Data as information
Data as information

Race and Ethnicity, Washington DC, 2000
http://www.flickr.com/photos/walkingsf/4981417821/

Race and Ethnicity, Washington DC, 2010
http://www.flickr.com/photos/walkingsf/5559893527/

Red is White, Blue is Black, Green is Asian, Orange is Hispanic, Yellow is Other, and each dot is 25 residents.
Information Visualization Defined

Here is one possible way to define info viz:

“a compact graphical presentation of data and the user interface to manipulate it”
"Moore's Law" -vs- Human Psychology

(This slide is a variation of one presented by Bill Buxton)
Good information visualization supports...

• Making discoveries...
• Making decisions...
• Discovering patterns...
• Finding relevant information...

With good visualizations people can see trends, clusters, gaps, and outliers. Use of colors, sizes, shapes, and locations all help with this.
Data Graphics should...

- Show the data...
- Not get in the way of the message...
- Avoid distortion...
- Present many values in a small space...
- Make large data sets coherent...
- Encourage comparison between data...
- Supply both a broad overview and fine detail...
- Serve a clear purpose...
Modern Example: XKCD (2011)

or [http://imgs.xkcd.com/blag/radiation.png](http://imgs.xkcd.com/blag/radiation.png)
How to represent quantity?

八, 四

# Buffalo
# Buffalo / kids

# Adults
# Kids
Visual Human Explorer (1996)
Revealing Patterns Interactively

http://acg.media.mit.edu/people/fry/zipdecode/
What did the 2008 Electoral Map look like?
By County
TreeMaps for InfoViz
TreeMaps for InfoViz
TreeMaps for InfoViz
TreeMaps for InfoViz
Color Choice Matters

- Colors might have meaning or alter moods
  - red = bad? green = good? light blue-green = tranquil?
- Some sites suggest non-conflicting color sets
  - ColorBrewer2.org, ColorSchemer.com/online.html
- Consider things such as color-blindness
  - VisCheck.com
Captology

• the study of computers as persuasive technologies. This includes the design, research, and analysis of interactive computing products (computers, mobile phones, websites, wireless technologies, mobile applications, video games, etc.)

• created for the purpose of changing people’s attitudes or behaviors.
Captology: behavior wizard

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<td>Maintain behavior for a period of time</td>
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<td>Decrease behavior for a period of time</td>
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<td>Decrease behavior from now on</td>
<td>Stop behavior from now on</td>
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Invisible Power Dynamics

Real names policy
OWS media repression
Representational Visualization

Japanese mailbox
http://capl.washjeff.edu/5/m/108.jpg

United States mailbox
http://capl.washjeff.edu/2/m/3903.jpg
Representational Visualization

Backscatter Imaging in airports:

Closing Thoughts...

- "If a picture is worth 1000 words, then an interface is worth 1000 pictures."
- Keep user tasks and goals in mind.
- Encourage exploration but don't overwhelm the users.
- Overview, zoom, filter, details on demand.