Data Visualization

A resource by DesignLab @ UW-Madison

Data visualization makes complex information accessible through imagery. It includes traditional data-driven graphics, like charts, scientific posters, and maps. Data visualizations also appear in more popular forms like infographics, and as part of broader information portfolios, such as presentations, websites, or pamphlets.

Process

Find Data

- Find a source - data is available through government sources and online databases.
- Clean the data - may incomplete or inaccurate. This may make visualization difficult.
- If combining data sets, consider whether they are comparable or not.

Find a Story in the Data

- What does the data mean? What does it tell you?
- What is interesting to you or to your audience?

Pick Visuals That Match the Data

- Temporal data: use a timeline or series or images.
- Spatial data: use a map or diagram.
- Growing or shrinking: use different sizes.
- Increasing in severity: use different colors.

Create a Visual Hierarchy

- More important things should be most visible.
- Less important things should be in the background.

Software and Tools

Useful Websites

- Information Is Beautiful: http://informationisbeautiful.net
- Visual.ly: http://visual.ly
- Flowing Data: http://flowingdata.com

Classes and Resources

- Software Training for Students (STS)
  Illustrator, Excel: Data Visualization, Powerpoint: Advanced Topics and Posters
- Lynda Training
  Illustrator, Powerpoint, Prezi, Keynote
- Software
  Adobe Illustrator, Microsoft Excel, Powerpoint

Data Source Materials

- US Census
  http://www.census.gov/main/www/access.html
- Natural Earth
  http://www.naturalearthdata.com
- National Institutes for Health (NIH)
  http://www.nlm.nih.gov/hsrinfo/datasites.html
- Centers for Disease Control (CDC)
  http://www.cdc.gov/datastatistics
- National Air and Space Administration (NASA)
  http://www.nasa.gov/open/data.html
- Supplemental Nutrition Assistance Program
  http://www.fns.usda.gov/data-and-statistics
- National Climatic Data Center, NOAA
  http://www.ncdc.noaa.gov
- ICPSR, University of Michigan
  http://www.icpsr.umich.edu
- Robinson Map Library, UW-Madison
  http://www.geography.wisc.edu/maplib
- Internet Data Sources, Cornell University
  http://ciser.cornell.edu/info/datasource.shtml
- Amazon Public Data Sets
  http://aws.amazon.com/publidatasets
- Twitter Public Streams
  https://dev.twitter.com/docs/streaming-apis/streams/public
- Wikileaks
  http://wikileaks.org
- New York City Open Data
  https://nycopendata.socrata.com/
- City of Chicago Data Portal
  https://data.cityofchicago.org
- City of Madison Open Data
  https://data.cityofmadison.com/
- Sports Reference
  http://www.sports-reference.com/

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