Day 2: Introduction to Visualizations

matplotlib
Summarize
Complex
Exploring

**Graph:**
- **x-axis:** Dec 2006 to Dec 2008
- **y-axis:** 0 to 6e7
- **Legend:**
  - Blue: Obama's Donations
  - Green: McCain's Donations

The graph shows the trend of donations over time for Obama and McCain, with a significant spike for Obama in Sept 2008.
Storytelling

http://www.gapminder.org/
Animation?
Animation?

ONLY SOMETIMES
“The Message”

Grandmaster Flash (1982)
Visualization != Sexy Pictures
Fewer than 50% become symptom-free on antidepressants, even after trying two different medications. Furthermore, many who do respond to medication slip back into major depression within a short while, despite sticking with drug treatment.

90% experience side effects

Most are minor. Diarrhea, dizziness, dry mouth, fatigue, headache, nausea, sexual side effects, sweating, tremors, and weight changes are the most common. Sometimes they are very severe, making it necessary to discontinue the medication and try another.

6.6% of the U.S. adult population had experienced a major depressive

2012 PRESIDENTIAL RUN

GOP CANDIDATES

BACK PALIN 70%
BACK HUCKABEE 63%
BACK ROMNEY 60%

SOURCE: OPINIONS DYNAMIC

http://visualizeit.wordpress.com/category/bad-visualization/
The Basics
The Basics

blog.okcupid.com
Would you consider sleeping with someone on the first date?
- % answering yes -

http://blog.okcupid.com
Scatter Plot

Per Capita GDP vs. Portion of People Looking for Casual Sex

http://blog.okcupid.com
Line Graph

people with X or fewer sex partners

http://blog.okcupid.com
Choropleth Plots

Who's Gay Curious in the U.S. & Canada

http://blog.okcupid.com
Box Plots

[Image of box plots showing data distributions for different countries: USA, France, Japan, Germany, Sweden, and Italy.]
matplotlib
Python’s version of Matlab plotting
How matplotlib Draws
Figure object
Subplot object

Figure

Subplot

Draw in here

Subplot

Draw in here
`figure.add_subplot(2, 3, 1)`

Diagram:
- 3 columns
- 2 rows
figure.add_subplot(2, 3, 1)

2 rows
3 columns
figure.add_subplot(2, 3, 1)
figure.add_subplot(2, 3, 1)

2 rows

3 columns
Charting Library

- subplot.bar()
- subplot.plot()
- subplot.scatter()
- subplot.boxplot()
Polygons

Figure

Subplot
Overlaps

Figure

Subplot
Choropleth Plots

Who's Gay Curious in the U.S. & Canada

http://blog.okcupid.com
No Easy Way
How Maps are Drawn
How Maps are Drawn
Helper Functions

FIPS

draw_county(subplot, county_id, color)

draw_state(subplot, state, color)