Introduction to Infographics

Kelly Schultz, Data Visualization Librarian

300,000 cetaceans are killed every year

Just over 27 million tonnes of marine life are discarded annually as a result of fishing

89% of hammerhead sharks have disappeared from the Northeast Atlantic ocean in the last 18 years
Agenda

• Learning Objectives
• Introduction to Infographics
• Design Process – Best Practices
• Activity: Critique
• Wrap-up
Learning objectives

• Participants will be able to:
  ✓ Recognize what infographics are and when to use them
  ✓ Critique infographics, using their knowledge of best practices
  ✓ Be aware of Map & Data Library services where they can go for more help
What are Infographics?
Infographic Example - Inform

Diabetes: The silent scourge

Infographic Example - Inform

Diabetes by country for those prevalent (2014)

- Africa: 1.8 million
- Americas: 1.2 million
- Eastern Mediterranean: 1.0 million
- Europe: 2.5 million
- South-east Asia: 1.3 million
- Western Pacific: 0.9 million

Diabetes in Singapore

- Singapore launched an “eat right, be active” campaign to promote healthy eating and exercise. The campaign focused on the importance of regular exercise and a balanced diet. It aimed to reduce the risk of diabetes and heart disease by encouraging people to make healthy lifestyle choices. The campaign was successful in raising awareness about the importance of physical activity and healthy eating. It also provided practical tips and resources to help people adopt healthier habits. The campaign was a great example of how public health campaigns can be effective in promoting healthy lifestyles. It also showed the importance of government support in promoting healthy habits. Overall, the campaign was a great success, and it helped to reduce the risk of diabetes and heart disease in Singapore.
World’s Deadliest Animals
Number of people killed by animals per year

- 10 Shark
- 10 Wolf
- 100 Lion
- 100 Elephant
- 500 Hippopotamus
- 1,000 Crocodile
- 2,000 Tapeworm

10,000 Freshwater snail (schistosomiasis)

10,000 Assassin bug (Chagas disease)
10,000 Tsetse fly (sleeping sickness)
25,000 Dog (rabies)
50,000 Snake

Infographic Examples - Persuade
Why use Infographics?
Audience and Purpose
Storytelling
Common Visuals

**TIMELINE**

- **2002** LinkedIn: A business- and employment-oriented social networking service that operates via websites and mobile apps.
- **2004** Facebook: An online social media and social networking service based in Menlo Park, California.
- **2005** YouTube: First large-scale video-sharing website that makes it easy to watch videos online.
- **2006** Twitter: A service for friends, family, and the world to talk and see what’s happening.

---

**Ways to Travel**

- TRAIN
- CAR
- BIKE
- PLANE

4200 VACCINES ADMINISTERED

✅ Way to Travel

❌ Way to Travel

- TRAIN
- CAR
- BIKE
- PLANE
Common Charts & Graphs

BAR GRAPH

LINE GRAPH

PIE CHART

MAP
Chart & Graph Tips – Bar Graphs

- **Baseline at 0**: This is correct.
- **Baseline at 10**: Hm, first bar got shorter.
- **Baseline at 20**: It’s going...
- **Baseline at 30**: ...going...
- **Baseline at 40**: ...going.
- **Baseline at 50**: First bar is gone.
Chart & Graph Tips – Scale Intervals

- Avoid using an interval that distorts the data. For example, the interval from 12/11 to 12/14 in the top chart is misleading.
- Use a more appropriate interval, as shown in the bottom chart, to accurately represent the data.
Chart & Graph Tips – Pie Charts

- 2 slices: Not bad.
- 4 slices: Still bearable.
- 8 slices: Um.
- 16 slices: Wait.
- 32 slices: Stop it.
- 64 slices: Now you’ve done it.
Chart & Graph Tips – 3D
Chart & Graph Tips – Maps
Clarity vs Creativity
Integrity

![Graphs demonstrating the importance of integrity in data presentation.]

**References**
- Map: By Lokal_Profil image cut to remove USA by Paul Robinson [CC BY-SA 2.5 (https://creativecommons.org/licenses/by-sa/2.5)], via Wikimedia Commons
- Note: Houses = Single-detached houses

**Gun deaths in Florida**
Number of murders committed using firearms

- 2005: Florida enacted its ‘Stand Your Ground’ law

Source: Florida Department of Law Enforcement
C. Chan 16/02/2014
Planning
What is Lorem Ipsum?

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry’s standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

Why do we use it?

It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using ‘Content here, content here’, which makes it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their default model text, and a search for ‘lorem ipsum’ will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by accident, sometimes on purpose (injected humour and the like).

Where does it come from?

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a Latin professor at Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum passage, and going through the cites of the word in classical literature, discovered the undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by Cicero, written in 45 BC. This book is a treatise on the theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, "Lorem ipsum dolor sit amet..", comes from a line in section 1.10.32.

The standard chunk of Lorem Ipsum used since the 1500s is reproduced below for those interested. Sections 1.10.32 and 1.10.33 from "de Finibus Bonorum et Malorum" by Cicero are also reproduced in their exact original form, accompanied by English versions from the 1914 translation by H. Rackham.
Sans Serif
No serif everywhere. Plain without strokes.

Serif
Serifs everywhere. The small strokes flourished that adorn the letterings.

Fonts

Arvo
Source Sans Pro

### Colour Blindness - Coblis

<table>
<thead>
<tr>
<th>Trichromatic view:</th>
<th>Anomalous Trichromacy:</th>
<th>Dichromatic view:</th>
<th>Monochromatic view:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Red-Weak/Protanomaly</td>
<td>Red-Blind/Protanopia</td>
<td>Monochromacy/Achromatopsia</td>
</tr>
<tr>
<td></td>
<td>Green-Weak/Deuteranomaly</td>
<td>Green-Blind/Deuteranopia</td>
<td>Blue Cone Monochromacy</td>
</tr>
<tr>
<td></td>
<td>Blue-Weak/Tritanomaly</td>
<td>Blue-Blind/Tritanopia</td>
<td></td>
</tr>
</tbody>
</table>

Use lens to compare with normal view:  
- No Lens  
- Normal Lens  
- Inverse Lens
Colour Considerations

- **Trichromatic view:**
  - Normal
  - Red-Weak/Protanomaly
  - Green-Weak/Deuteranomaly
  - Blue-Weak/Tritanomaly

- **Anomalous Trichromacy:**
  - Red-Weak/Protanomaly
  - Green-Weak/Deuteranomaly
  - Blue-Weak/Tritanomaly

- **Dichromatic view:**
  - Red-Blind/Protanopia
  - Green-Blind/Deuteranopia
  - Blue-Blind/Tritanopia

- **Monochromatic view:**
  - Monochromacy/Achromatopsia
  - Blue Cone Monochromacy

Use lens to compare with normal view:
- No Lens
- Normal Lens
- Inverse Lens

[Reset View] [Open simulated image in new window]
while syncing. Or in more technical terms, Reeder doesn’t depend on CoreData anymore by using SQLite directly.

So, there is better performance, what else will make Reeder 2.0 so much better than 1.2? Well, let’s start with...

State saving

Finally, Reeder will remember where it was last time you used it. When quitting the app, Reeder will save its state and restore it on relaunch. No need to panic anymore if you get a phone call while reading an article.
Resources

• Data Visualization Guide: https://mdl.library.utoronto.ca/dataviz/getting-started
  • Design Principles section (with data viz tips): https://mdl.library.utoronto.ca/dataviz/design-principles
  • Speciality Visualization Areas section (with map making tips): https://mdl.library.utoronto.ca/dataviz/specialty-visualization-areas
  • Research about visual variables and visual perception are found in this section of the data viz design workflow page: https://mdl.library.utoronto.ca/dataviz/workflow#elements
  • Data Viz Guide’s Books, Blogs & More page : https://mdl.library.utoronto.ca/dataviz/books-blogs-and-more

• Specific resources supporting the ideas mentioned on why visualization and storytelling are so powerful:
  • The Visual Display of Quantitative Information by Edward Tufte: http://go.utlib.ca/cat/4595165
  • “Brain Rules: Vision” by Dr. John Medina: http://brainrules.net/vision (also see the accompanying PDF of additional references for more information)
  • Useful Fictions: Evolution, Anxiety, and the Origins of Literature by Michael Austin: http://go.utlib.ca/cat/7363935

• Learn more about storytelling with Data Visualization:
Resources Continued

• Modular Scale (for selecting font sizes): http://www.modularscale.com/?12&pt&1.5
• How to Choose Fonts (with sample font pairings): https://venngage.com/blog/how-to-choose-fonts/
• Links about scale and misleading graphs:
  • Bars and lines: méfiez-vous des morceaux choisis: https://excelcharts.com/of-bars-and-lines/
• University of North Carolina Chapel Hill Infographic Planning Worksheet: https://guides.lib.unc.edu/ld.php?content_id=33197056
Resources Continued

• Infographic examples (books):
  • Infographic Designers' Sketchbooks: http://go.utlib.ca/cat/9861504
  • Infographics: Designing and Visualizing Data: http://go.utlib.ca/cat/9985210
  • Infographics: The Power of Visual Storytelling: http://go.utlib.ca/cat/8722500

• Colour palettes:
  • Adobe Color CC: https://color.adobe.com/explore/most-popular/?time=all
  • Color Brewer: http://colorbrewer2.org/#type=sequential&scheme=BuGn&n=3
  • LOLColors: http://www.lolcolors.com
  • COLOURlovers: http://www.colourlovers.com/
  • Coolers: http://coolors.co/

• Coblis – Color Blindness Simulator: http://www.color-blindness.com/coblis-color-blindness-simulator/
Resources Continued

• Books on colour psychology:
  • Handbook of color psychology: http://go.utlib.ca/cat/10415098
  • Colour hunting: How colour influences what we buy, make and feel: http://go.utlib.ca/cat/8235358


• Inclusive Design: How to Make Your Visuals Accessible to All: https://piktochart.com/blog/inclusive-design-make-visuals-accessible/

• University of North Carolina Chapel Hill Evaluation Rubric for Design of Infographics: https://guides.lib.unc.edu/ld.php?content_id=35032138

• Some Useful Infographic Design Articles:
  • The Ultimate Infographic Design Guide: 13 Tricks for Better Designs: https://venngage.com/blog/infographic-design/
  • How to Make an Infographic in 5 Steps: https://venngage.com/blog/how-to-make-an-infographic-in-5-steps/
  • Infographic Design: https://www.canva.com/learn/how-to-design-infographics/
  • Piktochart Design Series: With These 8 Articles You Can Now Design Like a Pro: https://piktochart.com/blog/infographics-design-series-design-your-infographic-like-a-pro/
Infographic Creation Tools

• Desktop Tools:
  • Adobe Illustrator: https://www.adobe.com/ca/products/illustrator.html
  • Microsoft PowerPoint: https://products.office.com/en-ca/powerpoint

• Online Tools:
  • Piktochart: https://www.piktochart.com/
  • Canva: https://www.canva.com/
  • Venngage: https://venngage.com/
  • Easelly: https://www.easel.ly/
  • Infogram: https://infogram.com/
Useful Websites for Free Icons, Images, etc.

- https://www.flaticon.com/
- https://thenounproject.com/
- https://unsplash.com/
- https://pixabay.com/
- https://morguefile.com/
- https://www.flickr.com/commons
- https://commons.wikimedia.org/wiki/Main_Page
Critiquing an Infographic
Let’s work together – groups of 2 or 3
About MDL

Start your search -> mdl.library.utoronto.ca

search by title □ Map and Data only ☑

Contact us: mdl@library.utoronto.ca
Wrap-Up
Image credits


• Slide 2: Manos, morguefile.com/xololounge, http://mrg.bz/Yda9lS


• Slide 7: Binoculars portrait (dscn4659_mod_vign_sm), flickr.com/gerlos, https://flic.kr/p/5KGg5B
Image credits

• **Slide 8**: *Photo Editing*, bestreviewsbase.com & flickr.com/James Baker, [https://flic.kr/p/WjBc3z](https://flic.kr/p/WjBc3z)

• **Slide 9**: *audience wave*, flickr.com/Gavin Tapp, [https://flic.kr/p/aqvnet](https://flic.kr/p/aqvnet)

• **Slide 10**: *Not Fade Away.....*, flickr.com/Daniel Go, [https://flic.kr/p/ayqr9r](https://flic.kr/p/ayqr9r)


• **Slide 12**: “How to Make an Infographic in 5 Steps”, Midori Nediger, [https://venngage.com/blog/how-to-make-an-infographic-in-5-steps/](https://venngage.com/blog/how-to-make-an-infographic-in-5-steps/)

Image credits

• Slide 14: “Chart Dos and Don’ts”, Angela Zoss, https://guides.library.duke.edu/datavis/topten
• Slide 21: Vincenzo di Maria, flickr.com/Kennisland, https://flic.kr/p/ffJHBz
Image credits

- **Slide 25**: Coolors, https://coolors.co/
- **Slides 26**: ColorBrewer: http://colorbrewer2.org
- **Slides 27 & 28**: Coblis — Color Blindness Simulator: http://www.color-blindness.com/coblis-color-blindness-simulator/
Image credits

• **Slide 29**: “Introduction to Web Accessibility”, W3C Web Accessibility Initiative, [https://www.w3.org/WAI/fundamentals/accessibility-intro/#examples](https://www.w3.org/WAI/fundamentals/accessibility-intro/#examples); Contrast Rebellion, [https://contrastrebellion.com/](https://contrastrebellion.com/)

• **Slide 36**: *WisCEL_classroom12_7871*, flickr.com/college.library, [https://flic.kr/p/e8RE6D](https://flic.kr/p/e8RE6D)

• **Slide 38**: *audience wave*, flickr.com/Gavin Tapp, [https://flic.kr/p/aqvnet](https://flic.kr/p/aqvnet)

*Special thank you to Lorin Bruckner, UNC Chapel Hill Libraries, for sharing her slides for her “Working with Infographics” workshop – my workshop was inspired and informed by her work*