge of the relevant terminology to craft the search query specific to their information need. Google-Fu is an online folksonomy that is sometimes used on gamemaker and computer programmer forums to typically describe how “strong” their programming knowledge is based on discovering documentation sources using Google (e.g., documentation that explains a programming function).

Prior knowledge of an information environment is needed to know where to look, search, and locate relevant tools and resources for a given activity. The interconnected and networked nature of the internet has had profound impacts on our social, cultural, economic, and legal infrastructures. In many ways, this has required us to reexamine our notions of culture and how practices and activities take shape. Online tools and resources, and the communities that use
them, are rapidly transforming our everyday society, and taking a contextual- and cultural-based approach to understanding these informational developments is necessary to understand why cultural products are created, disseminated, and used the way they are. Further, we need to develop concepts of information practice that are flexible to the changing nature of information systems if we are to grasp the complicated and increasingly, fast-paced nature of information access and retrieval by everyday creators.

4.1 Practices, Tactics, Poachers, and Making-Do

For the rest of this section, I outline de Certeau’s (1984) practice of everyday life and how it offers an opportunity within ISB to understand the user perspective of information from a socio-cultural perspective that interprets how individuals “make-do” and “poach” the resources available to them from organizational and industry “strategies” using their own localized “tactics.” Using de Certeau’s (1984) practice of everyday life as a launchpad into analyses of information, I investigate how political economy exposes the production nodes of information resources that influence how and why information practice occurs. Production nodes are the processes of developing a cultural product: a symbolic ware (e.g., software) manufactured, bought, sold, and distributed by cultural industries for money (Babe, 2009). For digital games, production nodes include the processes of design, illustration, writing, audio, coding, financing, manufacture, distribution, marketing, and retail, to name but a few. These processes provide certain affordances and limitations to how gamemakers develop their digital games. By analyzing how these resources are produced, distributed, and consumed by gamemakers using de Certeau’s (1984) practice of everyday life, we not only grasp the user perspective of information practice, but the political economic composition of the documents that shape gamemaker norms in gamemaking.
The Practice of Everyday Life is de Certeau’s (1984) theory of culture. de Certeau (1984) developed a theory for how culture, and particularly popular culture, is created and shapes the practices we perform for a given activity. de Certeau (1984) refers to practice as “ways of operating”; the ways in which we perform activities within a system, such as speaking, writing, and walking. According to de Certeau (1984), “people have to make do with what they have” (p. 18). When people make-do, they are performing tactics in response to the strategies of dominant organizations. Strategies are the established order for ways of operating within a system: they are typical, mainstream, and the dominant forms of practice. Tactics are the responses of individuals and social groups: they are atypical, grassroots, and the subordinate forms of practice. Practice can therefore be defined as the “internal manipulations of a system” (de Certeau, 1984, p. 24); the ways in which people develop tactics in an attempt to circumvent the imposed strategies by much larger, and more powerful, organizations, such as using professional game engines, which are typically used for action-based shooter games to design other genre-based games (e.g., Fullbright Company using Unity3D to tell a youth, queer coming-out story in Gone Home).

As people perform tactics, they manipulate the ways of operating in a given system. This means they try to alter the practice, the culture that surrounds that activity. de Certeau (1984) refers to individuals and social groups that perform these tactics as “poachers”: “they move across lands belonging to someone else, like nomads poaching their way across fields they did not write” (p. 174). In this process of making-do, these poachers try to change the landscape within a given system: “the imposed knowledge and symbolisms become objects manipulated by practitioners who have not produced them” (p. 32). Resources become appropriated by these poachers and new forms of practice emerge that come to shape the ways of operating—the culture of an everyday practice.
By appropriating these resources through the process of making-do, individuals and social groups reveal their tactics to other poachers, and to the dominant organizations. In turn, organizations adjust their strategies to compensate for the poachers that make-do with their resources. As de Certeau writes,

Tactics are more and more frequently going off their tracks. Cut loose from the traditional communities that circumscribed their functioning, they have begun to wander everywhere in a space which is becoming at once more homogenous and more extensive. The system in which they move about is too vast to be able to fix them in one place, but too constraining for them ever to be able to escape from it and go into exile elsewhere. There is no longer an elsewhere. Because of this, the “strategic” model is also transformed, as if defeated by its own success: it was by definition based on the definition of a “proper” distinct from everything else, but now that “proper” has become a whole (de Certeau, 1984, p. 40).

While tactics are how individuals or social groups attempt to circumvent, appropriate, and challenge the strategies of dominant organizations, these organizations simultaneously block, reappropriate, and defeat these tactics through their sheer dominance and control over the system. Grassroots become mainstream, local becomes global, and tactics become strategies. This transformation of symbiotic poaching results in the formation of new ways of operating—remixed practices and cultures within an emergent system. For example, game jams are a leisure-based gamemaking activity, which gamemakers choose to participate in. However, I noticed in conversations with gamemakers at TOJam and Toronto Global Game Jam that there were teams from major game studios in Toronto, such as Ubisoft, Uken, and Gameloft. While it is unclear if these companies own the intellectual property of the jam game, many gamemakers claim they produce prototypes in the hope they can pitch their prototypes to their employers and to then become project lead on those proposed game projects.

In these everyday practices, the boundaries between work and leisure flow together. The space and time in which gamemakers perform work and leisure activities blur into one another. de Certeau (1984) refers to this type of tactic as “la perruque”: “the worker’s own work
disguised as work for his employer” (p. 25). The worker diverts time, using workspace and resources, to perform activities that would typically be done outside of the work environment. While de Certeau (1984) focused on how workers appropriate resources on company time, he did not discuss how companies have appropriated workers leisure time. Workers check emails from home, work on projects after wage-labour hours, and reduce their time fulfilling basic needs, such as exercise, eating, and sleeping (Dyer-Witheford & de Peuter, 2009; Hesmondhalgh, 2013; Hesmondhalgh & Baker, 2011; Ross, 2003). It could be argued that everyday practices of la perruque are workers’ responses to the increasingly invasive strategies of organizations into our everyday lives.

4.2 An Industry of Making-Do

de Certeau’s (1984) theory of culture explains how people make-do with the resources at their disposal and use them within a given system, and how their tactics in response to the strategies of organizations transforms our ways of operating—our everyday practices. Gamemakers make-do with the tools and resources provided to them by the video game industry; they do not build digital games from scratch, but rely on a pre-established system of computer hardware, software, developer practices, and established norms of game development that shape the genres of digital games they are able to make. It is only through the process of making-do that gamemakers try to change the system, ever so marginally, and develop grassroots cultures, which they hope will transform the wider industry, such as making games that are not first-person shooters or heavily masculinized.

Game engines are the primary tools gamemakers use to produce their digital games. Game engines encode all the digital games assets into a file format that can operate on a specific platform. In 2000, the animation tool Flash 5, commonly known as Flash, was released by
Macromedia, Inc. It began as a simple animation tool, but quickly grew into a multimedia platform that offered users the opportunity to develop a range of digital content, including digital games, which could be published and released on the web (Salter & Murray, 2014). Flash with its ActionScript 2.0 object-oriented programming language, enabled creators to code a variety of 2D art and graphics assets into animated media. The relatively low-barrier to entry for most creators meant that this was, arguably, the first mass-distributed digital tool for the everyday content creator (Salter & Murray, 2014).

While many gamemakers, including several of my research participants, began their gamemaker careers using Flash, particularly Flash CS3 that introduced the updated ActionScript 3.0 in 2007, it was not a tool designed specifically for gamemakers. Flash was a web application platform to animate illustrations, video clips, and a range of audio-visual material. However, it created an online community of gamemakers, and other organizations within and outside the video game industry began to take notice. Other simple game engine tools were developed in the following years, such as Stencyl, Klik n’Play, and Scratch, which were designed specifically for gamemakers with little to no coding and art experience. The aim of these tools was to introduce potential gamemakers to the basics of game design, coding, and the creation of assets.

More professionalized game engines were also developed, such as GameMaker Studio, Construct 2, and Unity3D, and designed specifically for advanced developers to produce digital games on commercial platforms, such as the App Store and Steam. However, by the time I began my ethnography, one of those game engines had moved head-and-shoulders above the rest: Unity3D. Unity3D is a cross-platform game engine developed by Unity Technologies. First developed in 2005 for Apple’s Mac OS X operating system, the game engine has extended to
include 27 platforms for digital game distribution—hence the name “Unity,” for unifying content across all major platforms.\footnote{As of writing, Unity3D can deploy content across major mobile, virtual reality, desktop, console, TV platforms and the Web. These platforms are: iOS, Android, Windows Phone, Tizen, Windows, Windows Store Apps, Mac, Linux/Steam OS, WebGL, PlayStation 4, PlayStation Vita, Xbox One, WiiU, Nintendo 3DS, Oculus Rift, Google Cardboard, Steam VR, PlayStation VR, Gear VR, Microsoft Hololens, Daydream, Android TV, Samsung Smart TV, tvOS, Nintendo Switch, Fire OS, and Facebook Gameroom. While Unity3D currently develops for these platforms, the game engine is constantly updating its software with new versions that discontinue older platforms, such as the PlayStation 3 and Xbox 360.}

In 2009, Unity Technologies made the game engine free for anyone to use with a non-commercial license; all gamemakers had to do was register to download the game engine (Helgason, 2009). Unity Technologies argued that this would enable a diverse range of gamemakers to use their game engine and become familiar with Unity3D and game design more broadly. As the founder of Unity Technologies, David Helgason (2009), states,

Unity Indie was a cool product. It was very featureful, enabling production of rich 3D games and other interactive content for the web and standalone PC and Mac builds too. And it was a commercial product too: it cost $199 and you were explicitly allowed to sell your work and make money with it. This was no “hobbyist” or “noncommercial” license. But also it’s not been a significant part of our business at all: Unity Pro, Unity Wii and Unity iPhone for the bulk of our (rapidly growing) livelihood. However what we liked about Unity Indie was that it allowed many many people to get started with Unity. These people are hobbyists, students, professional and amateur independent developers, as well as teenagers and kids. And many of them are really valuable to the community.

While Unity Technologies claims they are doing this for the benefit of all, the real motivations behind this decision lay in its price structure for its other licenses. As noted earlier, Unity Technologies has EULAs, which force gamemakers to purchase or subscribe to a paid-license once they make over $100,000 or $200,000 USD. The purpose of this policy is clear: gift the game engine for free and once gamemakers become proficient with the tool and make commercially-successful digital games they will have no choice but to purchase a subscription-
based license starting at $35 USD per month. Moreover, as these gamemakers have invested months to years learning Unity3D it is unlikely they would transition to another game engine.

Over the subsequent years, what began as Unity Indie quickly transformed into the game engine for the everyday gamemaker. While the barrier to entry for Unity3D still required familiarity with the game engine’s functionality, as well as the incorporation of assets and programming in C# or JavaScript, the tool enabled a range of everyday gamemakers to create digital games with a professional tool, which could be distributed to almost any platform. George talked about his first introduction to Unity3D and why it was such an appealing tool for him to use. As George says,

> It was like Flash, but instead of being an animation tool that was co-opted into games it was made for games from the start. And it was like Flash in that you had visual editors and stuff like that as well that streamlined some of the processes of the more annoying parts of game development. A lot of times you had to build levels and then you needed an editor for that or you needed to make it [yourself], or you need some kind of place that defines levels through code, which is, you know, not the nicest thing. And, so, I started using Unity. I think the first time I used it was in a TOJam sometime when I was in school and mostly I just sort of started using it ever since (George, Interview 2, 21 March 2015).

For George, like many of the gamemakers I met, Unity was an easy-to-use tool designed specifically for making digital games. That is not to say that many gamemakers did not have to program their own editors in Unity themselves, but for potential gamemakers, Unity3D offered a powerful introduction to digital game production.41

Benjamin also found Unity3D to be a useful tool for everyday gamemaking. For Benjamin, using Unity3D came out of a frustration with his game development program at

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41 Current versions of Unity3D give gamemakers the option to create a 2D or 3D game from the outset with a range of development tools tailored to both genres of game development. But Unity3D did not always have this dual-functionality. Before the release of version 4.3 on 12 November 2013, gamemakers had to program their own 2D editors.
school and the emphasis on producing content for Triple-A studios in the industry. As Benjamin says,

I started not to care about like how I didn't want things to look super realistic and that's what this, this school [name of post-secondary institution] kind of taught you was how to make things look like Triple-A games or whatever. I kind of just started to lean to the indie … stuff where you could like create your own idea. And yeah, the art style wasn’t super realistic, but it was still valid cause it looked cool or different, you know? Like Unity really opened that up in the last couple of years to make that accessible. It’s kind of the turning point (Benjamin, Interview 1, 16 January 2015).

Benjamin used Unity3D because it was accessible, free, and easy-to-use. The experience he acquired, while completing his game development program, meant that he could use a professional game engine, like Unity3D, without a particularly steep learning curve. In many ways, his entry into independent game development was made possible because of Unity3D’s accessibility as both a free game engine and a relatively simple pipeline to produce digital games; Benjamin could experiment with a professional tool, and if his game developed into a commercial cultural product, Unity provided the tools and resources to deploy the game to a specific platform.

The commercial applicability of Unity3D is another reason why many gamemakers flock to it as their game engine of choice. Lisa found the commercial potential of Unity-made games an appealing reason to use Unity3D. As Lisa says,

Lisa: Yep. So those two [functionalities of Unity3D] obviously looked very impressive, but I just wanted to focus on this and really get into it. I was like “if you do it you have to pay for certain things.” You have to pay a [fee], I think if you sell [your digital game] you have to pay them a certain amount of [revenue], or something. Unity is like, “if you can do amazing work, I think you have to contribute something [to us]”.

Chris: If you make $100,000, I think.

Lisa: So yeah, I was like, “that's a great problem!” I’ll gladly give them money if I’m making that much from it. And it seemed simple and there’s a lot of resources to teach you how to do it. So, it made it the obvious choice (Lisa, Interview 3, 24 September 2015).
Apart from being a tool that can potentially be deployed to multiple platforms, Unity3D incentivizes gamemakers to use their game engine by having a revenue capacity of $100,000 USD with the free, personal edition of Unity3D. This means that if gamemakers accumulate significant revenue from their released games, they are required to subscribe to a paid license. In June 2016, Unity Technologies revised their business model, so that if a gamemaker amassed over $100,000 USD annually making games with Unity3D, they were required to purchase a Plus ($35 USD per month), Pro ($125 USD per month), or Enterprise (Negotiated with Unity Technologies) license with revenue capacities of $200,000 USD and unlimited respectively (Ante, 2016). As the subscription cost for Unity3D is relatively low and only required if gamemakers begin to make over $100,000 USD annually, many gamemakers interpret this change in commercial status to be a “great problem” to have, as Lisa notes.

Unity3D was the first freely available game engine for the everyday gamemaker perceived to make commercial digital games in the industry. It made its tool free at a juncture in the digital economy when the only other free engines were basic game design tools with limited commercial applicability. Around the same time in 2009, smartphones with their marketplaces were beginning to take off as platforms of distribution, which meant Unity3D offered something to gamemakers no one else did: the ability to make professional-quality games for commercial platforms.

This “gift economy” approach, where free labour is performed in exchange for otherwise inaccessible tools, resources, and opportunities has become a common practice amongst companies with long-term profitability in mind (Benkler, 2006; Terranova, 2000; Velkova,

42 It is unclear how Unity Technologies knows when a developer makes over $100,000 USD annually in revenue. It is likely they check sales data on the various platforms a developer distributes their games on and then contact them directly if they suspect they are making over $100,000 USD.
Gift economy approaches enable technology companies to build a community of developers around their tool. For Unity Technologies, they began to develop a community of gamemakers around their tool, and with it, a range of resources built by both the company and the community. As more everyday gamemakers flocked to Unity3D, Unity Technologies had to develop a range of resources or risk losing the community to other game engine platforms. Unity Technologies began to develop extensive documentation of its coding functionalities, video tutorials, a rich asset marketplace, community forums, an annual Unity Unite Conference, a Unity Road Show, and a live video-stream tackling the technical issues of the day for gamemakers to interact with the company’s developers and staff—and these are just the resources developed by Unity Technologies and not the community. In the next section, I review some of these company- and community-built resources, and how they are shaping a genre of cultural production within the video game industry: a material aesthetic and game design.

4.3 Google-Fu

Google-Fu: an insightful notion, which describes the ability to master the art of writing terms and phrases in a search engine to retrieve the best possible answer to one’s information needs. This hybrid word plays on the dominance of the search engine Google, an entry point to information for most information seekers online, with the Chinese term Kung-Fu, which refers to any practice that requires time and effort to master. According to a Pew Internet study in 2012, 83 per cent of search engine users in the United States use Google (Purcell, Brenner, & Rainie, 2012. As of writing, Net Market Share estimates approximately 77 per cent of global internet users use Google, whereas StatCounter estimates around 92 per cent of global internet users use Google (Allen, 2017; StatCounter, 2017). Although the methodologies for each of these studies
and data collection services varies considerably, they all reveal that Google is a dominant search engine for internet users.

Google-Fu is a clever hybridization of two prevalent terms in Western popular culture, which evokes images of black-belted internet users constructing the perfect phrase to takedown their information need with the swift-stroke of a few keys. I first encountered this concept in an interview with Cameron, who was describing his experience in gaining access to the knowledge required to use different tools in gamemaking. As Cameron says,

It’s mostly Google-Fu. You just use Google-Fu and you can find anything. The better you get though, the better your search queries will get, so the more info of the kind you want you’ll be able to find. So, it’s hard when you start off because my friend [name] also has this problem where he wants to start a game, but he doesn’t know how to find what he wants to learn. So, that’s probably the biggest hurdle. Youdownload Unity and you think “Shit. I don’t know what to do.” So, you type in, “how do I make this RPG [Role Playing Game] in Unity?”, and then, of course, nobody’s got a good answer because you had a really specific question or you didn’t have a specific question and you don’t understand [why your question was not specific enough]. Meanwhile, as you get more experienced as a game developer, you kind of hone your Google sense. But your Google-Fu needs to be really strong to take use of all the learning materials (Cameron, Interview 2, April 13, 2015).

Entering search queries is not just a matter of identifying one’s needs, such as “how do I create an RPG in Unity3D?” It is also having an awareness of the breadth of resources connected to an online environment, like a search engine, and how those resources are created and used.

Learning how to use a game engine can be a time-consuming process, which takes years of developing artistic and programmer skills, such as coding, animation, and sound editing to name just a few.

The resources required for gamemaking are almost exclusively available online, whether freely accessible through open-access, or hidden behind a pay-wall. In the case of game engines, the developer provides documentation and other relevant resources, such as adjacent community forums, on their home website. Spin-off resources for these game engines frequently emerge on
other game development websites, which provide documentation for problems and issues related to a specific gamemaking activity. The breadth of these resources is immense. The depth to which gamemakers go to articulate and document the gamemaking process means that searching for relevant information requires strong Google-Fu.

Google-Fu is a curious term, not because it captures the essence of developing one’s online search abilities, but because it also signifies that people search for information within an already established online environment. Searching for information online requires one to know the environment relevant to their information query. As Cameron pointedly states above, simply entering a search query without knowing the potential resources available within an online environment can return unsuccessful search attempts. A successful search attempt requires one to be an active participant within the community surrounding an activity to retrieve the information desired. One needs to have already identified relevant communities to ask the most accurate questions to achieve the desired outcome of knowing. For example, to make a game in Unity3D, gamemakers are required to have familiarity with C# programming, management of art and audio assets, and the layout and functionality of Unity3D’s software. To ask a question about these technical features, one needs to know the technical features.

That is the essence of Google-Fu, and the nature of searching for information online, whether as a gamemaker or an everyday information user. A common misconception is that one needs to construct the perfect question to find the information required. Like learning a martial art, information searches require years of practice and labour, and one can only improve their search queries as they acquire more knowledge and experience surrounding their cultural activity. But there is also an underlying system that shapes search results. Search engines rank and organize indexed web pages by a user’s search history, geo-location, and by the prioritization of popular and trustworthy sources—not to mention the inclusion of ranked
advertisements and partnered organizations, such as Wikipedia (Chen et al., 2007; Pan et al., 2007). So, on the one hand, gamemakers, like everyday internet users, are developing their Google-Fu, and on the other, search engines are providing the dōjō, which curates and edits search experiences. While Cameron and others are enhancing their Google-Fu, they are ironically unaware that their searches are contained within a closed environment, the dōjō, and are not out in the real-world practicing their Google-Fu; they never graduate to the true level of master and start their own dōjō (e.g., their own search engine).

Unity Technologies has been very successful at saturating the internet with company- and community-built resources, which document how to use the features and functionalities of Unity3D. Anyone interested in becoming a gamemaker will almost always come across some web-based resource advocating for Unity3D as a gamemaking tool. Moreover, as noted earlier, most gamemakers in the scene use Unity3D, but so do the post-secondary institutions teaching game development; it’s a lot easier to train students when they can use a commercial tool for free upon graduation that also includes an almost endless-supply of resources to teach them how to use it.

When I interviewed Benjamin about how he learned to use Unity3D, he said he almost completely relied on YouTube videos; the only exception being when he queried his gamemaking partner on the technical issues at hand. As Benjamin says,

Benjamin: If it’s something code-based I just ask him ‘cause I usually don’t know that much about it. But if it’s anything art-based I can find it like on YouTube pretty quick ‘cause I know what to search for at least, you know? Yeah, I mean there’s YouTube tutorials for everything now like there’s no excuse. I should learn coding ‘cause just watch YouTube videos.

Chris: But when you say you started using Unity, right, was there a series of tutorials that you went through or did you just sort of like experiment?

43 In Western popular culture the term dōjō primarily refers to a training place specifically for Japanese martial arts.
Benjamin: Unity, they supply their own tutorials, which are pretty good. You can just go on their page and watch their tutorials. So, I’ll watch those and then you can watch other people’s YouTube ones. That’s about it though. I just feel like videos are the best thing to learn right now (Benjamin, Interview 2).

The Unity3D tutorials, which Benjamin refers to, are either project- or topic-based videos. The project-based videos instruct gamemakers in how to download and install Unity3D, as well as the various assets that will be needed to complete the digital game tutorials. These out-of-the-box asset packages enable gamemakers to get straight to learning how to make and design digital games in Unity3D, without having to learn how to build all the visual and audio assets. For example, the “Roll-a-ball” tutorial teaches gamemakers how to use game objects, game engine components, prefabricated assets, in-game physics, and scripting of the game’s code.

Gamemakers learn fundamental features of Unity3D, such as designing the player and environment, adjusting the camera and play-area, and design features like collecting and scoring. These project-based tutorials mean that gamemakers not only learn how to use some of the functionalities of Unity3D, but also create and complete a game—even though most of the assets are provided by Unity Technologies.

These project-based tutorials also teach gamemakers other aspects of gamemaking. Most of the projects are based on predominant genres of cultural production within the video game industry. The Entertainment Software Association of Canada’s (ESAC) Essential Facts of the Canadian video game industry shows that most players enjoy action-adventure, shooting, fighting, and puzzle-based digital games (ESAC, 2016). Of the nine tutorial projects, four are
shooters, and three are action-adventures.\textsuperscript{44} This means that aspiring gamemakers who use Unity3D typically create their first digital games as action-adventures or shooters.

The topic-based videos are categorized by the different functionalities in Unity3D, and incorporate unique hardware and assets into the digital game, such as virtual reality or multiplayer networking. Most of these topic-based tutorials are specific to the various functionalities of Unity3D. These tutorials are particularly useful when a gamemaker learns how to incorporate a specific feature into their game. In many cases, these topic tutorials are a combination of pre-organized videos and recorded live-training sessions. The live training sessions take place almost every week to two weeks on the Unity Technologies website. Gamemakers tune into the live stream and watch a Unity Technologies developer explain how to use a specific functionality of Unity3D, or how to create a specific feature within the game engine. Participants get to query the tutor in the chatroom, and the tutor attempts to address any questions or issues gamemakers might have.

When I participated in TOJam 10 during the weekend of 1-3 May 2015, I worked on a simulator-based game with my team.\textsuperscript{45} As I was one of the least-experienced gamemakers on the team, with little-to-no expertise in a specific area of gamemaking, they asked me to become familiar with Unity3D’s Terrain Editor, which allows creators to build terrain-based 3D environments, such as mountains, oceans, forests, and other natural-forming geographic landscapes. In one of Unity Technologies previously recorded live-streams, it made a tutorial on

\textsuperscript{44} The 4 shooters are: “Space Shooter”, “Survival Shooter”, “Tank Tutorial”, and “Let’s Try”. The 3 action-adventures are: “2D Roguelike”, “Adventure Game”, and “Procedural Cave Generation”. The other two games are “collecting” style games: “Roll-a-Ball”, and “2D UFO” (Unity Technologies, 2017d).

\textsuperscript{45} Simulators are generally digital games that simulate some real-world activity. For our simulation-based digital game, we simulated an encounter with a moose when driving in Northern Ontario. The game mechanic was to avoid a collision with moose and die, which is, tragically, a typical occurrence when drivers encounter a moose on the road. As such, for this simulator, we needed to recreate a wilderness with forests and a road to create our 3D terrain.
Unity3D’s terrain editor; specifically, how to texture your terrain and add environment details like trees, grass, and water. I installed the assets they suggested before watching the one-hour tutorial and completed all the instructions the tutor provided.

After I completed the tutorial, I experimented with the tool by “playing at making” (Grimes & Fields, 2015): playing with the functionalities of a tool to make content. I created forests, lakes, hills, and rock cuts where stone had been blasted to make way for roads and other manmade infrastructures. In one of our interviews, George discussed his experience playing at making with Unity3D’s particle system at a game jam, which allows gamemakers to create particle effects, such as rain, sparks, and clouds. As George says,

No, Unity has some pretty good tools on, it’s like I remember using just Unity’s animation system for stuff. The trick is they are a little complicated to get started with but like a jam situation at least but if you sort of take a little bit of time, an afternoon or something, and play around with them a little bit beforehand then it can be huge time savers. And they can help make stuff like really impressive too. I remember at one point we made a game and we were in a team of like eight people and at one point we were sort of finishing off the things and I accidentally dragged on a particle system onto the scene and they we were, just all just sort of amazed and it’s like “wow! That’s cool!” And then we just started messing around with the parameters. We made it like, “oh we can change the textures.” So, we made it literally rain heads of the main character. And then we were like “why don’t we add this every time we have a hit collision on the characters” and it’s like “yeah OK.” And so we did! we had little sparks going on! (George, Interview 3, 9 May 2015).

Part of the experience when using a game engine, like all digital tools, is playing with its functionality to experiment and make original content. But playing at making experiences also requires gamemakers to consult the extensive written documentation provided by Unity Technologies on its main website (Unity Technologies, 2017a).

Unity3D documentation is categorized similarly to the company’s topics-based tutorials, but provides written and visual documentation, such as screenshots, for how to use the various functionalities of Unity3D. While I did not need to consult the documentation for Unity3D’s terrain editor, the documentation does provide instructions for how to use the editor’s different
functionalities, and how to edit the tool’s API using the game engine’s script editor. These technical documents are more useful for gamemakers that create features in their game that are not accommodated by the engines out-of-the-box functionalities. Christine discussed how, for her “indie” project, they had to edit Unity3D’s API to enable a 2D game to be built, as this was before Unity Technologies had incorporated the 2D functionality into its engine. As Christine says,

So, for [game title] we were doing everything in Unity. Hilariously, back when we first started, Unity didn’t have it’s own built in 2D engine, so we had to kind of jerry-rig our own for it in a sense. We would basically take—we basically used the camera to do 2D for us and the camera would just basically follow the character on one plane, you know, facing it right. And then eventually, you know, down the line it was like “oh automatic 2D you just press this button.” You press a button and it’s 2D, it’s like OK great. Makes our life easy, but you know we basically already got this thing that we’ve done. So, Unity was really good for that (Christine, Interview 2, 5 November 2015).

Though Unity3D is a powerful engine, which allows gamemakers to produce commercial-quality games, the tool has its own limitations. Unity3D, like all digital tools, allows for the creation of certain genres of cultural production, but what makes Unity3D a tool-of-choice for many gamemakers is Unity Technologies’ willingness to constantly improve the game engine by releasing new versions with additional and improved functionalities based on community feedback. As was the case for Christine’s team, Unity Technologies frequently includes features developed by the wider community. This was especially the case at TOJam 10 when I was exploring Unity Technologies’ Asset Store.

The Unity Asset Store is a web application for the distribution of plugins and assets. Plugins can include scripted APIs add an additional functionality to Unity3D. Assets can include 3D models and audio files for gamemakers to streamline the gamemaking process without having to create additional assets. Many of these assets are free although most are available for purchase. The breadth of the Asset Store is a testimony to Unity Technologies’ commitment to
developing their gamemaker community; most assets are made by third-party developers and not by Unity Technologies themselves. I played around with the Asset Store when I was finding textures and tree models for our simulator game. However, over the game jam we realized we had to find additional assets to reduce the amount of time we were spending on building the digital game; after all, we were only given a weekend to produce the digital game.

Towards the end of the game jam, we discovered a Game Jam Menu Template, developed by Unity Technologies, which included a pre-made title screen with a menu panel, options panel, and pause panel using Unity3D’s graphical user interface (GUI) system. Along with the asset, Unity Technologies recorded a live-stream tutorial explaining how to install the template and customize the asset within Unity3D. This Game Jam Menu Template was specifically designed for gamemakers at game jams who needed to streamline their gamemaking experience into the shortest time-frame possible; and the simplest method to streamline gamemaking is to use pre-fabricated assets. As Unity Technologies is aware that its community uses Unity3D at game jams, it developed this simple menu template for gamemakers to rapidly package their digital games.

Cameron talked extensively about the Unity Asset Store and how it fit within Unity’s wider ecology of resources and tools provided via its website and the wider community. As Cameron says,

Also, it's nice how Unity has standard assets. I’ve started to read more of the documentation with regards to stuff that comes with Unity, because there’s a standard assets project with all this free code that they give you which seems specific, but is actually very adaptable, like camera systems, 3D characters, stuff that they’ve gotten hidden away on the app store that you have to go looking for. I mean, the Unity Asset Store that you’ve got to go looking for. I’ve got this other project that I use for demoing all this new stuff that I don’t know if it’s going to break my game yet. So, I have this other project that I'm demoing all this cool stuff related to animation and character avatars and figuring out all that animation because it was in the shell of this other project, but it has become my experimental project where I test everything like really cool and interesting that I want to put in the other game. And then like the lessons that I learn from
banging my head against how the animation system works, I put into the other game because it’s become [functional], like the animation system really scared me as I didn’t know what to do with it. I watched some videos, read the tutorials, read the documentation, found a way to mess around with it and then played with that a bunch and figured out how to make it so that your character would play animations that you specify and make your game look way more alive (Cameron, Interview 5, 28 October 2015).

The Unity Asset Store, along with Unity3D’s documentation, tutorials, live-streaming, and community forums provides a wealth of information resources and tools for gamemakers to experiment, play, design, and make their digital games. While the tool can frustrate gamemakers with its limitations, it has become gamemakers’ game engine of choice because of its active gamemaker community, Unity Technologies’ commitment to improving the game engine with additional and improved functionalities, and its extensive ecology of resources, which enable gamemakers from a range of professional and leisure, genre, and technical backgrounds.

4.4 Conclusion

Over my ethnography, several important announcements were made, which would shape the future years of game development for the everyday gamemaker. In 2014, YoYo Games’ GameMaker Studio Standard, the popular 2D game engine platform, became free for gamemakers, having previously cost $49.99 USD for a license (YoYo Games, 2015). CRYENGINE, developed by the studio Crytek, released its game engine for a monthly subscription fee of $9.90 USD per user without any additional royalty fees (Crytek, 2014). Crytek later released an updated version of the game engine, CRYENGINE V, with a pay-what-you-want model at the 2016 Game Developer Conference (Crytek, 2016). This announcement came in the wake of Amazon releasing the game engine Lumberyard, just months earlier, which was built using Crytek’s CRYENGINE after Amazon had agreed to a huge licensing deal with Crytek (Schreier, 2015a). At the 2015 Game Developer Conference, Unreal Engine 4 announced that its game engine would be free for gamemakers to download and install, albeit with five per
cent royalty fee on gross revenue after the first $3,000 per product, per financial quarter (Sweeney, 2015). Valve, the company behind the hugely successful digital game software platform Steam, got involved in the gamemaking business with its announcement that it would make Source Engine 2 available to gamemakers for free—though the game engine is still not released (Valve Corporation, 2015). And Unity Technologies announced at the 2015 Game Developer Conference its updated game engine Unity 5 for free with no additional royalty fees (Riccitiello, 2015).

The financial decisions of these companies to release their game engines for free suggests that they are racing to appropriate the everyday gamemaker. While everyday gamemakers have existed since the early 1970s when home computers became available for users to program digital games (Wells, 2014), the past decade has seen an explosion in the number of gamemakers producing digital games. Producers of game engines are rapidly flocking to the gift economy of digital tools to entice potential gamemakers to their products. Unity was an early adopter of this gift-approach in 2009, and has since reaped the rewards of a massive gamemaker community around the world. Studios, post-secondary institutions, “indies,” and all kinds of gamemakers and content creators are using Unity3D to produce digital games and other cultural products. Only time will tell as to whether these other game engines have joined the race too late, and lay in the wake of Unity3D’s dominance of the gamemaker market.

However, Unity Technologies was not just the first game engine company to enter the race; it also defined what it means to produce a professional and commercial tool for gamemakers, and what it means to enable a community of gamemakers to develop the game engine further. The success of the animation tool Flash in the early 2000s showed developers of creative digital tools the “secret sauce” to successfully build a community around a tool. All Unity Technologies had to do was emulate Flash’s approach, and design a tool for the everyday
gamemaker—a game engine to enable both simple 2D games, and complex Triple-A, realistic 3D games. But Unity Technologies took it a step further: it developed an informational ecology of gamemaker tools and resources, which enabled gamemakers to both use Unity3D effectively, and the ability to create additional plugins and assets to improve the game engine’s functionality and features. Further, Unity Technologies would then appropriate these improvements by either incorporating them into additional features on future releases of the game engine, or release them as free assets for gamemakers to download and experiment with.

This gift-approach laid out by Unity Technologies also has a double-edged effect; not only does it enable gamemakers to create digital games, but it also constrains them to a set of material limitations that produces a specific genre of cultural production—Unity-made digital games. While game engines like Unity3D have enabled a range of gamemakers from all walks-of-life to be able to make digital games, they are all making these games within the same technical affordances, which means the game’s design, narrative, and aesthetic are all materially constrained to the Unity3D pipeline. And this is why gamemakers “make-do” with the tools and resources of the video game industry: while the ability to create digital games may be limited to the materiality of game engines and the various hardware and software that support that tool, gamemakers still get to make games that could be potentially distributed to almost any platform and be placed in the hands of almost any player.

As of writing, Unity Technologies is valued at $2.6 billion USD, an increase from $1.5 billion USD in 2016 (de la Merced, 2017; Haggin, 2016). This is a considerable valuation increase within a year and suggests there is big money to be made in developing game engines for everyday gamemakers. It is not a coincidence that dozens of game engines have emerged within the past decade and that most have become accessible through free licenses. Everyday gamemakers are growing in abundance and game engine companies are racing to get them
hooked on their game engine before the market for game engines closes. In the next chapter, I examine how the proliferation of game engines has enabled gamemakers to make digital games in a range of work and leisure spaces that shape the creative process of gamemaking for the everyday gamemaker.
Chapter 5
Production

“Just try to make stuff. Make something small. You can make something in just a couple hours and be OK with it being crap. Not all games have to be good, not all games have to be polished, and not all games have to be finished.”
— Cody, Interview 2, 22 April 2015

5 Gamemaking

Once the tools have been experimented with and a functioning prototype is developed, gamemakers enter full-scale digital game production. Gamemakers iteratively refine and polish their digital game’s code and assets until they are satisfied with its design and playability.

Production is frequently fraught with technical and aesthetic challenges, which can extend production time and financial costs. In many cases these projects are abandoned or are never released via a distribution platform. These challenges can range from technical bugs, glitches, and breaks in the game’s code to budget and time constraints. Production is by far the longest stage of game development, and requires the most financial and labour resources, including personnel, software licenses and equipment, and workspace. Depending on the scale of the game project, production can take anywhere from a weekend at a game jam, to months and years of development at home, at a coworking space, at a studio, or at a myriad of professional and informal workspaces, such as cafés. In most cases, the game prototype’s design and aesthetic developed during pre-production may not resemble the released game.

While the previous chapter focused on how resources such as game engines can influence the genre of a digital game, this chapter focuses on how working conditions affect the scale of a game’s design, aesthetic, and release. Working conditions shape the production of any creator’s cultural product, not just digital games (Hesmondhalgh & Baker, 2011). In the video game industry, these conditions can include working time and remuneration, the physical work
environment, and the mental demands of the work activity (Edwards et al., 2014; Weststar & Legault, 2016). Working conditions can affect a creator’s work-life balance, work organization, and their relationship to their craft (Dyer-Witheford & de Peuter, 2006; Sotamaa, 2010). Everyday gamemakers encounter a range of working conditions across work and leisure settings, which affect their production of a digital game. I argue that these working conditions frequently shift as their game’s production develops and as their relationship with their craft adjusts to their fluctuating work and leisure projects (e.g., a digital game built over a weekend at a game jam is later developed into a released mobile game).

In this chapter, I provide an overview of gamemakers’ working conditions in the context of the Toronto scene and the wider video game industry. I predominantly focus on the informal working conditions of these gamemakers—the non-professionalized spaces, working times, and mental demands of production—because they provide a snapshot of how both work and leisure contexts simultaneously affect everyday gamemaking. Workspaces range from the home to cafés to coworking spaces. Working times can include off-work hours to work hours stolen to perform non-work gamemaking activities. Mental demands can vary from specialized technical and artistic skills to simultaneously wearing multiple hats of gamemaker roles. In each of these aspects, the context and the place of the informal working conditions can influence gamemakers’ digital game production. By focusing on how work and leisure contexts influence gamemaking for the everyday gamemaker, I analyze not only how digital games are developed in mainstream venues of production, which perform and maintain more formal working conditions, but also the local sites of gamemaking where gamemakers develop their own informal working conditions.

To outline these informal working conditions, I focus on the spaces of gamemaking: the game jam, the coworking space, the home, the workspace, and the third place—the social surroundings separate from the home and the work place, such as cafés, bars, and parks.
(Oldenburg, 1989). The informal working conditions in each of these spaces highlight how mainstream notions of work and leisure have been appropriated by everyday gamemakers in the production of their digital games. As games are produced within these spaces, informal working conditions frequently become the norm for everyday gamemaking. Simply put, gamemakers are changing the rules of engagement with the traditional working conditions of the video game industry, and redefining what it means to make a digital game in twenty-first century cultural and creative industries.

5.1 Working Conditions in the Video Game Industry

In the 2014 Developer Satisfaction Survey (DSS), 32 per cent of respondents believed that there is a negative perception of the video game industry, identifying working conditions as the main cause (Edwards et al., 2014). Working conditions refers to the working environment and the contexts affecting labour in the workplace, such as labour hours, physical and digital infrastructures, legal rights and responsibilities, and work cultures (Legault, Weststar, & Tô, 2017; Weststar & Legault, 2016). The video game industry is frequently criticized for its mistreatment of workers, particularly how developers experience the working conditions known as “crunch.” Crunch is a term frequently used in the video game industry to describe how game development is compressed into a short time frame, requiring gamemakers to put more hours into developing the digital game and less hours into maintaining a work-life balance with free-time, exercise and nutrition, and sleep. The most infamous description of crunch was written in 2004 and posted to the blog LiveJournal by the user “ea_spouse” (ea_spouse, 2004).46

46 The identity of ea_spouse was disclosed on April 26, 2006. Erin Hoffman is married to Leander Hasty, an engineer at Electronic Arts (EA) in Los Angeles. Hasty helped launch a now-settled class-action lawsuit against EA for unpaid overtime.
the partner of a game developer at the publisher Electronic Arts’s (EA) Los Angeles Studio, ea_spouse (2004) articulated the overwork practices that have become synonymous with working conditions in the industry, which include stress, burnout, work-life balance challenges, and health issues. ea_spouse described how their partner worked approximately 85 hours a week and was told by multiple managers “if they don’t like it, they can work someplace else.”

ea_spouse goes on to argue that the turnover rate is part of EA’s business model where there is always a fresh talent pool of developers waiting to be hired.

Journalist Jason Schreier has frequently reported on this publisher business model in the video game industry (2014a, 2014b, 2014c, 2014d, 2015b, 2016, 2017). In 2014, Schreier (2014a, 2014b, 2014c, 2014d, 2015b) ran a “Video Game Layoff” series where he published anonymous interviews and correspondence with current and former game developers explaining how they were laid off. One story stood-out: the “Pizza party from Hell:”

The testers at [MAJOR PUBLISHER] had just finished wrapping up testing on a project we’ll call “Biolands.” And to congratulate them, the man in charge arranged a huge bowling/pizza party for the end of the week. Of course everyone is hyped for the event. So the day finally arrives and all the testers show up. They all start bowling and eating pizza. After a few hours of everyone enjoying themselves, the VP asks for everyone’s attention. When he does manage to get the team to listen, he begins to thank them for their hard work and has the leads hand them their termination papers (Schreier, 2015b).

The crux of this story, and other stories published in the series, is that the video game industry runs in development cycles: when one project ends, there is no need to retain the staff who overworked to produce the digital game. Once the publisher handles the post-release maintenance of a game, it begins to work on its next project. Assuming the studio has not closed due to the unsuccessful release of a Triple-A game, it hires new staff—sometimes rehiring the same staff it just let go. While the accounts in these stories are incredibly damning of the video game industry, it should be noted that this is not necessarily the case for all studios and publishers. After all, the news stories that are frequently published on the video game industry
irrevocably relate to issues and controversy, such as sexism and misogyny in the industry (Gittleson, 2014), and the underrepresentation of race and ethnicity in digital games (Cole & DePass, 2017). However, as O’Donnell (2014) argues the video game industry is an incredibly secretive industry hiding behind non-disclosure agreements, which simultaneously prevents game developers from speaking out about their working conditions and developing new strategies to address challenges, such as collective action. As such, it is incredibly difficult to determine both the validity of these stories and the extent to which they proliferate across the industry.

In a similar vein, Aphra Kerr (2012) points out that the most pressing issue in the video game industry is attracting and retaining experienced staff. Kerr argues that “we need to discuss working conditions, demographic structures, and contractual practices in the industry” (p. 131). She interrogates the validity of industry reports, which argue labour shortages are down to labour costs, talent/skills gaps, government supports, and the need for greater intellectual property protection, as many of these reports are sponsored or funded by major game publishers. I agree with Kerr that the fundamental industry-wide problem, as it pertains to labour, is attracting and retaining staff. The 2015 DSS reports that 82 per cent of developers in the video game industry are between the ages of 20 and 39, which suggests that many early-career developers do not stay in the industry (Weststar & Legault, 2016).

In the 2009 Quality of Life survey, and the 2014 DSS, the IGDA found that respondents tended to report working more hours during a regular schedule than are specifically required or expected (Edwards et al, 2014; Weststar & Legault, 2012). Edwards et al (2014) found that when asked specifically about whether crunch was a necessary practice of game development, 52 per cent of respondents agreed that it was unnecessary. Only 24 per cent agreed or strongly agreed that crunch was necessary to game development (Edwards et al, 2014). When respondents were
asked to list the top three reasons why crunch or extended overtime occurred at their place of work, Edwards et al (2014) found that poor/unrealistic scheduling was the most frequent choice (53 per cent), followed by feature creep (36 per cent), unclear expectations (35 per cent), insufficient staffing (31 per cent), and inexperienced management (25 per cent). Edwards et al (2014) argue that many of these perceived causes of crunch relate to the “project-based system of game development where the budget, scope and schedule are paramount drivers and deviations or inadequacies in the system or in the management of the system result in time intensification for the project team” (p. 22). Moreover, as developers tend to be relatively young, they may lack both the experience to manage tight schedules and be aware of alternative working conditions.

A common perception amongst game developers, and the media more broadly, is that game development is a “labour of love,” where work and labour is a form of play. de Peuter and Dyer-Witheford (2005) and Kücklich (2005) have critiqued the “work as play” and “playbour” mantras, which fuel these misperceptions. Further, this perception contributes to the acceptance of difficult working conditions in the industry, including stress, burnout, work-life balance challenges, and health issues (Bulut, 2015b; Dyer-Witheford & de Peuter, 2006, 2009; Kline et al, 2003; O’Donnell, 2014). The motivations for willing to accept poor working conditions have been analyzed in other cultural industries as well (Hesmondhalgh & Baker, 2011). Gina Neff, Elizabeth Wissinger, and Sharon Zukin (2005) interviewed workers in the new media and fashion industries to understand why a normalization of “risk” had been accepted amongst cultural workers in exchange for autonomy, creativity, and excitement. They outline eight forces, which give rise to this condition of risky labour: the cultural quality of cool, creativity,

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47 Feature creep is the game design term for the inclusion of additional features into a digital game that were not part of the original design, such as new levels, which consequently increase labour hours into an already crammed timeline.
autonomy, self-investment, compulsory networking, portfolio evaluations, international
competition, and foreshortened careers. Neff, Wissinger, and Zukin found that this
internalization of risk might be justified by the expectation of high rewards in the future, such as
a major modeling contract or a multi-million dollar share in an intellectual property, even though
the numbers of cultural workers who actually achieve those rewards are minimal.

As discussed in Chapter 2, Neff (2012) explores the concept of risk through the concept
venture labour, which explains why cultural workers take risks. As Neff says,

Venture labor is the investment of time, energy, human capital, and other personal
resources that ordinary employees make in the companies where they work. Venture
labor is the explicit expression of entrepreneurial values by nonentrepreneurs. Venture
labor refers to an investment by employees in their companies or how they talk about
their time at work as an investment. When people think of their jobs as an investment or
as having a future payoff other than regular wages, they embody venture labor. Venture
labor is the way in which people act like entrepreneurs and bear some of the risks of their
companies (p. 16).

Discourses surrounding entrepreneurship and risk have permeated industry cultures and the
personal lives of those who work in cultural industries. Neff (2012) highlights that the problem is
not necessarily risk, as is associated with venture capital, but uncertainty. This is an important
distinction because entrepreneurial values of investing time, energy, human capital, and other
personal resources, tend to be performed by gamemakers outside of full-time employment as is
evident in their low pay, long hours, and lack of job security.

Kathleen Kuehn and Thomas C. Corrigan (2013) introduce the concept of hope labour:
described as “un- or under-compensated work carried out in the present, often for experience or
exposure, in the hope that future employment opportunities may follow” (p. 9). Hope labour
accounts for the free labour cultural workers invest in exchange for the possibility of becoming
employed in their profession. Their definition of hope labour is different from Neff’s (2012)
definition of venture labour because “we ultimately know that the realization of our hopes is

fundamentally beyond our control” (p. 17). This distinction boils down to a perceived lack of agency with hope labour and a perceived abundance of agency with venture labour. Kuehn and Corrigan (2013) rightly point out that the cause for the rise in the use of hope amongst cultural workers are that the “contexts of precarity and alienation have created ripe conditions for hope labor’s proliferation” (p. 16).

The willingness to accept poor working conditions is not unique to professional developers and cultural workers. In my ethnography, I found numerous instances where everyday gamemakers placed themselves in precarious working situations just so they could make digital games. Precarious working conditions include low pay, long hours, lack of job security, poor work-life balance, and overextended mental and physical labour (Hesmondhalgh & Baker, 2011). While job security and social welfare are priorities for my research participants, being involved in the processes of digital game production trumps all. These rules of engagement, the formal working conditions of the video game industry, are what many everyday gamemakers believe game development to be. In the next few sections, I outline the working conditions in some of the spaces where digital games are produced in the Toronto scene in relation to the labour, risks, and hopes of these everyday gamemakers. I argue that as everyday gamemaking expands into work and leisure contexts, gamemakers are renegotiating the rules of engagement and creating their own informal working conditions, which represent both traditional conditions of the industry and ideal conditions that reduce precarity and alienation from the processes of game development.

5.2 Informal Working Conditions

During my ethnography, I encountered a range of gamemaking activities, which enabled gamemakers to renegotiate the dominant development processes of making digital games.
Gamemakers were presented with a set of established, pre-defined, and normative working conditions, which represent the standard and expected practices of digital game development. While it is easy to overstate how gamemakers create their own working conditions, what I found were a community of cultural workers that create digital games while finding ways to both enjoy and establish themselves as creatives. In many ways, they perpetuate industry expectations and perceptions of digital game development, but in other ways they shape available working conditions into leisurely settings, which enable them to make games on their own terms.

I refer to these renegotiated terms as informal working conditions: the process through which workers appropriate and “make-do” (de Certeau, 1984) with the working conditions at their disposal to create cultural products. This is not to say that gamemakers are completely autonomous in how they make digital games; rather, they make-do with the available working conditions of digital game production to negotiate their own gamemaking practices. In a professional game development setting, such as studios and companies, where employees sign legal contracts that stipulate their working conditions, there is little room for adjustment beyond the initial contract negotiations (Legault, Weststar, & Tô, 2017). Professional game developers still have opportunities to appropriate working conditions to their own benefit, such as flexible work-hours, but autonomy becomes increasingly limited the more closed a company or studio becomes through legal agreements, such as signing non-disclosure agreements and non-compete clauses in employee contracts.

While previous literature has drawn attention to these professional video game industry settings, such as playtesters (Bulut, 2015a, 2015b), factory workers (Kline et al, 2003), developers (O’Donnell, 2014; Weststar, 2015), independents (Whitson, 2013; Joseph, 2013), amateur gamemakers (Vanderhoef, 2016), and marketing (Kerr, 2016; Nichols, 2014), in this chapter I draw attention to the more leisure-based gamemaking activities that reflect ways in
which gamemakers renegotiate these rules of engagement. When there are fewer legal contracts, obligations, and expectations enforced upon gamemakers, there is more space and time to choose and perform desirable working conditions. Not all gamemakers will choose the most desirable working conditions, as they themselves perpetuate many of these precarious conditions, such as crunch at the game jam. But gamemaking has become an everyday activity through the availability of tools, resources, and places to make digital games. This means that leisure-based activities and practices of gamemaking are rapidly redefining what it means to make a digital game. As such, there are a variety of informal working conditions where gamemakers create digital games. The remainder of this chapter focuses on the environments in which these informal working conditions take place, such as game jams, coworking spaces, the home, the workspace, and third place. I examine how gamemakers are developing their own informal working conditions and renegotiating what it means to make a game as everyday cultural workers within the wider video game industry.

5.2.1 Game Jams

As I discussed in chapter 3 on scenes, gamemakers participate in several Toronto game jams: TOJam, Toronto Global Game Jam, DMG quarterly game jams, ROM Jam, Ludem Dare, and a variety of one-off and independent game jams organized by post-secondary institutions. These game jams are one of the unique features of the Toronto scene, and set it apart from other cities around the globe with gamemaker communities. Christine summarizes the importance of these game jams as “opportunities for growth and for learning.” As Christine says,

Toronto’s got—as far as I’ve heard—probably one of the coolest game jam scenes ’cause we have TO Jam every year, we used to have ROM jam, I think now this past year was the last ROM jam. And we host [Toronto] Global Game Jam as well. So, there are a lot of jams and we—they’re a big deal. Like most other places it’s like “oh you know the jam was like 40 people this year” and it’s like we had like 400 [people], you know. Toronto game jams are a big, big deal. You don’t really see that nurtured in a lot of other places.
So, definitely a lot of opportunity for growth and for learning. That’s I feel like one of the best parts about being a game developer here (Christine, Interview 3, 5 November 2015).

TOJam and the Toronto location of the Global Game Jam are both held in George Brown College’s School of Art and Design, where approximately 400 people fit into classrooms throughout the entire building over a weekend. The proximity of so many gamemakers means there are opportunities for networking, collaboration, and personal development to learn new skillsets. This means that a range of gamemakers, coming from various work and leisure backgrounds, are interacting, sharing, and learning from one another.

To participate in game jams, gamemakers submit their basic contact information along with their team name, if they are collaborating with others, and a brief proposal for their digital game. Some demographic information is also recorded, such as whether the team comes from a studio, school, or hobbyist background, to enable the organizers to balance the numbers of accepted attendees. While working on one digital game is typically enough for most gamemakers at a game jam, there are others who will join multiple teams to work with a variety of colleagues. Cody, for example, organized to work with multiple teams by initiating a call for potential collaborators on Facebook. As Cody says,

So, I don’t know exactly how TOJam’s going to work. I know I’m hoping that this is going to be a lot of intermingling between the games and people to help out on a few things, and I’m hoping that in total we have like three or four games between all of us that get finished. I think that’d be really cool. I haven’t talked to all of people about it I just put out an open thing on Facebook being like “hey, any wants to join our team? Feel free” (Cody, Interview 2, 22 April 2015).

A more common practice at game jams are floaters: gamemakers with specific technical expertise who float around between different teams at game jams. Typical floaters at game jams

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48 When I applied to attend a game jam, they typically required that you specify if you were a professional, hobbyist, or student game developer.
are music designers and sound editors, and art and graphic designers; essentially, the people that make all the audio-visual assets for digital games. Game jams are extremely short time frames for gamemaking, which means gamemakers hope to spend more time designing and refining their digital game than creating content for it. Asset marketplaces have been particularly useful in this regard, but gamemakers still want to include assets that give their game a unique look and feel. Floaters rapidly create assets for teams by request and have their name included in the game credits. As such, it is not unheard of for a floater to be featured in over a dozen credits at one 48-hour game jam.

In many ways, game jams are places for gamemakers to work with others, demonstrated by Cody’s experience and the collaboration of floaters. But Lisa also talks about how game jams can be places where gamemakers experiment with potential partners on more long-term game projects. As Lisa says,

… we both knew that we both wanted to make games and stuff, but we never worked together and we figured this would be a good chance to try it out. So, we're kind of just doing a practice run and to see if we can actually work together. If this doesn't work out then we can forget [working after] the game jam all together (Lisa, Interview 2, 23 June 2015).

Though game jams are intensive gamemaking sites, most gamemaking takes place over months, even years. It is rare for a gamemaker to make an entire digital game by themselves. Depending on their own expertise, gamemakers typically require a partner to work on either the programming or art and audio assets because they lack expertise in one or several areas. Gamemakers like Lisa thus need to collaborate with others over extended periods to complete their game project. Sometimes conducting a “practice run” at a game jam is perceived as a low-cost option to assess whether someone is work-compatible for long-term projects.

Working with gamemakers is not the only experimental aspect of game jams; gamemakers also experiment with concepts that they know would not be feasible in any other
work environment. Cody talks about a concept for a game his team were going to make at

TOJam. As Cody says,

It’s just a game where you are vacuuming underneath couch cushions. Yeah, cause during the summer before moving into my new place, getting my partner’s, their parents’ couch and it was like really gross, and there was a ton of stuff and I don’t know if it had ever been cleaned. So, it was a bunch of stuff underneath in the cracks, like underneath the cushions… Plus, it’s minimal code, like I only really have to do like, sort of like, a physics simulation, plus point scoring, and then just do basic game loop menu and shit. So, I mean that should be easy enough for me to get done within the first day and then that’ll leave I guess whoever’s doing 3D modelling for it, I know my friend [name] is but if anyone else is as well they can just like keep jamming out on assets (Cody, Interview 2, 22 April 2015).

Game jams allow gamemakers to experiment in a low-risk environment. The brevity of game jams means professional gamemakers that typically have working hours Monday to Friday can participate without risking their job security.

However, there are other risks at game jams. The intensity and limited-time to develop a digital game means that gamemakers are crunching more hours into their game than they typically would working on other game projects. Benjamin discusses how he would not pull an all-nighter at the upcoming Toronto Global Game Jam. As Benjamin says,

Yeah, usually we just come here at like 5 o’clock. Stay here. I won't pull an all-nighter the first night. You go home. I don't think I'll pull an all-nighter this year at all. Cause its just, I just want to take it easy. But, but usually we pull all-nighters the second night. Then, yeah I don't know, you just come in early, do work. Pretty relaxed I think. Some people just stay here the all 24/7 (Benjamin, Interview 1, 16 January 2015).

Though the game jam is a relatively risk-free work environment for gamemakers, game jams and its participants perpetuate some of the notorious working conditions of the video game industry. Game jams, in many respects, are trial runs for gamemakers to see if they can cut it as professional game developers.
5.2.2 Coworking spaces

In recent years, an alternative workspace has emerged in urban areas with active cultural and technology industries: coworking spaces. Coworking spaces are shared workspaces for cultural workers to perform the day-to-day activities of their creative craft alongside peers and colleagues. In some cases, coworking spaces are shared by cultural workers within the same industry or profession, but in most situations these spaces are shared by individuals across similar sectors, such as the game, software, and mobile app industries. Alessandro Gandini (2015) notes how contemporary notions of coworking spaces originated in San Francisco, 2005, and have since taken hold as an alternative “third way” for freelance and independent workers to develop their cultural products. Coworking, the practice of working individually within a shared environment, rather than co-working, the practices of working with others on a shared project, became an alternative environment through which cultural workers could work on their projects outside of workspaces, the home, and third places. In several ways, these coworking spaces allow cultural workers to opt-in and opt-out of industry-based working conditions, so they can establish their own work-life balances between the home and the workspace.

Several coworking spaces have emerged throughout Toronto providing space for freelancers, independents, and other creatives to work on their cultural products. For gamemakers, the Bento Miso Collaborative Workspace is currently the only coworking space that places an emphasis on the creation of games. Members subscribe to monthly membership plans that give them access to the coworking space.49 The coworking space provides Wi-Fi

49 Membership plans include: “Supporting” that includes a $60-a-year membership fee to support the coworking space without any personal benefits; “Cohort” that includes a $35-a-month membership to use the coworking space 1 day per-month, 1 hour for meetings per-month, and a 15 per cent discount on renting the space; “Standard” that includes a $95-a-month membership fee to use the coworking space 5 days per-month, 4 hours for meetings per-month, a 25 per cent discount on renting the space, and eligibility for the coworking health insurance plan (COHIP); “Unlimited” that includes a $295-a-month membership fee to use the coworking space unlimited days per-month, 12
internet access, wireless printing, shareable desks, chairs, power outlets, and a constant supply of complimentary coffee, tea, and water. Bento Miso provides the utilities of a working space, albeit without the hardware and software, which would typically be provided by a game studio; members show up with their laptops, power cables, and whatever game engines and software they need to build their digital games. While the space is not solely used by gamemakers, they are the dominant group of cultural workers using the space.

Based on the digital games they would showcase at Games with Friends and other social activities hosted by Bento Miso, the paying members appeared to be independents working on game titles to be distributed on major platforms, such as the App Store and Steam. Clay was a Cohort Member who would use the space at least once a month to work on his digital games. As Clay says,

I started going to Bento Miso every two weeks. I was kind of on a schedule of going to Bento Miso every two weeks. And that ended up being a really big turning point because then I was meeting game designers on a regular basis and having conversations with them and out of that emerged a sort of [make] one game a week sort of approach that I took for a couple months. And that was another turning point, was just deciding I’ve got to make something new every week and I did that for like a month, I made a whole bunch of prototypes, which are all games that I’m going through the motions of releasing now (Clay, Interview 2, 30 April 2015).

Clay’s primary space to work on his games was his office at home, but he found having another workspace to use where there were other gamemakers enabled him to get feedback on his games, network and potentially collaborate with others.

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hours for meetings per-month, a 50 per cent discount on renting the space, and eligibility for COHIP; and “Dedicated” that includes a $395-a-month membership fee to use the coworking space unlimited days per-month, 12 hours for meetings per-month, a 50 per cent discount on renting the space, eligibility for COHIP, and an assigned desk and storage (Bento Miso Collaborative Studio, 2017).
In a later interview, Clay talked about the importance of the social activities at Bento Miso, such as Games with Friends, where he would work on making prototypes with the gamemakers he had become friends with during his time there. As Clay says,

So I’d say my main thing right now is Games with Friends at Bento Miso. I have a set of friends that I hang out with at Games with Friends and we all keep in touch and so sometimes we’ll just get together in small groups for things. My best friend is a game designer and sometimes he and I just get together to work on making little prototypes together and talk about games and stuff. So I would say that’s the bulk of my socializing (Clay, Interview 3, 1 July 2015).

Coworking spaces are not just “community-like environments” of cultural production (Gandini, 2015), they are also workspaces and social hubs, which complement the other spaces used by cultural workers. While Clay did not use Bento Miso on a day-to-day basis, the coworking space provided him with a community of gamemakers that he could not access from his primary working space at home. As such, it fulfilled a social need that was unfulfilled from his home: the ability to network and collaborate with other gamemakers in a working environment. Though the Toronto scene provides a variety of spaces and activities for gamemakers to fulfill this social need, Bento Miso also provides a coworking environment for gamemakers to also work on their digital game projects.

5.2.3 Home

As is the case for Clay, the home takes part in some aspect of gamemakers’ activities, particularly for their more leisure-based gamemaking projects. For some gamemakers, the home represents a primary venue for making digital games, especially for gamemakers running their own company like Benjamin and Clay. Though the home is traditionally envisioned as a private space for domestic and familial activities, it has also been used as a space for leisure. While the space is frequently used for work, whether by freelancers or after-hours office workers, the leisure-role the home can play means that gamemakers, who are not necessarily working on their
professional game projects, use the space to experiment and develop their knowledge and
gamemaking experiences further.

George talks about the importance of the home for him as a space to work on his digital
games. As someone who works full-time for a software company, George has limited time to
make digital games. While he admits, the home is not the ideal space to actively work on digital
games, it is his only feasible option. As George says,

Yeah, typically it is at home. I have the resources there, I have the good Internet
connection. On occasion I’ve gone out to, you know, public library—I don’t usually go to
cafés too much though I’m maybe starting to a little bit more. But really, yeah, you need
a good Internet connection, you need good access to documentation, you need the time
and the sort of focus. Previous years occasionally I would go to school and work on it
there. Since I’ve left school I don’t really do that as much. I think if I were to actually go
full-time I would not work from home I would probably rent a desk out at some place
like Bento Miso or something or at the very least like try and get out as much as possible
because it is not a very productive sort of space for me (George, Interview 3, 8 May
2015).

George primarily makes games in his spare time. Though he does aspire to make games
professionally one day, using other spaces like Bento Miso is not a feasible option at the present
because of the monthly fees required to use the space: $60 CDN for one day per month, $95
CDN for five days per month, and $295 CDN per month for unlimited use (Bento Miso, 2017).
As such, having his laptop, space, and an internet connection is all he needs to work on his
digital games.

As noted earlier, Clay prefers to use his home for all his game projects. As Clay says,

Well I’ve got an office in my house. It’s my own room, I’m allowed to close the door and
I really work hard to get my life into a very specific routine. I’ve worked the same hours
at my job for almost ten years. I’ve not, and when that has been threatened in some small
way I’ve made sure that it’s not changed, which is maybe not good. But it’s worked for
me, it’s allowed me to have the same kind of hours every day for a long time. So, habits
are really powerful. If you’re doing something every day, if you force yourself to do
something every day, eventually you get to the point where you don’t have to force
yourself any more it just happens automatically (Clay, Interview 2, 30 April 2015).
While his home is not a workspace, Clay has transformed his office into a formal workspace through habit and ritual. Clay spends his mornings every day Monday to Friday in his office working on his game projects before going to work in the afternoons as a private tutor. As I discuss in Chapter 2, Clay also created a company for his released digital games, which meant he could deduct expenses on his annual tax returns by filing a T2200 form for “Declaration of Conditions of Employment” (Canada Revenue Agency, 2016). To be eligible for these tax credits the workspace must be where more than 50 per cent of work is performed, or the workspace is used to earn employment income (Canada Revenue Agency, 2017). Clay can deduct portions of his electricity, heating, maintenance, property taxes, and home insurance costs, as well as purchases of office equipment, such as computers, software licenses, and other tools and resources required for his digital game projects. In many ways, Clay’s office is no longer a part of his home, but is simply located there.

In many professions, workers often take their work home with them after their office closes for the day. Though taking work home may be a frequent occurrence in other industries, it is an irregular practice in the video game industry (O’Donnell, 2014). Workers at professional studios and publishers are required to sign non-disclosure agreements, which prohibit the discussion of game projects with other gamemakers and the media (Dyer-Witheford & de Peuter, 2009; Kerr, 2017; Kline et al, 2003; O’Donnell, 2014). Many studios only provide access to the company’s resources, builds, and tools via cardkey accessed rooms (Schreier, 2014c). This prevents the possibility of game builds and content getting released through hacks or the misplacement of company property, which can very well happen at home. However, this does not prevent gamemakers from working on other game projects, which they hope to show off to their employers. As Cameron says,
So, I’m at a day job, there is opportunity, but it’s hard to get and also you’re going to have to work really hard and sacrifice a lot to get it. And plus, you’re not going to get any respect for doing those things. So, I’m not even sure if it’s a good idea to do. Like for example, I could continue this project I worked on because I was like “hey, I know, I’ll make a game and then they could sell it, and then it’ll be great and then we’ll have, and then we’ll have another game to sell. Yeah!” And then I made a prototype that was actually, probably fifty per cent complete, and I showed it to them and I was like “hey could you give me like an hour or two every day to work on this?” And they said “No, but why don’t you take it home and work on it on your own time and then we’ll sell it, which means we own it and we don’t really give a shit. Or we own it and we don’t really give a shit, you can waste your time if you want, we’ll benefit,” which means there’s no problems with anything there. So, after briefly wondering what the hell am I going to do it was basically, the answer was basically stop working on it and start again at home where you’re not working to try and give people inspiration, be like “look we can make a cool game, we’re going to make a cool game together.” It’s like “nope we don’t have the funding to give a shit right now” (Cameron, Interview 1, 4 February 2015).

Cameron was a playtester at a studio, even though he had a post-secondary education in game design and development. The frustration of not being able to work professionally on digital games meant that he had to either work on his own game projects from home or create an opportunity where he could work on games at his studio. Cameron developed a prototype and was unsuccessful at convincing his employers that this was something he could work on for his studio. There are stories littered throughout the video game industry about how one person within a studio was the original creator of a digital game title, such as Jonathan Blow the creator of Braid and Phil Fish the creator of Fez, but these stories are few and far between, creating a false sense of realistic achievability for aspiring gamemakers. What made Cameron’s experience with his studio interesting was that after his pitch had failed he realized that the only way he was going to make digital games was to do it from home, outside of his studio’s purview.

5.2.4 Workspace

While not all gamemakers work for studios and companies in the video game industry, many gamemakers use their workspace to perform gamemaking activities. Though Clay was
unsuccessful in pitching his digital game to his employers, Christine was successful in working on downloadable content (DLC) for her company’s game. As Christine says,

So, [name of gamemaker] and I did a DLC basically by ourselves, we had our buddy [name of gamemaker] help us programme it because [name of gamemaker] was like—anyway now he’s back in the country—but he was out of the country for a good while… I’d love to continue to work on this but you know if [name of gamemaker] doesn’t have any work for me, the DLC kind of wasn’t really all that successful, we didn’t really make that much money from it because we didn’t really have the means to market it properly. We sort of, we spent so long on it, it almost feels like we didn’t really make back what we—we didn’t really make back the amount of like time that we worked on it essentially with you know the sales of the DLC. So, it’s really risky. Like we put in all that work and we didn’t really recover the, essentially the burn period. We didn’t recover that burn period back (Christine, Interview 1, 9 May 2015).

Christine was incentivized to create her own DLC for the digital game along with a return of increased royalties on any sales made from the release of the DLC. The opportunity to design her levels and receive additional royalties appealed to Christine, but as she said, the release of the DLC was unsuccessful and she did not receive a financial return on the amount of time she spent on the game. For the independent game developer, this was a low-risk gain as he did not have to pay Christine to create the additional levels. Moreover, he got the added experience of having someone develop additional content who was highly familiar with the games design, its narrative, aesthetic, and content. For Christine, this was “really risky” because there was no guarantee her efforts would be rewarded. As such, she realized that the only way she was going to achieve financial stability was to apply for a position at a studio, which paid her a salary or through an hourly rate.

In a later interview with Christine, she had recently been employed by a major mobile publisher at their Toronto studio. She discussed the flexible work-hours there:

You can come in essentially like as early as seven in the morning if you want to, but you have to be in before ten o’clock. And then basically you’re in the office for nine hours after that. So, basically as long as you’re in the office between the hours of ten and four, right? Just to, like, allot for, you know, meeting time and stuff like that. Like we’ll have what we call “scrums” where the team will meet up in one central area and the producer
Many workers hope to achieve flexible work hours in their workspaces. At Christine’s studio, there is a window between 10am and 4pm where employees must be physically at the studio for meetings and other development activities. The rest of the time they are expected to work on their assigned duties, whether its asset creation, game design, or programming. However, these flexible workhours can also be a double-edged sword where workers end up staying late to work on their studio’s games. Christine would frequently stay at the studio until the late hours of the evening to complete the assignments she had been given during these mid-day scrums. This “burn” or “crunch” period went on for months as they were approaching the release of their digital game. While Christine was hesitant to refer to these working conditions as “crunch” in our interviews, these extended workhours meant she had little free time during the weekday evenings. Our evening interviews were constantly rescheduled to accommodate these “flexible hours” and it was only after months of cancellations that we ended up meeting on weekends to conduct our interviews—a time when she was not expected to go into work.

Michael also talked about the flexible hours at his studio, and how they enabled him to work on other activities outside of his main duties as a quality assurance (QA) playtester. As Michael says,

It’s a really relaxed job. Like we’ve already launched our products, so we’re going into post launch support. We get to hang out, like test our games and I get to like do documentation work on my own stuff for a fair bit of time when we have down time. I get like, I can come in whenever I want as long as they get 7.5 hours of work each day. I mean like by any time I mean like any time before 12, like something that’s reasonable… I actually just pitched one of my [digital game ideas]. I sat down with—the cool thing about it is like it’s one of those jobs where you pay your dues at QA and then you can move on to like a design job or whatever or an artist role. And so, I talked with my boss...
and I pitched a game to him, just a random game not that one, pitched a game to him, hung out with him, like, did a design brainstorm with him and he knows what I’m about and he told me “hey, so keep making prototypes, show me what you’re working on and in April there’s probably going to be an opening in our research and development division and I might promote you to there” (Michael, Interview 2, 17 March 2015).

Unlike Cameron, who was told he can work on his game projects from home, Michael was told to work on them from the studio. In this instance, Michael goes through a different version of “flexibility” where he must complete his 7.5 hours of his QA playtester responsibilities, but he can also stay at work longer to develop prototypes for the studio. Michael still had to seek approval to work on these prototypes as the studio would have to grant him access to the game engine, tools and resources, but all the risk is placed on Michael. Michael works the extended hours, risking not only his health and available free time, but also the possibility that he may not complete his QA playtester responsibilities by working on these prototypes. The studio gets the benefit of having an employee develop a potentially innovative digital game, which it can profit from—all for the promise of suggesting that Michael “might” get a promotion within the company.

5.2.5 Third Place

Between the home and workspace are a range of spaces where gamemakers work on digital games, such as cafés and libraries. Ray Oldenburg (1989) defines these spaces as the “third place:” a “generic designation for a great variety of public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work” (p. 16). These third places frequently include bars, parks, libraries, and cafés; spaces that are not limited to forms of exclusivity. Although game jams and coworking spaces are beyond the realms of home and work, they are exclusive sites of gamemaking, which require registration and approval, as well as monetary paywalls of entry and monthly to annual subscriptions. For
most gamemaking activities in the scene, third places are heavily utilized for organizations to host their events.

Though the home is the primary site of gamemaking for Lisa, she considers cafés to be her second home to work on her digital games. As Lisa says,

> Usually I work at home because I guess it’s just the most convenient. I’m already there, I don't have to worry about getting to a place to start it [working on my digital game], making sure there’s room or whatever. I can sit down and just start right away. And sometimes I have to do it in between something. So, if I do 10 minutes, 20 minutes, and then I need to start laundry, and then I can sit and work in my den or whatever. But next to that I go to Starbucks sometimes on weekends or evenings. That’s usually if I just want a break from my house or whatever. And it's nice to just focus and you're there for a reason, so I don’t get sidetracked as much with laundry [laughs], or anything else. And on my last job I have a laptop at work, and everyone took their laptops home, it was fine you could do whatever you want with it. So, at lunch I would again bring it to Starbucks. I always go to Starbucks, not always, but usually because they have Wi-Fi, there is almost always a little bit of space, at least good space. Honestly, I also like the music that they play [laughs]. At least at the Starbucks near my work, which is very relaxing (Lisa, Interview 3, 24 September 2015).

Sometimes working from home can be difficult, especially if there are domestic chores, which need tending, like laundry. For Lisa, the café represents an alternative space to her home for working on her digital games. In some situations, it represents the only space; this is the case when she goes to Starbucks on her lunch break from work and does not have enough time to go home. These third places are frequently appropriated by gamemakers in working on their digital games. Third places may not be the primary sites for creating digital games, but they represent alternative spaces when other options are affected by other work, domestic, and social activities.

Public libraries are other important third places in the scene. Though providing the primary service of information resources, such as books and other media, libraries also provide space for patrons to use. In the scene, libraries were frequently used to host events, such as festivals and workshops, but for gamemakers, they are also used as space to work on their digital
games. Michael discusses how he uses libraries because of how they remove distractions at home and multitasking at work. As Michael says,

> Working on your projects at work is a bit of a pickle. Like I sometimes do it when I need to get stuff done for a build you know just in your break room or at your desk just make sure you’re not annoying or like you know not annoying or distracting anyone else. So that’s fine. Libraries are also really good. Working at home can be challenging ‘cause of all the distractions, working at a library like removes all those distractions but you know you don’t have the—usually you don’t have a standing desk. I know at some libraries that accommodate those but usually not for tall people such as myself. But yeah, it’s good (Michael, Interview 3, 29 June 2015).

While libraries are not coworking spaces, many of the people who use them treat them as their workspace, which consequently creates a shared working environment. Many patrons also use libraries for leisure activities, which in turn transforms this third place into a shared space of work and leisure—ideal for gamemakers working on projects who shares their roots in both spheres. Ultimately though, libraries are not primary venues of gamemaking, unless they host game jams and other intensive gamemaking activities, such as the Hand Eye Society’s WordPlay Festival that is typically held at the Toronto Reference Library.

Bars are another third place used by gamemakers to work on their digital games. One evening when I was out with friends, we went to a bar in Queen Street West. Towards the end of the evening, Michael walked in and went up to the bar. He ordered a pint of beer, opened his laptop, and started coding on one of his digital games. As I was about to leave with my friends, I went up to him and briefly chatted with him about his digital game. He showed me a current build of the digital game, which he would later release on the App Store. In a later interview, I asked him about this encounter after he explained why he sometimes goes to bars to work on his digital games. As Michael responds,

> Michael: Bars are also really good, I occasionally like going to bars ‘cause they usually have Wi-Fi, you can get coffee, but you can also get a pint if you want.

> Chris: That’s where we ran into each other.
Michael: Exactly! Exactly. There’s absolutely nothing wrong with having a few beers and then coding, and anyone who tells you otherwise is wrong, absolutely wrong (Michael, Interview 3, 29 June 2015).

In almost all working environments, the consumption of alcohol is prohibited during working hours. When it comes to off-work hours and leisure-based activities, there are no official rules governing the consumption and enjoyment of drinking alcohol while making digital games. Michael enjoyed working on his digital games and working in an environment that has Wi-Fi, food, and alcohol was desirable. As was the case of libraries, bars are also not primary venues for gamemaking. Like other third places, bars are alternative spaces, which provide many of the amenities and facilities necessary for working on digital games, such as Wi-Fi, power outlets, food and drink, and most importantly space.

5.3 Conclusion

The working conditions of the video game industry have frequently been criticized by gamemakers, the media, and scholars. From 2014 to 2015, the games news website Kotaku published a series of articles, accompanied by letters from former professional game developers, detailing the numerous layoff stories and abysmal working conditions of digital game workers (2014a, 2014b, 2014c, 2014d, 2015). The letters from these professional game developers highlighted the precariousness of working within a cultural industry based on the financial success of digital game titles. Moreover, it emphasized how studios frequently turnover their staff through layoffs and rehires to accommodate the unpredictable business cycles of digital
game development. But as I argue throughout, not all gamemakers are professional, and not all gamemakers make commercial-quality digital games. Many, if not most global gamemakers, create digital games in predominantly leisure-based spaces, which means they are not necessarily engaging in industry labour practices and working conditions.

This chapter discusses how gamemakers negotiate with the traditional rules of game production and develop their own informal working conditions by appropriating the practices and spaces ideal for their gamemaking projects. The production of digital games is intensive and the most demanding stage of game development. As such, it is important for many gamemakers to find space and time to work on their digital games—to find ideal working conditions. As all my research participants had a combination of work and leisure-based gamemaking projects, there were no typical environments of digital game production. In most cases, they juggled between spaces to work on their digital games as their status of gamemaker identity, and the needs of their projects, required. They created flexibility in the hours they worked, opportunities in the digital games they made, and comfort in the spaces they used. But these informal working conditions were frequently packaged with an increase in workhours and additional risk with no guarantee of opportunity and success. This exchange between increased flexibility and risk was all in the hope of potentially improving their situation in making digital games.

Renegotiating the rules of engagement is not unique to gamemaking, nor the cultural industries more broadly. All creative-based activities share practices, which can be found in work and leisure environments of production. Gamemakers at studios will find ways to make their work more flexible and autonomous, and gamemakers at home will find ways to make their

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50 Once most a digital game’s content is produced studios tend to layoff workers to reduce their ‘bloated’ workforce. When the studio begins to work on their next digital game title, they go through another process of mass-hirings, only to let most of the staff go when the project nears completion.
products more professional and applicable to their industry. In many of these blurred spaces between work and leisure, cultural workers find themselves risking their work-life balance in exchange for the ability to make their products under the conditions they want. As the video game industry develops over the coming years, we will increasingly see these hybridizations of work and leisure-based gamemaking in a variety of spaces. In some ways, these hybridizations have already begun to appear with in-house game jams taking place at studios, and studios closing their offices and subscribing to coworker spaces and coordinating their projects from home. But as these informal working conditions become reappropriated and internalized by the video game industry, what affects will they have on everyday gamemakers? There are more gamemakers than ever at the present, and as these gamemakers continue to take risks in exchange for flexibility, they will continue to expose themselves to precarious working conditions from a weaker and weaker position of negotiation until there is little maneuverability for them to make digital games the way they envision.
Chapter 6
Release

“You don’t finish games, you release them.”
— George, Interview 1, February 1, 2015

6 Distribution

Since the opening of the Apple App Store in 2008, an abundance of digital platforms such as the App Store, Steam, and itch.io have emerged for the distribution of digital games. Nick Srnicek (2017) argues that digital platforms, more broadly across the tech and cultural industries, have “emerged as a new business model, capable of extracting and controlling immense amounts of data, and with this shift we have seen the rise of large monopolistic firms” (p. 6). Srnicek describes how these platforms “position themselves as intermediaries that bring together different users: customers, advertisers, service providers, producers, suppliers, and even physical objects” (p. 43).51 In the context of the video game industry, the platforms managed by these large firms include, but are not limited to, the PlayStation Store by Sony Interactive Entertainment, Xbox Live by Microsoft Studios, Steam by Valve Corporation, Google Play by Alphabet Inc., Nintendo Game Store by Nintendo Co., Ltd., and, of course, the App Store by Apple Inc. Their proliferation for the distribution of digital games, particularly downloadable games onto consoles and mobile devices, have made them desirable venues for everyday gamemakers to sell their produced digital games.

51 The research discipline platform studies investigates the underlying computing systems of digital platforms and how they enable, constrain, shape and support the creative work that is done on them (Bogost & Montfort, 2009: Montfort & Bogost, 2009). While platform studies is a useful lens to analyze digital platforms, in this chapter I focus on gamemakers’ experiences distributing games on these platforms and do not specifically examine the underlying computing systems themselves (i.e., computer code).
According to Tarleton Gillespie (2010), the term platform has a semantic richness that positions it as a computational and architectural object, while also placing it within a specific sociocultural and political context. Van Dijck (2013) further expands on this definition, arguing that a platform is a mediator rather than an intermediary: “it shapes the performance of social acts instead of merely facilitating them” (p. 29). Daniel Joseph (2017) argues that platforms “create a space in which specific forms of exchange can occur, and set the terms for those exchanges, all while extracting rents.” A thread running through these discussions on the emergence of platforms is that their presence has created a juncture in the acquisition and distribution of cultural products, not just digital games. Further, these platforms create their own material and legal limitations that ultimately shape the finally released cultural product: they create computational structures that allow for a specified format to be released; and they develop and maintain a culture of legal practices in the form of community rules and signed agreements that dictate the type of cultural product to be released and any potential remuneration for its creators.

However, it is not just the large publishers that have developed online platforms for the distribution of digital games; community websites that host digital games to be played on browsers or downloaded onto Windows operating systems can be considered a platform. In most cases, gamemakers computationally and legally tailor their digital games to the distributor’s platform, such as coding in a specific programming language or removing images and language that breaks house rules, such as overly-sexualized images and hate speech. These computational and legal barriers to entry make many of these distributors inaccessible to most gamemakers and potentially prevent certain genres of digital games from being released (i.e., pornographic, social justice, and LGBTQ games). As such, most gamemakers self-publish their digital games,
distribute them using their personal websites or online communities with shared interests and digital game genres.

Four primary forms of distribution currently exist: online, mobile, software, and console in the video game industry. Online distributors are websites that include their own networked environment. Mobile distributors are portable hardware that include their own software and networked environments. Software distributors operate on a variety of hardware that include their own networked environments. Console distributors are exclusive hardware that include their own software and networked environments. These types of distribution are not mutually exclusive and do overlap in interesting and nuanced ways; for example, consoles rely on software and online environments to distribute digital games and have a history of developing exclusive mobile platforms, such as the Nintendo 3DS and PlayStation Vita.

It is only within the last two decades that online venues of digital game distribution have emerged and become an integral part of the formation of mobile, software, and console forms of distribution. While digital games are still published and manufactured on physical discs by some distributors, digital games are increasingly released via digital distribution, connected to online environments. Online distribution has become the mainstay of contemporary digital game distribution. As born-digital objects (Kirschenbaum, 2008), digital games have not only come to rely almost exclusively on the internet and its connected resources for their creation, but also for their distribution.

In this chapter, I focus on these four types of distribution and the predominant platforms of distribution used by Toronto’s everyday gamemakers. While the video game industry is a global industry, geopolitical legal environments influence the types of distribution available to gamemakers and how far their digital game is potentially released. As such, digital distributors accessible to Toronto gamemakers tend to be English language and North American-based. In
many instances these distributors complement some of the organizations located in Toronto, such as DMG’s Codex for community digital games and projects. In most cases, these distributors are physically remote from gamemakers’ local, which makes it a challenge for gamemakers to negotiate the conditions of their digital game release. Gamemakers are typically hidden behind universal developer agreements that make it difficult for the gamemaker to not only maintain their authorial intent, but also their legal rights to the digital game’s copyright and any potential income through the promise of royalties.

While venues of distribution have significantly expanded to allow the everyday gamemaker to release their digital games, this development has had the reciprocal effect of creating an era of what I call penny dreadful games. Penny dreadful refers to the cheap and popular literature that was published and widely disseminated in nineteenth-century Britain (Springhall, 1998). Printing presses had become so accessible, and the materials to print had become so cheap, that an explosion of published everyday writers emerged (Raven, 2015). Today, with the availability of everyday gamemaking tools and resources alongside the expansion of digital forms of distribution, a penny dreadful era of digital games has emerged. Major digital game distributors are frequently criticized for the number of poor-quality games they allow to be released on their platform. This does not mean that all games submitted to these platforms are poor-quality as is typically associated with the term penny dreadful; rather, the abundance of digital games on these platforms is due to similar conditions established by the industrial printing press in the nineteenth century (i.e., a proliferation of accessible and free game engines). For example, Steam, by the Valve Corporation, recently dumped its former submission system Steam Greenlight for Steam Direct that increased the monetary paywall for gamemakers submitting their digital games. Valve suggests it will remove the $100 submission fee for a developer to a system where it will cost from $100 to $5000 per digital game submitted. Valve
has said this “is intended to decrease the noise in the submission pipeline” (Alden, 2017); implying its new distribution model will remove the gluttony of digital game submissions. As such, the statement that “anyone can make a game” is both met by players and the media with praise and criticism in this environment of rapidly created and released digital games.

These emergent forms of online distribution have also unintentionally created a testing ground for traditional platforms to select grassroots digital games for mainstream distribution. Within these pools of penny dreadfuls are popular digital games that get selected for mass-distribution. Traditional platforms will recruit gamemakers who have acquired a mass of followers and players to release their digital game on their established, and perhaps, prestigious, platform. Throughout this distribution process, gamemakers adjust and develop their digital games initial design, code, and assets to meet the requirements of the new platform. In many ways, these digital games cease to be local, grassroots, and “indie” and become global, mainstream, and professional. While traditional platforms benefit greatly from the gluttony of released digital games, platforms have also enabled more experimental and alternative genres of games to emerge within established networks of digital distribution. Although most digital games continue to showcase hegemonic forms of representation, slivers of digital games are finding their way through the video game industry’s system of digital distribution and publishing that present heterogeneous and diverse notions of everyday life, and challenge the established and mainstream perceptions of what can be considered a digital game.

6.1 Digital Distribution and the Publishing Chain

Over the past couple of decades, digital distribution has dominated and supplanted many of the traditional and physical forms of distribution within the wider cultural industries. Books, films and television programs, music, software, and even digital games have all transitioned in some
capacity to digital distribution from their physical formats. This trend has also been consistent within the video game industry. According to the Entertainment Software Association (ESA, 2016), from 2010 to 2016, physical sales of games went down from 69 per cent to 26 per cent, whereas digital distribution increased from 31 per cent to 74 per cent as game sales in the United States grossed from $17.5 to $24.5 billion USD over the same period. A report produced by the research firm SuperData found a total of $6.2 billion USD was made through sales of digitally distributed games worldwide in the month of February 2016, which saw an increase of 10 per cent from the year before (Wholesale Games Industry and Market News, 2016). The rapid transition is due to the numerous online storefronts now associated with websites, mobile devices, software applications, and consoles.

Consoles saw an increase of 34 per cent annually in digitally distributed games (Wholesale Games Industry and Market News, 2016). The software application Steam, which only uses digital distribution for its digital games, sold over $3.5 billion USD of games in 2015 according to Steam Spy (Galyonkin, 2016). Though the Apple App Store sells many types of software, not just digital games, its annual revenue for developers increased 40 per cent to $20 billion USD in 2016 (Apple Inc., 2017). What is remarkable about these figures is that most of these forms of digital distribution only emerged within the past decade.\textsuperscript{52} While the figures above focus primarily on mainstream forms of distribution and do not include data for digital distribution on websites and online marketplaces, the purpose of this discussion is to highlight how pervasive and ubiquitous digital distribution has become within the video game industry.

\textsuperscript{52} For example, the App Store opened on 10 July 2008, and Steam initially opened on 12 September 2003 for Valve-made digital games, but expanded to third party developers in October 2005.
Within academic scholarship, there has been some discussion on how creators release their cultural products on digital distribution platforms, particularly within the music industry. Tom McCourt and Patrick Burkart (2003) looked at the development of online forms of digital distribution within the music industry following the court decision in *A&M Records et al. v. Napster* that “firmly established the on-line intellectual property rights of entertainment industry conglomerates and reinforced the Big Five’s existing market oligopoly” (p. 334). Napster was one of the most successful distributors of digital music online. The Napster system of peer-to-peer sound file trading allowed millions of users to share and download music they had digitized from CDs and other material formats (McCourt & Burkart, 2003). The ruling in favour of these corporations put an end to one platform of unregulated digital distribution, and set the tone for the release of copyrighted works and intellectual property across other platforms of online digital distribution; essentially, it placed the power of online distribution back into the hands of record labels.

Brian J. Hracs (2012) has also looked at the ways in which emergent digital platforms have challenged the authority of record labels and traditional forms of music distribution. Hracs (2012) interviewed independent musicians from Toronto to investigate the implications and impact of restructuring digital platforms on cultural workers in the music industry. Hracs (2012) found that in exchange for gaining complete control over the direction and content of their music and related products, independent musicians had to overcome a range of “risks” that increased uncertainty and competition amongst their peers. While online forms of digital distribution

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53 While there is research on digital distribution in the video game industry by game scholars (Jacakson, 2011; Moore, 2009; Nieborg, 2016; Toivonen & Sotamaa, 2010), their investigations have focused on digital distribution from the perspective of publishers and players, rather than the creators of the games themselves.
“opened-up” the barriers-to-entry for independent musicians, the exponential increase in independent musicians simultaneously diluted the marketplace for financial success.

Hracs, in a multi-sited study with Doreen Jakob and Atle Hauge (2013) found that these uncertainties had created challenges for independent musicians to develop strategies to “stand out in the crowd.” Hracs, Jakob, and Hauge (2013) discovered that independent musicians use three mechanisms to create exclusivity to their cultural products: exploiting consumer demand for uniqueness; enrolling consumers into the production and promotion process; and manipulating physical and virtual space. To exploit the demand for uniqueness, independent musicians create unique, rather than mass-produced cultural products. This was achieved through customization and artisanal forms of hand-made production. To enroll consumers into the production and promotion process, consumers participate in fashion workshops and interactive musical performances, and provide free-labour as living fashion billboards or online concert promoters in exchange for exclusivity. To manipulate physical and virtual spaces, independent musicians restrict and grant access to secret music venues, fashion events, and online domains, such as fan forums and blogs. These mechanisms reveal how independent musicians separate themselves from the “dilemma of democratization” (p. 1144) where anyone can become a musician.

Aaron Heresco (2016) conducted a critical political economic analysis of the crowdfunding platform, Kickstarter, noting the promises and problems associated with new forms of financing media creation. Kickstarter enables content creators to pitch their project to potential investors by providing exclusivity options in exchange for financial backing. This so-called democratic form of financing the creation of cultural products enables creators to receive funding to complete their projects. Heresco (2016) found that while crowdsourcing platforms like Kickstarter facilitate new mechanisms of media finance for cultural products that may not be
financed otherwise, they also transfer risk from capital-investors to citizen consumers. Though new and alternative cultural products are potentially funded, the consumer runs the risk of losing their investment to an overstretched development team with no guarantee of a return.

Paul Langley and Andrew Leyshon (2017) also look at crowdfunding as a platform for digital distribution. They develop the concept of ecologies, to advance a critical understanding of the crowdfunding economy that is skeptical of its apparent democratizing qualities. Langley and Leyshon (2017) find that crowdfunding largely replicates rather than disrupts the extant institutional and debt dynamics of funding practices. Moreover, “while social and cultural entrepreneurs are not under pressure to meet monetary obligations and realize financial returns for their investors, they nonetheless run the risk of turning supporters and fans into opponents and anti-fans if they do not deliver on their promises, with potentially serious implications for livelihoods” (Langley & Leyshon, 2017, p. 16). In this sense, though creators can receive funding that they would not otherwise acquire, and build a mass of followers, the pressure to deliver on their promises significantly increases with each passing day that they do not release their cultural product.

Dave Elder-Vaas (2016) has discussed the hybridity between commodities and gift economies in the development of platforms. Elder-Vaas (2016) looked at a specific hybrid that he referred to as “user content capitalism” where “users effectively donate their time to build resources that generate profits for the capitalist owners of the site concerned” (p. 12). While Elder-Vaas (2016) focused on social media, such as Facebook and YouTube, this model is especially pervasive amongst emergent online forms of distribution where content creators perform all the management and marketing activities to release and promote their cultural products, such as building websites, merchandise, and exclusivity.
Mia Consalvo and Christopher Paul (2017) in their study of independent game developers explore the practices they deploy to manage the risks encountered while making, marketing, and selling games. Consalvo and Paul develop the concept “value crafting” to understand independent developer versus Triple-A developer practices. Value crafting is the process by how independent developers determine the value of their games, such as determining the business model (e.g., freemium versus paid), the price of the game, how to raise funds for game development, when and where to release the game, and other factors relating to the creation, marketing, and distribution of games, albeit from an independent perspective. Through a textual analysis of forums, articles, and blog posts written by developers themselves, Consalvo and Paul found that the toughest issue independents face is equating the value of the game with the price players and consumers expect on different distribution platforms. In one of their interviews, an independent argues that sometimes the best price is free, and to then market, promote, and distribute the game across as many platforms as possible to build a name and a mass of followers before releasing a second, paid game (p. 4-5). Consalvo and Paul’s study reveals many of the hidden practices behind independent developers attempts to differentiate themselves from the everyday gamemaker and maintain their independent status through the generation of profits to subsist on.

For the rest of this chapter, I review the four primary categories of digital distribution: online, mobile, software, and console, and discuss the ways in which these platforms simultaneously open-up and limit the release of digital games. Most of these platforms are commercial-based, but there are a selection of online platforms that enable the everyday gamemaker to distribute their digital games with minimal risk. As I analyze the more established and corporatized platforms that can be found in mobile, software, and console venues of digital distribution, these platforms’ material and legal limitations create a range of creator conditions
that are increasingly off-loading more and more risk onto the everyday gamemaker in exchange for the opportunity to label themselves ‘X platform developer’.

6.1.1 Online

Since the development of the internet for public and commercial use in the early 1990s, online forms of distribution have become the most pervasive and dominant distributors of digital games. These online platforms include personal websites, web communities, and online store fronts. While most gamemakers release their games on their own personal websites to showcase their gamer portfolios, web communities and online marketplaces are where gamemakers release their digital games to acquire publicity and potential commercial revenue.

One of the earliest web communities is Newgrounds. Newgrounds began as a website in 1995 for its creator, Tom Fulp, to release his digital games. In 1999, based on Newgrounds increased popularity and attention in the media, Fulp opened submissions for other gamemakers to distribute their games at no cost. In 2000, Fulp developed a submission-based system with Ross Snyder, named Flash Portal, for Flash games to be submitted to the website. Flash is arguably the first accessible everyday gamemaker tool. Flash is a multimedia platform and animation software that developed into a tool for everyday creators and gamemakers alike to author media experiences on the web (Salter & Murray, 2014). In 2000, the animation software underwent significant changes that included the programming language ActionScript, which

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54 Newgrounds began as a fanzine for the Neo Geo console in 1991. Titled New Ground, the fanzine was a synonym for the Neo Geo console. Published by Tom Fulp, New Ground had a small distribution of approximately 100 subscribers. It was not until 1995 when Fulp acquired web space to develop his web page, New Ground Remix, where he released his first two video games Club a Seal and Assassin II. In 1996, he released several more video games on another web space, New Ground Atomix. It was at this point that Fulp gained attention from Inside Edition, a news program on CBS, and created the website Newgrounds (Newgrounds, 2017).

55 Newgrounds makes its revenue through advertisements. A huge repository of Flash games, some of which have been played millions of times, means the site is popular venue for marketers to advertise game-based products.
allowed for object-oriented programming, and other advanced animation and programming features. Gamemakers could now program relatively sophisticated digital games not too dissimilar from many of the 2D commercial releases on contemporary consoles, such as platformers and top-down games (Salter & Murray, 2014).

Cody discusses the importance of Flash at the beginning of his gamemaker career around 2006. As Cody says,

Flash was just so much easier to program and make stuff in. I can get stuff moving around really fast [in Flash]. And plus, I was around some of the other people that were making games [in Flash], and being introduced to the Toronto scene. It just sort of sparked, and I’m like: “Yeah, this is what I want to do. I just want to make cool stuff” (Cody, Interview 1, 11 February 2015).

The emergence of Flash alongside the development of Newgrounds’s Flash Portal meant that gamemakers could post their digital games to the website and allow users of the website to play them within their own browser. Until this point, gamemakers posted their digital game files for potential players to download and install on their computer.

Another important feature added to Newgrounds in 2000 was their voting and their bulletin board system (BBS). Users of the website could vote on whether to “Protect” or “Blam” newly submitted video games. The BBS allowed users to post comments of the submitted video games. Both the voting system and the BBS are not only staples of Newgrounds’s submission system, but also a staple of many online video game distributor websites. Voting systems create ranking systems, which increase the visibility of a cultural product on a platform—contributing to the establishment of grassroots followings that potentially become mainstream digital games.

Some of the most notable Flash games first released on Newgrounds include Alien Hominid (2002), Fancy Pants Adventure (2006), Bloons Tower Defense (2007), Meat Boy (2008), and Canabalt (2009). Many of these digital games and others distributed on Newgrounds were later released on established console platforms, such as PlayStation 2 and 3, Nintendo Game Cube,
Xbox 360, iOS, Android, and Steam. While porting is frequently seen as a process by which digital games are distributed across multiple platforms simultaneously, in the case of Newgrounds Flash games, porting represents a transformation of grassroots to mainstream.

Over the last decade, however, Flash has competed with other game engines for the market of the everyday gamemaker. Game engines, such as Unity3D, GameMaker Studio, and Construct 2, emerged as accessible tools of gamemaking. In recent years, dozens more gamemaker tools have appeared hoping to acquire communities of gamemakers. The increased range of gamemaker tools has correspondingly seen a diverse range of online platforms for gamemakers to distribute their games. Some of the more popular web communities include Kongregate and itch.io. Kongregate is a mobile game publisher and web gaming portal, like Newgrounds. Released in 2006, Kongregate’s portal allows for the submission of Flash, HTML 5, JavaScript, Shockwave, Java, and Unity games.

In one of my interviews with Cody, he talked about the Kongregate platform, and why he posted one of his digital games there. As Cody says,

Kongregate has this badge system where you can put call backs [return values] in your game for when they complete challenges and then [they] “Kongregate” (air quotes). If your game has above a certain five star rating, they’ll add badges to the game where certain things that you have in the game, they’ll fire off the events, they’ll tie a certain one of those to a badge. And a bunch of people on that site only play games because of the Kongregate’s meta gamification of getting badges. So, I know in Kongregate it’d get a decent amount of plays, which would mean, like, hopefully enough money for rent. I

56 *Alien Hominid*, by Tom Fulp, was later published in 2004 on the PlayStation 2 and Nintendo Game Cube, released exclusively in North America. It was developed under Fulp’s newly formed game company, Behemoth, which would later release the popular *Castle Crashers* on Xbox Live Arcade and Xbox One. *Fancy Pants Adventure* by Brad Borne, was later published in 2010 by Electronic Arts on the PlayStation Network and Xbox Live Arcade. *Blows Tower Defense* by the developer Ninja Kiwi was later published on Android, iOS, Windows Phone, PlayStation Portable and Nintendo DSi. *Meat Boy* by Edmund McMillen and Jonathan McEntee was later developed by Team Meat and released on Xbox Live Arcade, Windows, and Steam in 2010, and later OSX in 2011, PlayStation 4 and PlayStation Vita in 2015, and Nintendo WiiU in 2016. *Canabalt* by Adam Saltsman was published later in 2009 by Semi-Secret Software, Beatshapers, and Kittehface Software for iOS, PlayStation Portable, and Android, respectively.
had to make sure that the game had a certain amount, had a certain rating (Cody, Interview 1, 11 February 2015).

After the initial submission, gamemakers who want to generate income from their Kongregate game hope to achieve 5-star ratings. These 5-star ratings are needed for badges to be implemented into the game, which players want because the badges accumulate points and subsequent awards, such as “Kreds”: the in-platform currency for Kongregate to purchase published games and content. However, if gamemakers want to achieve that 5-star rating, they must read their game’s comments section, and alter the game’s design as appropriate. In the case of Cody, he fixed bugs and design issues players reported in the comments section that helped improve his game’s overall rating. As Cody says,

People would say things in the comments, usually a little bit on the nasty side, but then I’d fix whatever it is that they would bring up and that ended up helping push my score up a bunch, ‘cause people saw that I was being active in the comments and, you know, people that were like zero to five ‘cause it doesn’t have WASD, so it’s just arrows. So, when I fixed that they were like “Yeah, OK. Well no dev’s ever done that before, so I changed the thing to a five [star rating]”. So that helped push me up high enough to do that and then that’s when the game blew up on that site. Once it blew up on that site other websites started coming to me and being, “oh could I?”, like asking if they could get the game on their site. But that’s called like, it’s secondary Flash sponsorship, which is when they’ll like give you just an up-front fee to have the game, slap their logo on the front and they usually like a link to their website somewhere in the game’s menu. And yeah, they pay you for that. So, did that. And then it was through those other sites that I got up to that million mark [of plays] (Cody, Interview 1, 11 February 2015).

By achieving the desired 5-star rating, Cody’s game acquired prominence on Kongregate and drew the attention of other Flash-based websites. These other websites offered him one-time fees to upload the game to their platform and his game acquired enough publicity to bring a total of 1 million plays across all releases of the game (and counting). It’s not enough to simply release a game and upload it to a site; gamemakers must tinker, edit, and redesign their game according to the platform the game is released on and the needs of their player community. While performing
these additional post-release and maintenance activities are no guarantee to success, they are expected, and sometimes required, for a digital game “blow up.”

It is unclear how many ratings are needed for a game to acquire badges, but according to an administrator on one of Kongregate’s forums, “Badges require the Statistics API to be implemented in the game. We use these player stats, like XP or levels beaten or whatever, to figure out whether or not a player has accomplished a badge. Also, 3.75 was an old figure - it's more like 3.85 now for a minimum, and usually we want more like 4.00” (Kongregate Developers, 2017). The Statistics API is a requirement for any gamemaker hoping to make serious financial-revenue from their games. Once an approximate rating of 4-stars is achieved for the game, Kongregate contacts the gamemaker and implements a badge system where the gamemaker initially placed ‘return values’ for milestones in the game. According to Kongregate’s developer documentation:

By default, all developers receive 25 per cent of the ad revenue generated from their games. This includes all ads within the games and any potential ads on the game page that may be added in the future. Games that integrate Kongregate’s Statistics & Challenges API earn an additional 10 per cent, and games that are offered exclusively on Kongregate’s site earn an additional 15 per cent. Thus, it’s possible for a game to earn 25 per cent, 35 per cent, 40 per cent, or 50 per cent of ad revenue. Note that games sponsored by Kongregate also qualify for this exclusivity bonus, even when they're uploaded elsewhere (Kongregate, 2017).

Cody, who implemented Kongregate’s Statistics API, but did not release the game exclusively on Kongregate’s web game portal, was making 35 per cent from all the ad revenue generated from his game, which currently has over 300,000 game plays on Kongregate and counting.

While Kongregate is an example of the web publishing format that provides ad revenues for contributors, itch.io for gamemakers in Toronto was by far the most common form of online distribution. itch.io games launched in 2013 by Leaf Corcoran as a digital store for gamemakers to release their games pays creators the money earned from their game sales directly and without
taking a cut, and allows them to customize their own game pages. In an interview with the game news website *Rock, Paper, Shotgun*, Corcoran explained the impetus for developing the online store for digital games. As Corcoran says,

> The original idea for the site wasn’t a store at all, it was just a way to quickly create a customized game homepage. I had a handful of Ludum Dare games I had created and I wanted a quick way to make nice pages for them. I wasn’t too thrilled about some of the existing game hosts because the pages they provide for your game are filled with distracting content that has nothing to do with your game. Things like ads, other people’s games, promotion for their own site, etc. (Smith, 2014).

Essentially, Corcoran wants everyday gamemakers to have a webspace to show off their portfolio of digital games. Users of itch.io create profiles where they can customize their webpages to distribute and potentially sell their digital games. Users can also download and purchase digital games on the website.

itch.io has been used extensively by gamemakers in the Toronto scene to distribute their digital games using the sites free webspace. itch.io allows gamemakers to set the price of their game, run sales, and design their own webpages. itch.io takes no cut of the financial revenue generated by gamemakers, though the revenue split between the seller and itch.io can be configured by the gamemaker. However, there are limitations to how itch.io is used by gamemakers. Gamemakers are limited to a maximum of 20 project pages, so 20 digital games. Uploads are limited to 500MB per file, which means gamemakers are limited in the scope and design of their digital games, particularly 3D games that use high-vector models. Though these are minor limitations for the everyday gamemaker that makes small-scale digital games in their

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57 It is unclear how itch.io generates profit as they do not force creators to pay for using itch.io. However, the open revenue sharing model put in place by itch.io has a default setting of 10 per cent. As such, while creators can reduce the number to zero, itch.io must generate some profits as it would be unfeasible for the online platform in the long term. If this revenue sharing model does become unfeasible, it is likely itch.io will acquire revenue from other sources, such as advertising placements.
spare time, these limitations reduce the number of professional-quality games that are found on more traditional platforms, such as consoles.

Though players and users of itch.io can rate digital games and write reviews, the platform does not rely on vote-based submission systems for gamemakers to generate revenue. There are no advertisements on itch.io, which means creators do not need to accumulate 5-star ratings, like Kongregate. According to itch.io’s Twitter account, the featured content on itch.io’s page is done on a “case-by-case basis” by the developers at itch.io (itch.io, 2014). Marketing and distribution are therefore primarily on the gamemaker to find audiences of players to play their digital games. Though itch.io is an ideal venue for gamemakers to distribute their digital games at little to no financial cost, it is not necessarily a platform to subsist on. Most digital games are released for free on itch.io because almost a quarter are game jam games.  

Game jams are a legitimized form of distribution on itch.io. The site’s Jams section shows dozens of game jams using itch.io at any given time to post their jam-made digital games (itch.io, 2017). The site enables jam organizers to host game jams by creating a Jam Collection page for participants to submit digital games. From 2014 to 2016, TOJam 9, 10, and 11 used itch.io to create a special TOJam page where participants posted their digital games at the end of the game jam, with around 100 games submitted each year. itch.io has been particularly useful for TOJam, because the TOJam website used to be where all the jam-made digital games were distributed. TOJam organizers would have to coordinate with game jammers to submit their digital games to an organizer via the local transference of USBs or links to file-sharing services,

58 As of writing, itch.io has 59,786 digital games on its online platform, 13984 of which are game jam games (itch.io, 2017).

such as DropBox. This meant the organizers would tediously upload each digital game to the TOJam website. It is evident this was an issue when the digital games from TOJam 8 were not posted to the website or any other place of distribution. itch.io streamlined the service placing the onus on game jammers to upload their digital games to the website. The result, thus far, has been a collection of digital games, all with their own customized webpages. An additional benefit for gamemakers is they can link their TOJam-made digital games to other games they have distributed on itch.io via their user account.

6.1.2 Mobile

Since the mass-distribution of smartphones, the market for digital games has exploded. According to the Entertainment Software Association of Canada ([ESAC], 2016), the number of players using mobile devices once a month to play digital games has risen from 21 per cent in 2012 to 72 per cent in 2016. Further, Statista (2017) estimates that there are approximately 6.5 million applications on mobile platforms, with Google Play and the Apple App Store representing roughly 5 million of those applications.\(^{60}\) As digital games represent approximately a quarter of apps on the Apple App Store (Steel Media, 2017) and a third of the apps on Google Play (AppBrain, 2017), respectively, mobile platforms are an important area of digital distribution for gamemakers. Figure 6 shows a graph of new games added to App Store annually from its launch in 2008 to 2017.\(^{61}\) As Figure 6 shows, the number of digital games released on

\(^{60}\) Statista aggregates data from the major publishers of mobile marketplaces, such as Apple, Google, Blackberry, Amazon, and Microsoft, as well as AppBrain (2017) and Steel Media (2017).

\(^{61}\) The data from 2012 to 2013 shows a decrease in the new games added to the App Store. This drop is likely due to the release of Steam Greenlight in 2012, which I discuss in the next section on software platforms.
the App Store has risen exponentially, which suggests independent developers will struggle to
distinguish themselves from the everyday gamemaker to generate profits and success.

Mobile platforms share many similarities to console platforms in that they, at times,
require custom hardware for the software and online marketplaces to operate—as is the case for
Apple products, like the iPhone and iPad—but they differentiate in their unique characteristic as
a portable platform. Whereas consoles require a constant power connection to operate, mobile
devices can be transported and used in any space, with the caveat that they be recharged from
time to time. This distinction makes the market for mobile games different from other platforms in that players can play their games on cafés, on public transport, and other everyday spaces. While the Nintendo Switch bridges both the console and mobile definitions of platform in both its fixity and portability, the Swift GPU operate 2.5 times faster when docked to a power source than when it is disconnected for portable play (Leadbetter, 2016). Though players will transport their Nintendo Switch for portable play, it seems likely most players will opt to use their Swift docked from a portable power source and on the television in their home, like all console platforms. While portable game consoles such as the Nintendo Game Boy can be considered a mobile platform because of its portability, it is a self-contained game console similar to that of the Nintendo Wii. Further, contemporary portable game consoles also run on the same online ecosystem as other consoles developed by the same company, such as the PlayStation Vita and PlayStation 4 running on the PlayStation Network.

To develop mobile applications, gamemakers typically create a developer account with the mobile platform along with the payment of a registration fee. For iOS developers, they enroll in the Apple Developer Program $99 USD per membership year to have the exclusive right to distribute their digital games on the App Store. Gamemakers have access these tools for free, but to release a game on the App store they must pay the annual membership fee, even if they are distributing their digital games for free. The purpose of this fee is to limit the number of iOS developers to commercial creators and to recover the cost of Apple employees reviewing the technical, content, and design criteria of the submitted digital game. These criteria can include illicit content, performance issues, content clones, and health and safety issues, to name a few.  

62 For a more detailed description of these criteria to release applications on the Apple App Store, please consult the extensive developer guidelines: https://developer.apple.com/app-store/review/guidelines/.
Clay discusses his experience with the App Store submission process, as well as the experience of a friend of his who submitted a game with content deemed illicit by Apple. As Clay says,

… So, once all that bureaucratic bureaucracy is done, there’s another bunch of waiting things once you’ve submitted the game to Apple. Then they go “well, we got to look at it and make sure it doesn’t have any drawings of dicks” or something like that actually. I have a friend, actually, who wanted to release a game on Apple, on the Apple store, and the game is called [game title]. So, you start off, it’s one of those games where you shoot something out of a cannon and then the thing flies through the air, and then you can try and control it and see how far you can get it. But in this case, it’s a woman birthing a baby, so. He made a pretty good amount of money off this game on Xbox Live Indie Games. He wanted to put it on iOS and Apple was like “no, there’s no way we’re going to let you put this on our store. We are not going to let you do this”. And then he’s like “alright”. And then he reskinned it so that it was all robots, but even that was just too “risqué” (air quotes). Actually, after he reskinned it as robots and resubmitted it they responded “please do not resubmit this game ever again” (Clay, Interview 4, 25 September 2015).

These limitations, based on safety, performance, business, design, and legal criteria, are enforced by Apple to ensure the company provides “… a safe experience for users to get apps and a great opportunity for all developers to be successful” (Apple Inc., 2017). Apple has developed a brand and company image that aims to ensure a specific quality is produced in the applications released; hence, the perception by Clay that if it “doesn’t have any drawings of dicks” or “crash” then it will likely pass the review process. While Apple claims this is part of its quality assurance process, these legal restrictions have more to do with the company’s ideological principles; meaning, if it was technical quality assurance, the game produced by Clay’s friend would also not have been published on Xbox Live Arcade.

While the legal limitations enforced by Apple are predominantly covered in the review process, they provide free developer tools to ensure the material limitations are adhered to by gamemakers. Though gamemakers may develop their digital games in game engines, such as Unity3D and GameMaker, that can export the executable file into the iOS format, gamemakers
will likely need to edit their game’s code in Xcode before submission to the Apple App Store. Xcode provides numerous extensions to allow for the customization of digital games to the material affordances of Apple’s devices, such as screen size, file size, and GPU speeds for graphics and animations. In Xcode, gamemakers can also test the functionality, design, and performance of their digital game with TestFlight. TestFlight is Apple’s beta testing software for gamemakers to test their digital games on Apple devices. TestFlight provides analytical data for gamemakers to determine whether their game is crashing, if its design is formatted to the appropriate mobile device, and if its performance meets expected standards of both Apple and the gamemaker.

While Apple gifts these digital tools in exchange for gamemakers releasing digital games on the App Store, there are significant material and legal hurdles for gamemakers to achieve their status as an Apple developer. If gamemakers are to release their digital games commercially, they must setup an organization account, rather than an individual account, which is free, that requires the gamemaker be a legal entity that can enter into contracts with Apple, be a legal authority to bind their organization to legal agreements; and acquire a D-U-N-S number, so Apple can verify their organization’s identity and legal entity status.63 Though these aspects of development are not required to create a digital game on the Apple platform, they are necessary if gamemakers hope to one day make money from their creative endeavors. As such, to develop for the mobile platforms can require an overhead of risk that everyday gamemakers cannot necessarily afford to gamble with; perhaps, an outcome Apple desires to reduce the excess of digital games swarming the mobile market.

63 The D-U-N-S Number is a unique nine-digit identifier for businesses. It is used to establish a business credit file, which is referenced by lenders and potential business partners to predict the reliability and financial stability of a company, such as Apple verifying the business of a developer.
6.1.3 Software

Software platforms are an ambiguous category of distribution because all digital games require software to operate. However, software platforms are inter-operable across different operating systems, such as PC, Mac, and Linux, and do not require specific hardware to function. Software platforms can operate on other platforms, such as digital storefronts that are applications downloaded through mobile or console platforms, though these examples are rare. In most cases, software platforms are available primarily on computers with operating systems that are not exclusive to a specific platform of digital distribution.

The most significant software platform for digital games is Steam. Steam was first released by the company Valve in 2003 to distribute digital copies of their games, such as Counter-Strike. In 2005, Steam began to allow third-party developers and publishers to release their digital games on the platform, such as id Software, Eidos Interactive, and Capcom, known for the Doom, Tomb Raider, and Street Fighter franchises, respectively. By May 2007, Steam had attracted over 13 million users of the platform and had released over 150 digital games (Valve Corporation, 2007). In 2015, this number increased to 125 million users and over 4,500 digital games (Valve Corporation, 2015). Today, the platform has over 14,000 digital games showing an almost 200 per cent increase in released digital games over the duration of my ethnography (Valve Corporation, 2017).64 This increase is mostly due to the introduction of Steam Greenlight in July 2012.

Steam Greenlight allowed gamemakers to submit information about their games, as well as early builds or beta versions, for consideration by users through a submission-based voting

64 You can browse the catalogue of digital games in the Steam library. There is a tally at the bottom of the screen. As of writing, the platform had 14,336 digital games in its library.
systems. Gamemakers would pay a one-time $100 (USD) developer registration fee to list the game on the service. According to Valve, “in order to keep spam and joke submissions out of the system, there’s a one-time submission fee that will enable your Steam account to submit games to Steam Greenlight. Once you’ve paid the fee, you can submit as many games as you want” (Valve Corporation, 2017). Similar to Apple’s developer registration fee, Valve limits the excess of poorly-made digital games on the platform by implementing a pay-wall. However, creating a Steam account, providing information about the digital game, and paying a $100 USD registration fee is not the barrier limiting gamemakers from distributing their digital games on the platform.

For digital games to be Greenlit on Steam aspiring Steam developers require “up-votes” from users of the Steam platform. Users pledge their support for digital games they want released on Steam. To get Greenlit, digital games require enough up-votes in relation to the other digital games submitted to Steam Greenlight. While there is no specific number required to get Greenlit, it is typical for gamemakers to get more up-votes than down-votes from the Steam community to get distributed on Steam. Ideally, the community of players that use Steam will get the digital games they want to play. However, Steam Greenlight is not without its challenges for both gamemakers submitting their digital games, and players hoping to play quality-made games that are well-designed and perform according to community expectations.

In one of my interviews with Melanie she discussed the correlation between cheap tools for digital game development and the proliferation of poorly-made digital games on platforms, like Steam. As Melanie says,

I like RPG maker a lot. It’s good for game jams. Anything that already has already established systems is good for a game jam. RPG maker has everything set for you, so you just come up with an idea and then you just start plugging stuff in. The sad thing about RPG Maker is that there are a lot of really shitty games on Steam because of RPG maker. So, somebody’s like “I’m going to mess around in RPG maker and make a shitty
Figure 7: Graph of new games added annually to the platform Steam from 2008-2017. Data source Steam Spy (2017). Data for 2017* was collected until 1 July and is a projected estimate.

It’s not a coincidence that the number of digital games on Steam tripled within two years. As Figure 7 shows, the number of games released on Steam has increased exponentially since the launch of Greenlight in 2012. Many gamemaking tools have made it simple for gamemakers to port their digital games to multiple platforms. As almost all game engines port to PC, Mac, and Linux-based operating system, this aspect of digital game development bodes well for software platforms, like Steam, in acquiring a plethora of gamemakers. The consequence of being a

game and make a quick buck.” So, there’s that side of it also. A lot of people complain about that. Steam has a lot of shit games on it now (Melanie, Interview 5, 26 October 2015).
platform that is an ideal distributor for so game many game engines is that it tends to draw games produced by the everyday gamemaker.

In February 2017, Steam announced they were going to remove Steam Greenlight in favour of a more streamlined service called Steam Direct (Valve Corporation, 2017). Steam Direct launched in Spring 2017, requires developers to complete a set of digital paperwork, personal or company verification, and tax documents “similar to the process of applying for a bank account” (Valve Corporation, 2017). Once set up, gamemakers pay a recoupable application fee of $100 for each new title they wish to distribute, which is intended to decrease the noise in the submission pipeline (Valve Corporation, 2017). The aim of this transition with the Steam platform is to find a hybrid model between a tightly curated store and a direct distribution model.

What this transition has in store for gamemakers is unclear at the present. Like the App Store and Google Play, Steam has amassed thousands of digital games that make it difficult for quality-games to gain followings and generate profits. Steam is one of the first emergent platforms in the last decade to attempt to reduce the gluttony of digital games released on its platform. Part of the issue for Steam, in relation to platforms like the Apple App Store, is there is no rigorous criteria limiting the quality of digital games on the platform, such as functionality and performance. However, almost all digital game platforms are facing this issue and few are showing signs of curbing the release of everyday digital games. From an everyday gamemaker perspective, this is an ideal situation; but for the more professional gamemakers, the proliferation of digital games produced and released across these platforms is increasingly making it difficult for consumers to locate the games they want to play versus the games they would rather see in their trash bin.
6.1.4 Console

Consoles are the most established and traditional platforms for the release of digital games. Following the 1983 Video Game Crash, that saw hundreds of game companies fold in the wake of an economic recession within the video game industry, Nintendo released its Nintendo Entertainment System (NES) that included a “Nintendo Seal of Quality” on all its released game cartridges. A perception of the 1983 Video Game Crash was that too many poor-quality games were released that were poorly designed or included too many bugs and glitches that the games simply crashed like the industry itself. Nintendo, through their Seal of Quality brought confidence back to the video game industry by creating a highly-curated barrier-to-entry for video game developers, studios, and publishers.\textsuperscript{65}

Many of the consoles released over the following decades have followed similar computational and legal lockouts to prevent poor-quality games from being released on their platform. George talked about how his team managed to break-into Xbox’s developer program through a digital game they made for the Royal Ontario Museum at its annual ROM Jam. As George says,

\begin{quote}
  … We actually heard back from Microsoft. So, we have gotten into their developer registration, they have given us the software, they denied us a dev kit for now, but they’ve given us at least the software that we can use to develop the stuff [i.e., digital game]… We were also going to see if we could do it for, like once we’re registered as a developer, we also want to see if maybe we can get last year’s TOJam game on there [as well] (George, Interview 3, 8 May 2015).
\end{quote}

Though George’s team have not been given a full developer kit, that includes two complimentary Xbox One Developer Consoles for bug testing, technical analytics, and play testing, they have been given access to the software tools to develop the digital game for the Xbox One operating

\textsuperscript{65} O’Donnell (2014) has discussed the material and legal limitations developed by Nintendo at length, including the 10NES lockout chip that prevented unlicensed game cartridges from playing on the NES.
software. As the cost of these console developer kits runs into the thousands of dollars, Microsoft is selective with the developers it approves for this process.

This first stage of the development process with Xbox enables gamemakers to develop a prototype for the platform. The next stage would be to gain access to the Xbox One developer kits and eventually certification that ensures the digital games do not “break or behave in appropriately” (Xbox, 2017). Like other mobile and console platforms, the process of certification ensures high-quality games are released on the Xbox One console. Microsoft provides release managers who assist gamemakers navigate the certification process, and provide documentation on certification requirements, such as acquiring Entertainment Software Review Board ratings, and other international ratings appropriate to the country in which the digital game will be released.

In March 2016, Xbox announced that anyone who owned an Xbox One console could turn their console into a developer kit, free of charge (Crecente, 2016). To access the ‘dev mode’ gamemakers register for a Dev Center account for $19 (USD). The technical specifications require gamemakers to: join the Windows Insider Program; run Windows 10 on their PC; have a wired connection from their PC to their Xbox One; install the latest Visual Studio 2015 and Windows builds onto their PC; and have at least 30 GB of storage free on their console (Crecente, 2016). Not only does this development open-up the Xbox platform to the everyday gamemaker that owns a PC and an Xbox One, but it also reduces the financial costs of Xbox to support future gamemakers on their platform.

Xbox is part of an interesting development with console platforms at the present, because consoles are gradually transforming from high-curated, limited-access, digital game development platforms with ‘seals of quality’ to open-access submission platforms, like those of Steam and the Apple App Store. At GDC 2014, PlayStation announced that Unity3D, GameMaker, and
MonoGame would be offering native support PlayStation 3, PlayStation 4, and PlayStation Vita (Sarkar, 2014). This selection of native support for popular middleware game engines, like Unity3D, allows gamemakers to port their digital game directly from the game engine to the targeted PlayStation platform. Gamemakers are still required to submit an online application and register their company with PlayStation, submit their agreement to become a PlayStation Partner, and get their digital game certified in a similar process to Xbox, but the process for releasing a digital game on PlayStation platforms has become increasingly streamlined. The struggle these console platforms are facing at the present is: how do they trade-off between exclusivity and quality-based processes of certification in relation to the opening-up of their platform to the everyday gamemaker to release a range of digital games? At the moment, consoles are battling to entice the everyday gamemaker with gifts of digital tools, but only time will tell as to whether this trend creates a range of digital games or another proliferation of penny dreadfuls.

6.2 Conclusion

Throughout the video game industry and the media there are fears that the video game industry could suffer from another economic recession, like what happened with the 1983 Video Game Crash (Dickerson, 2016). The excess of digital games created by emergent forms of online digital distribution since the early 2000s has gradually filtered down into the more certified and traditional platforms of the video game industry. Not only has there been a race to appropriate the everyday gamemaker to use game engines and digital tools and resources, but there has also been a race to entice these everyday gamemakers to release their digital games on their platform. Though there are a lot of penny dreadfuls out there, there is a lot of talent as well. The video game industry recognizes the importance of capturing these talented everyday gamemakers, or risk losing their prestige as established platforms of digital game distribution.
It is unclear what the future holds for platforms of digital game distribution. At the present, mobile, software, and consoles are here to stay, albeit in a very different publishing model to what they were a decade ago. Online platforms have created platforms for gamemakers to self-publish their digital games for a variety of computational environments. These increasingly autonomous publishing models have enabled gamemakers to experiment with the design of their digital games and determine their format, pricing, sales, and marketing. Established platforms have, in turn, begun to redesign their publishing platforms to emulate these online platforms with the added incentive of providing software and, at times, hardware, free of charge. In other ways, these companies have managed to recoup the costs of gifting hardware and software to developers by relying on gamemakers also being active players and providing tools within software and hardware gamemakers already own, such as Xbox converting Xbox One consoles into dev kits and Steam providing its Steam Workshop to creators and modders.

Digital distribution within the video game industry is transitioning to a more open-model of self-publishing and experimental digital game design. When platforms open up to the everyday gamemaker, they consequentially open up their platform to the everyday life interactive experiences of those gamemakers. As these platforms increasingly transition to self-publishing models, gamemakers will find themselves acquiring more and more risk by becoming jack-of-all-trades gamemakers. Aspiring professional gamemakers will have to establish a variety of mechanisms to set themselves, and their digital games, apart from the penny dreadfuls that surrounds them by offering a variety of exclusive benefits to their fans and players. In the meantime, the video game industry is undergoing a renaissance of experimental game design with a variety of self-publishing platforms available; and it does not look like it will slow down any time soon as platforms, publishers, and the wider video game industry continue to entice the everyday gamemaker with gifts and the prestige of becoming a certified game developer.
Chapter 7
Maintenance

“That's why I got into games, because I wanted to have an impact.”
— Cody, Interview 5, 27 October 2015

7 Conclusion

The life of a digital game does not end once it is released. All digital games go through a process of maintenance after they are released. Maintenance typically involves updates and software patches to the digital game’s code and assets to fix bugs, glitches, and breaks. In some instances, maintenance can also include additional downloadable content (DLC) as extended narratives and paratexts. These DLCs are usually additional levels or small standalone games that supplement the initially released digital game. Maintenance can even involve the porting of the digital game from one platform to another. In today’s networked age, it is rare for any type of digital game to avoid maintenance following its initial release. The constant updates to paratextual resources, such as hardware, operating software, and platform environments, make it increasingly difficult for digital games to operate without reciprocal technical adjustments. When creators no longer maintain their digital games, not only do they become inoperable applications on increasingly aged hardware and software, but they cease being cultural products that influence broader digital cultures and industries.

In this concluding chapter, I return to the Sixth Annual Canadian Video Game Awards (CVAs), which encapsulates how gamemakers and the wider industry are constantly appropriating each other’s desirable cultural norms and practices through the exchange of gifts and promises of cultural status. Considered a preeminent awards event for gamemakers in Canada, the CVAs are an annual snapshot of how the video game industry perceives value in digital games and the people who create them. I return to the issues, tensions, and trends
discussed and analyzed throughout this dissertation: the everyday gamemaker, materiality of scenes, the gift economy of game engines, engagement with the rules of production, and the development of low-barrier-to-entry platforms, in the context of everyday gamemaker cultures in a global video game industry. I focus on gamemakers’ importance in developing the video game industry, and discuss future directions for research in how emergent gamemaker cultures are transforming our economic, cultural, social, and legal infrastructures.

7.1 Developing the Video Game Industry

The Bit Bazaar at the CVAs predominantly showcased gamemakers affiliated with Bento Miso and DMG. Having spent the previous year in and out of Bento Miso participating in events, workshops, socials, and game jams hosted by the coworking space and DMG, I was familiar with many of the gamemakers in attendance and the gradual development of their digital games. Each of these gamemakers, along with comic artists and zine creators, had their own booths that were littered with exclusive hand-made cultural products and merchandise showing-off the unique aesthetics and designs of their digital games, such as prints, pins, magnets, t-shirts, mixtapes, vinyl, CDs, and even reprogrammed Game Boy cartridges. The variety of this exclusive content were methods for gamemakers to create a following around their recently or soon-to-be released digital games.

On first appearance, these gamemakers appeared to be successful “indies” that lived on the fruits of their labour. But as I walked around, I saw some familiar faces that were not

66 The following digital games were on show at the Bit Bazaar: Solace State, The Phantom Mission Apparition, Arcade Skidaddle, Shnipers, Fate Tectonics, Quasar, Little Red Lie, Za Vas, Shutshimi, Anima, Resonance Unlimited, Pitfall Planet, Krakkenhol, Outer Earth, Rival Books of Aster, Blossom Tales, Trackoons, Bit! The Card Game, Arcane Bullshit, Quench, No Guts No Gore-Y, The Eldritch Teller, Catformer, Ritual of the Moon, Maximum Override, Real Army Simulator, Bleed 2, and Gastrobots.
necessarily independent by any stretch: I saw Cody with his team selling zines and codes for their digital games; I saw Benjamin with his partner, participating in their first Bit Bazaar, selling buttons and prints for their iOS game; I saw Michael demonstrating his puzzle-game to several interested players on iPhones and Android smartphones; and I saw Christine sitting with her former-employer showcasing their Steam game. As I walked around I spoke with several gamemakers that I had become familiar with in the scene.

At one point, I spoke to a woman, referred to here as Amanda, who I had met through some of the events hosted by DMG. I spoke to her about the digital games she was showcasing and asked her how she enjoyed being an “indie.” Not only did Amanda’s response surprise me, but encapsulated many of the gamemakers that participated in my study, and the experiences of everyday gamemakers across the Toronto scene. As I describe in my field notes from the encounter,

I asked Amanda “how do you enjoy being an ‘indie’?” I had seen her quite regularly in the scene, and appeared to be someone who had years of experience making and selling her digital games. I had attended several Bit Bazaars before this one and I had seen her selling her digital games at all of them. In asking my question, I hoped that she would reveal some of the distinctions between most of my participants and herself as a full-fledged ‘indie’ developer. Her response was not quite what I expected. She talked about the difficulties of working full-time from home as a consultant for [name of software company] who would respond to technical issues for the company’s clients. She told me how she would work late into the evenings on her digital games, so that she could build a portfolio as an ‘indie’. She also talked about applying for grants from the Toronto Arts Council and Ontario Media Development Fund, so she could move down to part-time at her job and spend more time working on her digital games (Field notes, 6 December 2015).

Amanda was an aspiring independent gamemaker. She was already making numerous digital games in her spare time, but hoped that one day she would generate income for making digital games through grants from municipal and provincial funding agencies of culture and entertainment. As she had not applied for these grants, nor received any to-date, her status as an everyday gamemaker placed her within the Bit Bazaar rather than the funded independents
across the hall in the Canadian Game Zone sponsored by the Ontario Media Development Centre (OMDC). This is not to say that all participants of Bit Bazaar are not financially successful independents, but that the CVAs distinguishes between Triple-A digital game development, funded independents that hire employees and freelance workers, and everyday gamemakers that are finding their way to the table of the wider video game industry.

The Sixth Annual CVAs took place approximately one year into my two-year ethnography. In many ways, the CVAs gave me a snapshot representation into how the video game industry perceives itself, digital games, and gamemakers, but also how cultures, organizations, industries, and larger social trends develop over time. I began this research project hoping to understand more about leisure-based gamemakers, but what I found were a range of everyday gamemakers that participated in a cultural activity shaped by the wider, commercial video game industry’s tools and resources, working conditions, platforms of distribution, and dominant discourse of digital game development. But when these local, everyday gamemakers interacted with these infrastructures of digital game development they found ways to both navigate and transform them according to their creative needs, desires, and motivations.

In the Toronto scene, gamemakers participated in cultural activities of gamemaking by developing and participating in events, socials, game jams, workshops, and annual festivals and exhibitions to produce digital games and showcase them to their colleagues and the wider community. In doing so, they inscribed their local cultures across the geographic and digital locations, social activities, and genres of production of the scene. These inscriptions materialized the ephemerality of the local scene into digital inscriptions across social media for global gamemakers and the wider video game industry to see. These inscriptions revealed how the hidden involvement of scenes in the development of infrastructures in the city, the video game industry, and shared places of gamemaking become visible. They document how the cultural
activities of scenes are shifting into online environments, and how these emergent digital cultures are transforming our social, economic, legal, and cultural infrastructures.

Within the wider video game industry is a trend by companies, studios, and organizations to gift their game engines and digital tools to the everyday gamemaker because these companies see long term economic value in amassing gamemakers to their tools and platforms. This race for the labour of the everyday gamemaker has created a gift economy where companies are consistently developing resources to streamline the process of digital game development through the formation of extensive documentation, video tutorials, live streams, roadshows, and local community groups and online forums. This unprecedented access to the gamemaking tools of creation to develop, potentially, commercial-quality games has the everyday gamemaker spoilt for choice. As these companies continue to entice gamemakers to their game engines and digital tools, gamemakers are experimenting, hacking, and modding their way to creating digital games that challenge industry notions of digital games and what it means to be a “game developer.”

As gamemakers develop their digital games they engage with a variety of industry-based working conditions. Gamemakers “make-do” (de Certeau, 1984) with the working conditions given to them by the video game industry and renegotiate with these rules of production by transforming them into informal working conditions that enable them to make digital games in a variety of work and leisure spaces. Though many of these spaces are traditional venues of cultural activity, such as the home and workplace, everyday gamemakers have found ways to use the working conditions within these spaces to make their work- and leisure-based digital games. Moreover, other spaces have emerged, such as the game jam, coworking spaces, and third places, like cafés, that have been created or appropriated by gamemakers to develop their own working conditions of flexibility and time to make digital games, such as “crunch” and work-life balances. As these informal working conditions continue to develop, they feed back into the
industry as gamemakers make their digital games in a variety of work and leisure spaces of
digital game development.

When gamemakers approach completion of their digital games, they look for platforms of
distribution. Most gamemakers have platforms in mind when they begin the development of their
digital games, but most are happy to have a range of online, mobile, software, and console
platforms to choose from once their digital game is completed. The past decade has seen an
explosion of digital game platforms, particularly online platforms, that provide a venue for
almost any digital game to be released. While established platforms have larger circulations of
distribution, emergent online forms of distribution that enable gamemakers to self-publish their
digital games are catching on amongst the everyday gamemaker. This trend has forced industry-
established console platforms to open up their platform to the everyday gamemaker to self-
publish digital games on their platform. Moreover, these console platforms have created
mechanisms of exclusivity to entice gamemakers to develop digital games on its platform
through the gifting of hardware and software development tools and middleware. The emergence
of low-barriers-to-entry across all platforms of the video game industry has produced an excess
of digital games that has simultaneously created a plethora of penny dreadfuls and experimental
game designs that are shifting perceptions as to what can be considered a digital game and a
gamemaker.

Though this dissertation has been about how everyday gamemakers are developing the
video game industry, it has also been about how we establish value and measure the cultural
impact of the everyday gamemaker outside of industry-established forms of economic
quantification. Most industry reports, media, and academic scholarship consider value to be the
bottom-line: the economic contribution of developing the economy through the production of
cultural products and employment opportunities (ESA, 2017; ESAC, 2016). As I have shown,
there are tens of thousands, if not millions, of everyday gamemakers around the globe that fall outside of these established forms of economic measurement. This does not mean they do not contribute to the video game industry, but that to measure their impact upon the industry we must consider other cultural forms of measurement across the various stages of digital game development. By looking at how gamemakers develop scenes, build online communities, and produce annual festivals and game jams we can measure the cultural value of everyday gamemakers and their contributions to the development of the video game industry.

Future research can look at the influence of game jams and online distribution platforms in the development process of console releases that become commercial and critically-acclaimed successes; the role of gamemaker organizations in creating gender and racial parity in a predominantly white-male industry through the continual maintenance of incubator spaces and connections to prominent industry events and companies for marginalized and underrepresented communities; and the role of coworking spaces and other informal workspaces in establishing desirable working conditions to retain workers in an industry that burnout before the age of 40. As future scholarship considers the role of the everyday gamemaker in the wider cultural industries, it is important to remember that not all creatives contribute economically to the development of that craft. These everyday creatives are transforming the cultural, social, and legal infrastructures of producing cultural products that ultimately shape the economies of cultural industries. Gamemakers are making companies and organizations think differently about how to conduct business in their production, publishing, and manufacturing models. This cultural impact upon creative economies and industries is not easy to measure. It requires the application of qualitative methods with rich descriptions of the activities that produce these cultural products. Only then, once we have found multiple ways to measure how everyday creatives are affecting and influencing the wider cultural industries, will we be able to develop more
quantified forms of measurement that can alter how we conceptualize value within the media, scholarship, and everyday life.
## Glossary of Terms

**Apple**
Apple Inc. is an American multinational technology company that designs, develops, and sells consumer electronics, computer software, and online services. They distribute digital games on their mobile platform: Apple App Store.

**App Store**
Apple App Store is a mobile platform on iOS mobile and PC devices, such as the iPhone, iPad, iMac, Mac, and Apple Watch series.

**Console platform**
Console platform distributors are exclusive hardware that include their own software and networked environments.

**Construct 2**
Construct 2 is a game engine developed by Scirra Inc.

**Developer**
Developers are the professionalized digital game creators employed at first-party, second-party, third-party, and independent publishers and studios, that produce Triple-A and indie digital games.

**First-party**
First-party refers to a studio, company, or publisher that produces its own digital games and publishes its own digital games.

**FPS**
First-person shooter is a type of 3D digital game that involves guiding a player-character from a first-person perspective through an action-adventure or multiplayer-based environment.

**Game Jam**
Game jams are short and intense gamemaking activities that typically take place over a weekend from anywhere between 24 and 72 hours.

**Gamemaker**
Everyday gamemaker refers to creators of digital games in their broadest sense of the term to include developers, indies, modders, user-generated content (UGC) creators, and writers of interactive fiction.

**GameMaker Studio**
GameMaker Studio is a 2D game engine developed by the company YoYo Games.

**Google**
Google is an American multinational technology company run by Alphabet Inc. that specializes in internet-related services and products. They distribute digital games on their mobile platform: Google Play.

**Google Play**
Google Play Store is a mobile platform on Android mobile and PC devices, such as the LG, HTC, Nexus, and Samsung series.

**Homebrew**
Homebrew development refers to at-home digital game or software development, often for proprietary platforms. Homebrew gamemakers typically make digital games or software for old or outdated game consoles. This type of game development is commonly referred to as homebrew retro game development. Homebrew development can also
involve a level of illegal activity, such as cracking ROMs to operate pirated software or unofficial operating systems on restricted computing hardware.

Indie
Indie, or independent, refers to developers, studios, and companies that produce digital games outside of the traditional mode of production within the video game industry (i.e., Triple-A).

Interactive fiction
Interactive fiction, also referred to as a text adventure game, is a text-based digital game environment that involves guiding a player-character through text commands.

itch.io
itch.io is an online platform distributor of digital games run and owned by Lead Corcoran.

Microsoft Studios
Microsoft Studios is a publisher and distributor of digital games on Microsoft consoles and PC, and is run by the Microsoft Corporation.

MMOG
Massively multiplayer online game. A virtual world that is primarily focused around a specific game, or a system of games, in which most users actively take part.

MMORPG
Massively multiplayer online role-playing game. A specific type of MMOG that involves the players in collaborative role-play performances.

Mobile platform
Mobile platform distributors are portable hardware that include their own software and networked environments.

Modder
Modder refers to a gamemaker that modifies, hacks, or edits a released digital game and alters it into a new release of a digital game, commonly referred to as mod.

Nintendo
Nintendo Co., Ltd. is a Japanese multinational consumer electronics and digital game company. They make games, publish games, and distribute games on their console platforms, such as the Wii, WiiU, Switch, DS, 2DS, and 3DS.

Online platform
Online platform distributors are websites that include their own networked environment.

Platformer
Platformer is a type of 2D digital game that involves guiding a player-character to jump between suspended platforms to traverse obstacles within the environment.

Second-party
Second-party refers to studios and companies that produce digital games for other studios, companies, and publishers that own the IP.

SIE
Sony Interactive Entertainment is a publisher and distributor of digital games on PlayStation consoles, and is run by the Sony Corporation.
<table>
<thead>
<tr>
<th><strong>Software platform</strong></th>
<th>Software platform distributors operate on a variety of hardware that include their own networked environments.</th>
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</thead>
<tbody>
<tr>
<td><strong>Steam</strong></td>
<td>Steam is a software platform on PC, Mac, or Linux computers for the distribution of digital games published by Valve and other third-party studios and publishers.</td>
</tr>
<tr>
<td><strong>Stencyl</strong></td>
<td>Stencyl is a 3D game engine developed by the company Stencyl LLC.</td>
</tr>
<tr>
<td><strong>Third-party</strong></td>
<td>Third-party refers to studios and companies that produce digital games that are published by other publishers.</td>
</tr>
<tr>
<td><strong>Triple-A</strong></td>
<td>Triple-A, or AAA, refers to A lot of personnel, A lot of money, and A lot of resources. It is the acronym used when describing the release of mainstream, commercial, or blockbuster digital games, typically released on console platforms.</td>
</tr>
<tr>
<td><strong>Twine</strong></td>
<td>Twine is an open-source interactive fiction tool originally created by Chris Klimas and maintained by the Twine community.</td>
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<tr>
<td><strong>Unity3D</strong></td>
<td>Unity3D is a 3D game engine developed by the company Unity Technologies.</td>
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<tr>
<td><strong>Unreal Engine 4</strong></td>
<td>Unreal Engine 4 is a 3D game engine developed by the company and studio Epic Games.</td>
</tr>
<tr>
<td><strong>Valve</strong></td>
<td>Valve Corporation is an American developer studio, publisher, and distributor of digital games. They make games, publish games, and distribute games on their software platform: Steam.</td>
</tr>
<tr>
<td><strong>Virtual worlds</strong></td>
<td>Online, persistent, three-dimensional, multiuser digital environment, within which users, actions, interactions, and items are situated and represented virtually.</td>
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</tbody>
</table>
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Appendix A

1 Organization Introductory Email Message

Dear [organization name],

My name is Chris Young and I am a doctoral researcher at the Faculty of Information at the University of Toronto. I am conducting a study to learn more about the experiences of hobbyist game developers in Toronto. Specifically, I am studying how hobbyist game developers seek and use specific information resources under certain working conditions in the Toronto game developer scene to develop digital games in their free time.

As part of my study, I will be attending a number of public and “open-to-the-public” events held by various game-related organizations based in the Greater Toronto Area, which will include occasional workshops, social gatherings, game “jams,” meet-ups and festivals. I would like to attend these events as a “participant observer,” taking field notes and documenting the activities and culture that unfold there, getting a sense of what goes on and who participates, talking to attendees, and participating firsthand in the events themselves. Ideally, I would also like to use some of these events as a place to meet potential participants in my larger study, which will involve a series of one-on-one interviews (to be scheduled at later dates).

I’m writing to ask your permission to attend your event in this capacity, and to approach attendees for the purposes of my study. Along with your permission, I’d also like to ensure that attendees are made aware of my presence. For smaller events and programs that are hosted by one or two individuals (i.e., workshops), I would ask that the event organizer announce in advance my intention to attend. If community members express a preference for me not to attend, I will honor such requests.

For larger public events, where it may not be feasible to provide advanced notice of my intention to attend as a participant observer, I will wear a T-shirt stating that I am a researcher. At all events, I will introduce myself as a graduate student researcher, and will bring recruitment flyers and business cards with my name and contact information should anyone wish to follow up about the study.

My study has been approved by the University of Toronto Office of Research Ethics, and all of my research and the data I gather from these events comply with the University’s standards around participant informed consent, privacy, confidentiality, and the right to withdraw from the study at any time. In the field notes that I will take at your event (and in any resulting written reports), I will omit the names of attendees or use pseudonyms to maintain their confidentiality. For individuals who are photographed at events, I will gain their permission to reproduce the photographs in my dissertation or any subsequent publications by asking them to sign a separate consent form. A copy of this separate consent form is attached to this email, for your reference.

If you agree to allow me to participate as a participant observer, please sign below and return this form to me at your earliest convenience. There is also a section for you to fill out specifying the level of access you are willing to grant me – for instance, if there are only certain events you would like to grant me consent to attend (but not others), you can specify which ones
below. Similarly, if you agree that I can attend, but would not like to me take photos at the event, you can specify this as well.

If you have any questions or concerns that you would like to discuss before granting consent (or about the study generally), please contact me, Chris Young, at 416-845-2931, or by email at christopher.young@utoronto.ca.

If you have any further questions about your rights as a participant in this study, please contact the University Of Toronto Office Of Research Ethics at 416-946-3273 or by email at ethics.review@utoronto.ca. You may also contact the researcher’s supervisor, Dr. Sara Grimes by email at sara.grimes@utoronto.ca.

Thank you for your time,

Chris

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Appendix B

2 Organization Consent Form

I, [organization representative], am fully aware of the nature and extent of my administrative consent to allow the researcher to participate in programs and events offered by my organization. I acknowledge that the researcher has explained the study and that I have been given an opportunity to have my questions about the study answered. I also acknowledge that I have received a copy of this consent letter and form.

Signature__________________________ Date____________________

Please indicate if this consent covers only specific events. If so, please list which events are covered by the consent. If not, it will be assumed that the consent covers all upcoming public and open-to-the-public events your organization holds between now and October 2016.

[List of events inserted here]

Please indicate your consent to the following, using a checkmark in front of the relevant option:

1. Permitting the researcher to enter your organization during scheduled events to observe the goings-on and activities involved, to meet and speak with participants, and to take notes about key points from conversations and observations.

   Yes ___   No ___

2. Permitting the researcher to take photographs of documents, objects, spaces, activities, organizers and individuals during scheduled events. (Note: These photographs will not contain any information that may identify participants or your organization.)

   Yes ___   No ___
Appendix C

3  Recruitment Flyer

Do you make digital games for fun?
Are you learning to make digital games
to break into the industry?

I would like to learn more about your experiences as a non-professional, aspiring, or
other type of “hobbyist” (i.e. just for fun) game maker in the Greater Toronto Area. I
am a doctoral researcher at the University of Toronto and am studying how hobbyist
digital game makers seek and use specific resources and technologies under certain
informal working conditions in the Greater Toronto Area.

Making digital games has become an increasing hobby in Canadian society over the
past decade or so. There is still a lot we need to know about hobbyist game makers
and their important contributions to wider trends in the global digital games
industry.

You are eligible to participate in this project if you are:

- 18 years of age or older
- Living in the Greater Toronto Area
- Comfortable communicating in English
- Interested in sharing your experiences making digital games

If you are interested in participating, please contact me. If you know someone else
who might be interested in participating, please forward my flyer to them.

The study has been reviewed and approved by the University of Toronto Review
Ethics Board (REB) and is being conducted out of the Semaphore Lab at the
University of Toronto.

Contact: Chris Young
Email: christopher.young@utoronto.ca
Phone: 416-845-2931

Supervisor: Dr. Sara Grimes
Email: sara.grimes@utoronto.ca
4 Participant Recruitment Letter

Dear [participant name],

My name is Chris Young and I am a doctoral researcher at the Faculty of Information at the University of Toronto. I am studying how hobbyist game developers seek and use specific information resources under certain informal working conditions to develop digital games in their free time.

You are eligible to participate in my study if you:

- Are 18 years of age or older;
- Live in the Greater Toronto Area (GTA);
- Are comfortable communicating in English; and
- Are interested in sharing your experiences developing digital games.

If you are eligible and interested in participating, I would love to learn more about YOUR experiences of developing digital games in Toronto.

If you choose to take part in this study, you will be asked to participate in 6-8 interviews periodically over a period of 8-12 months. Each interview should take approximately 1-2 hours each (depending on how much you would like to discuss). The reason for multiple interviews is to capture as much data as possible through all stages of how you develop a digital game from start to finish. My goal is to gather rich information that will reflect your own, personal process and experience of making games, in an accurate and nuanced way.

During these interviews, we’ll discuss a range of different topics, from your experiences developing digital games in Toronto, to details about how you seek and use resources and technologies in developing digital games; from your thoughts on the Toronto game scene, to the reasons why you develop digital games in the first place. I will also ask you to give me a guided tour of the workspace you use to develop digital games, and permission to take digital photographs of relevant resources and technologies that are important to your game development. I will modify images that are used in presentations and publications to remove any identifiable information, such as an image of your face, to maintain your confidentiality and anonymity.

Interviews will take place at a location that is convenient for you, such as a meeting room at a local workspace, a café, a public library, your home, or another public space you feel comfortable in. To help interviews flow smoothly and ensure that I remember the details of your responses, interviews will be audio-recorded—unless you prefer otherwise. I will transcribe and review our interviews when I prepare my research findings.

While there is no compensation associated with your participation in this study, you may find that focused conversations about and reflections upon your experiences in developing digital games will increase awareness of your career as a game developer. Moreover, I also develop
digital games in my spare time and you may find discussions with a fellow peer to be useful in developing your own digital game.

Your participation in this study is completely voluntary. You may refuse to answer any questions, and may withdraw your participation at any time, without any negative consequences. If you decide to withdraw from the study, I will remove any information that you have shared from the project. (Please note that the exception to this is in the case that research findings have already been presented or published).

Your identity and all information that you share will be kept confidential and anonymous. I will collect your phone number and/or email address for the purpose of contacting you to schedule interviews and to share my research findings with you once the study is complete. Data collected as part of this study will be kept securely locked in filing cabinets and on a password-protected computer and encrypted USB for an indefinite length of time to allow for the completion of my dissertation and subsequent academic presentations and publications based on my doctoral research. All identifiable electronic information outside of a secure server environment will be encrypted, consistent with the University of Toronto’s data security and encryption standards. When the final dissertation is completed, a summary of the research findings and a link to my dissertation will be offered to you.

If you have any further questions regarding this study, please contact me at 416-845-2931, or by email at christopher.young@utoronto.ca

If you have any further questions about your rights as a participant in this study, please contact the University Of Toronto Office Of Research Ethics at 416-946-3273 or by email at ethics.review@utoronto.ca. You may also contact my supervisor, Dr. Sara Grimes, at 416-978-5269, or by email at sara.grimes@utoronto.ca.

Thank you for your time,

Chris

Chris J. Young, PhD Candidate
B.A. (Hons.), M.A., M.I.
Faculty of Information, University of Toronto
140 St. George Street, Toronto, ON M5S 3G6
http://ischool.utoronto.ca/phd/chris-j-young
Appendix E

5 Participant Consent Form

Please indicate your consent to the following, using a checkmark in front of the relevant option:

1. Being audio-recorded while conducting interviews
   Yes ___   No ___

2. Having photographs taken of documents, objects, and spaces used to explain my experience of developing digital games. (Note: These photographs will not contain any information that may identify you personally, or places and organizations with which you may be associated.)
   Yes ___   No ___

3. Using excerpts from interview transcripts in the presentation and publication of research.
   Yes ___   No ___

4. Using collected photographs in the presentation and publication of research.
   Yes ___   No ___

If you have any further questions regarding this study, please contact the researcher, Chris Young, at 416-845-2931, or by email at christopher.young@utoronto.ca.

If you have any further questions about your rights as a participant in this study, please contact the University of Toronto Office of Research Ethics at 416-946-3273 or by email at ethics.review@utoronto.ca. You may also contact the researcher’s supervisor, Dr. Sara Grimes by email at sara.grimes@utoronto.ca.

I, [participant name], am fully aware of the nature and extent of my participation in this study as stated above. I acknowledge that the researcher has explained the study. I hereby agree to participate in this study. I also acknowledge that I have received a copy of this consent letter and form.

Signature__________________________ Date____________________
6  Interview Questions

6.1  Interview 1

6.1.1 Demographics

Could you describe, in your own words how you self-identify with any demographics, identities, social groups, traits, and/or marginalizations?

6.1.2 Video Games

What types of games do you like to play? What kind of games do you not like to play?

6.1.3 The Career of the Gamemaker.

What got you interested in making games?
Can you give an overview your game making career starting with your earliest memories up to the present?
Can you identify any key turning points in your personal development as a game developer?
How would you describe your current situation in making games? Where do you feel you currently fit in the wider scheme of your career?

6.1.4 An Experience of Gamemaking.

Please tell me about a recent game development experience.
How did you make or come to the initial decision to develop a game?
What were some of the key steps you took in developing your game (prompts, and then what happened? What came next, etc.).
Did you finish the game?
When and how did you finish it?
How did you know it was done?
Do you have any other thoughts or reflections on the experience as a whole that you’d like to share?

6.1.5 GameMaker Aspirations.

Do you have any professional aspirations as a game developer?
The types of games you would like to make?
The kinds of people or companies you would like to work with or for?
The kinds of tools and skills you would like to learn?
Are there any other aspirations you think would benefit your career?

6.2 Interview 2

6.2.1 Tools and Resources

What do you do to stay informed about game development? So, how do you acquire new ideas for making games or keep up with current trends?*
How do you Find the right software to build digital art?*
How do you Find the right software to build digital music?*
How do you Find the right programming language?*
How do you Find the right software developer kit (SDK)?*
How do you Find the right resource to market your games?*
How do you Maintain a game development book collection?*
Do you Share your knowledge about game development with others? If so, how?*
Do you Create your own information resources? If so, how?
What are your main information resources for developing a game? And by information resources, what I mean is the kind of tools, reading materials, and sources of inspiration that influence how you develop your game.

6.2.2 Informal Working Conditions

Please tell me about your employment history, including the different kinds of jobs you have worked leading up to your current employment. Of course, these jobs do not necessarily have to be related to game development.
What’s the relationship between your work-life and your game development activities?
Please tell me about any challenges you have faced or anticipate facing in as a game developer (hobbyist or otherwise)?
Do you face any difficulties during the game development process?
Do you find it challenging to find places to work on your games?
What about the cost and time commitments required?
What is your experience in gaining access and the knowledge required for learning to use different tools and develop skills?
Are there any other challenges you have faced related game development?

6.3 Interview 3

6.3.1 Locations

Please tell me about the spaces in which you work on your digital games, such as your home, cafés, libraries, and other communal or public spaces. What are they like? Why do you choose to work there?

6.3.2 Genres of Production

Please tell me about the types of games you produce or would like to produce. Would you describe them as belonging to a particular genre? How so or why not?

6.3.3 Social Activities

Do you participate in any game-related social activities in Toronto, such as attendance at events, participation in game jams and workshops, and informal networking that can include socializing with colleagues and friends? Please tell me about them.

6.3.4 Scene

What game development related activities do you participate in?
What aspects do you find to be the most valuable?
What aspects do you find to be the least valuable?
6.3.5 Video Games Industry.

Please tell me what you think about the state of the current digital games industry.
What do you think about the working conditions in the digital games industry?
Have you had any bad experiences working on games? Or have you met anyone who has had a bad experience in the games industry? Please specify.

*These phrases may change as I learn more about gamemakers, the scene, tools and resources, and working conditions of gamemaking
Appendix G

7 Cultural Activities Attended in the Scene

TABLE 3

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Wednesday, November 26, 2016</td>
<td>Ryerson Gamemaker’s Union</td>
<td>Ryerson University</td>
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<td>Friday, November 28, 2014</td>
<td>IGDA Talk: &quot;Level Headed&quot;</td>
<td>Metro Hall</td>
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<td>Friday, December 05, 2014</td>
<td>Winter Bit Bazaar</td>
<td>Bento Miso</td>
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<td>Wednesday, December 17, 2014</td>
<td>Trios College Game Development Class</td>
<td>Trios College</td>
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<td>Thursday, January 15, 2015</td>
<td>University of Toronto Game Design and Development Club</td>
<td>University of Toronto</td>
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<td>Saturday, January 17, 2015</td>
<td>Work at Bento Miso</td>
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<td>Friday, January 23- Sunday, January 25, 2015</td>
<td>Toronto Global Game Jam</td>
<td>George Brown</td>
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<td>Saturday, January 24, 2015</td>
<td>DMG January Monthly Social</td>
<td>Bento Miso</td>
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<td>Tuesday, January 27, 2015</td>
<td>IGDA Talk: &quot;QA Q&amp;A&quot;</td>
<td>Metro Hall</td>
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<td>Torontaru</td>
<td>Get Well</td>
<td>4</td>
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<td>Saturday, February 7- Sunday, February 8, 2015</td>
<td>DMG Game Jam: &quot;Feb Fatale 3&quot;</td>
<td>Bento Miso</td>
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<td>Wednesday, February 11, 2015</td>
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<td>Thursday, February 19- Sunday, February 22, 2015</td>
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<td>Thursday, April 02, 2015</td>
<td>Level Up!</td>
<td>The Design Exchange</td>
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<td>Saturday, May 09, 2015</td>
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<td>Saturday, September 24, 2016</td>
<td>Hand Eye Society: Fancy Video game Party</td>
<td>Masonic Temple</td>
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Copyright Acknowledgements

Figures 1 and 2 were designed by Farzaneh Victoria Fard for the author of this dissertation. All other tables and figures are the copyright of the author.