Storytelling with InfoVis

CS 4460 – Intro. to Information Visualization
October 25, 2017
John Stasko

Learning Objectives

- Define narrative visualization (vis for storytelling) and explain how it differs from analytic/exploratory visualization
- Name and describe different genres and approaches to narrative visualization
- Explain the style, content, and significance of Rosling's GapMinder video
- View and learn from designs of examples
  - Mariano Rivera, What's Warming World?, Home and Away, Bubble Bust to Recovery, Fallen of WWII, …

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Purpose

- Two main uses of infovis
  - Analysis – Understand your data better and act upon that understanding
  - Presentation – Communicate and inform others more effectively

- Today we look at that second one more

Telling Stories

- Data visualization can help to communicate ideas, summarize, influence, unite, explain, persuade

- Visuals can serve as evidence or support

A Famous Example
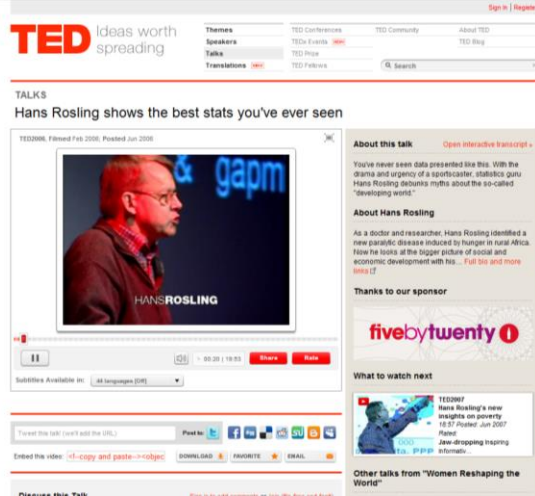
Hans Rosling
Gapminder

2006

http://www.ted.com/index.php/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

They Had Him Back

2007

http://www.ted.com/index.php/talks/hans_rosling_reveals_new_insights_on_poverty.html
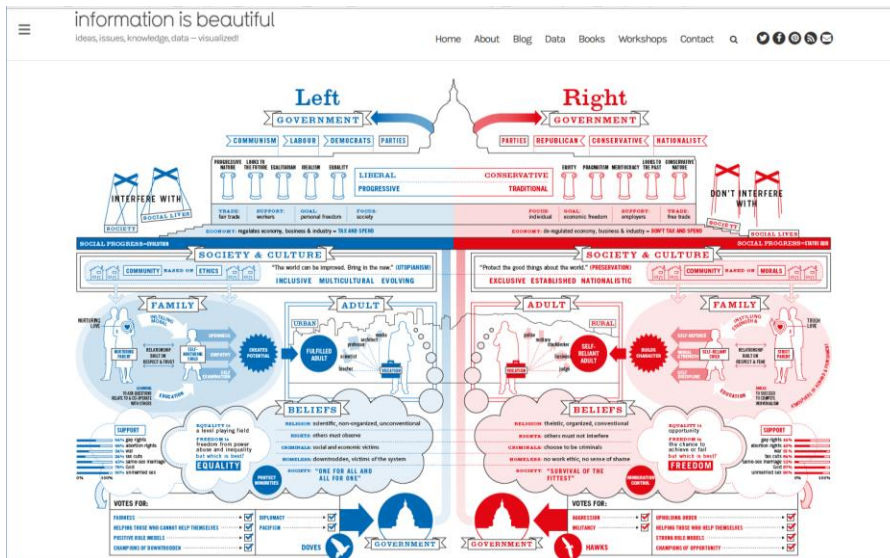
Discuss

- Why has this had such a big impact?

InfoGraphics

- See them everywhere today
- Perhaps a good example of infovis for presentation purposes
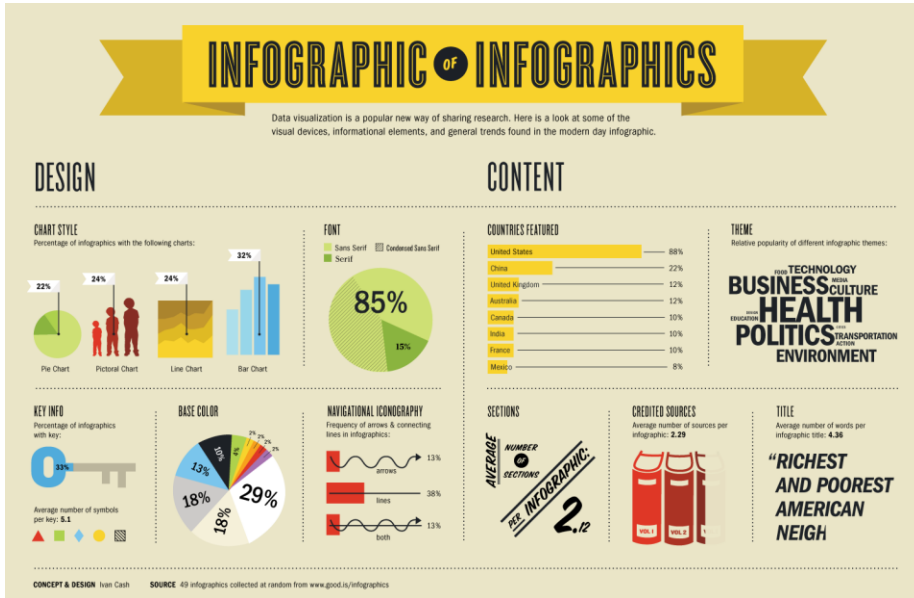 - Typically not interactive though

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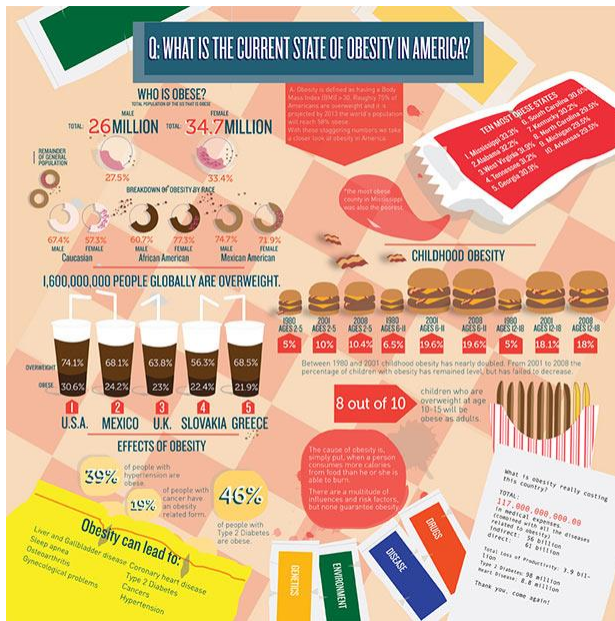
A Lead Paper

Segel & Heer
TVCG (InfoVis) '10

- Studied storytelling: Described topics as "Narrative Visualization"
  - How does this differ from traditional forms of storytelling
  - Reviews the design space
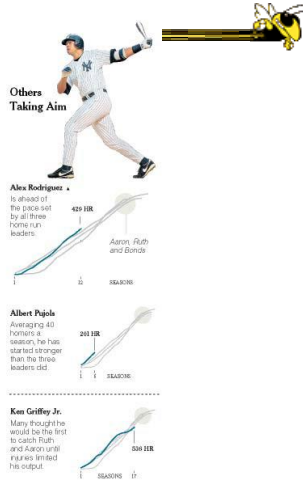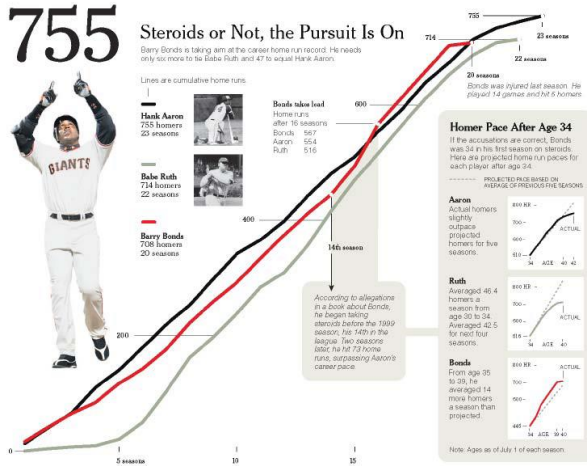 - Characterizes genres
  - Describes a framework

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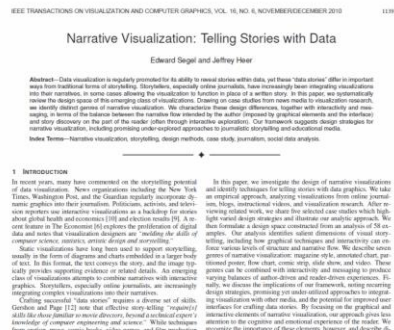
Case Studies
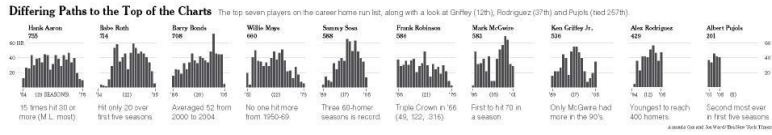
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Genres

Seven Genres

Magazine Style

Annotated Chart

Partitioned Poster

Flow Chart

Comic Strip

Slide Show

Film/Video/Animation

Approach

- Author-driven vs. reader-driven
- Common patterns
  - Martini glass
  - Interactive slideshow
  - Drill-down story
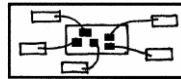
Journalism Angle

Some Examples

News Stories

Tufte praises the work of
Megan Jaegerman at NY Times
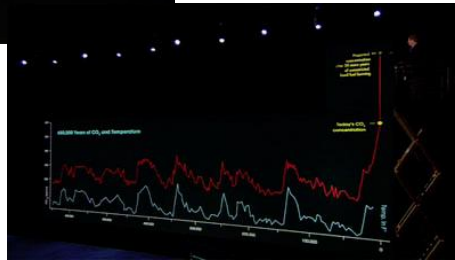

http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=0002w4

Films
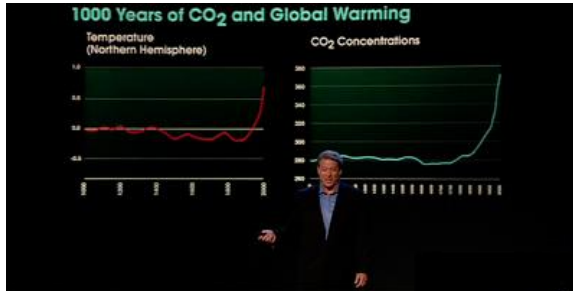
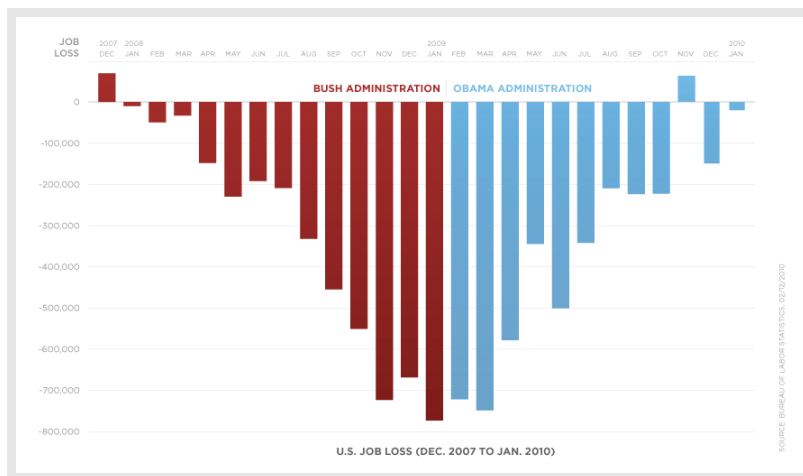*An Inconvenient Truth*

Gore made extensive use
of data graphics

Infographics   (with a message)

Controversial, see   http://soquelbythecreek.blogspot.com/2010/02/what-does-obama-job-chart-really-mean.html

http://www.nytimes.com/interactive/2010/06/29/magazine/rivera-pitches.html?ref=multimedia

http://www.cnn.com/homeandaway

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Discuss

http://www.fallen.io/ww2/

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Tableau StoryPoints

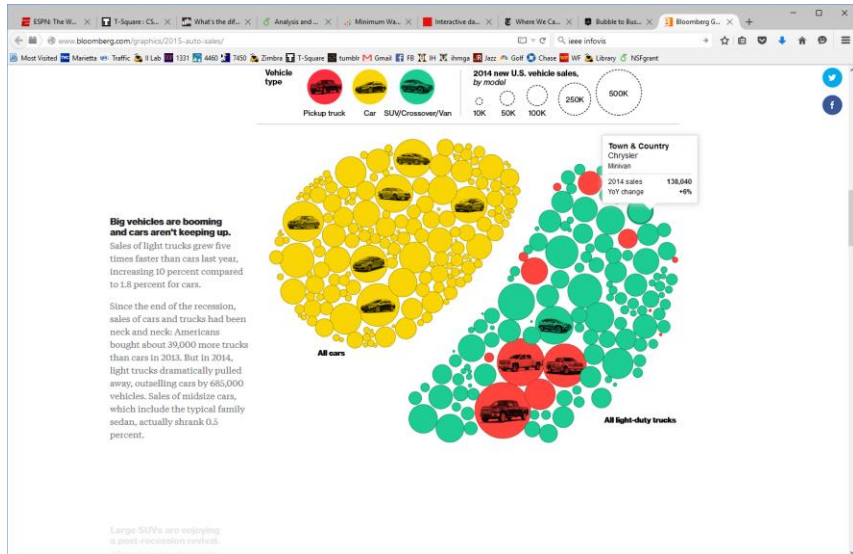Textual narrative, slides with titles as breadcrumbs, element highlighting, and textual annotation on the chart

http://www.bloomberg.com/dataview/2014-02-25/bubble-to-bust-to-recovery.html

Dot breadcrumbs, interaction on charts, tooltips, …

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http://www.bloomberg.com/graphics/2015-auto-sales/
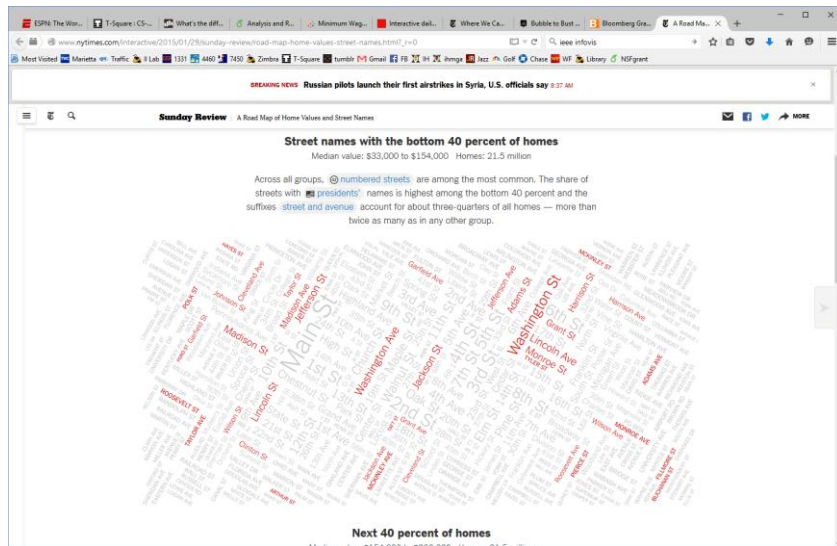

Page scroller, text annotations, rearranging glyphs

http://www.nytimes.com/interactive/2015/01/29/sunday-review/road-map-home-values-street-names.html?_r=0

Dynamic query widget embedded in textual narrative
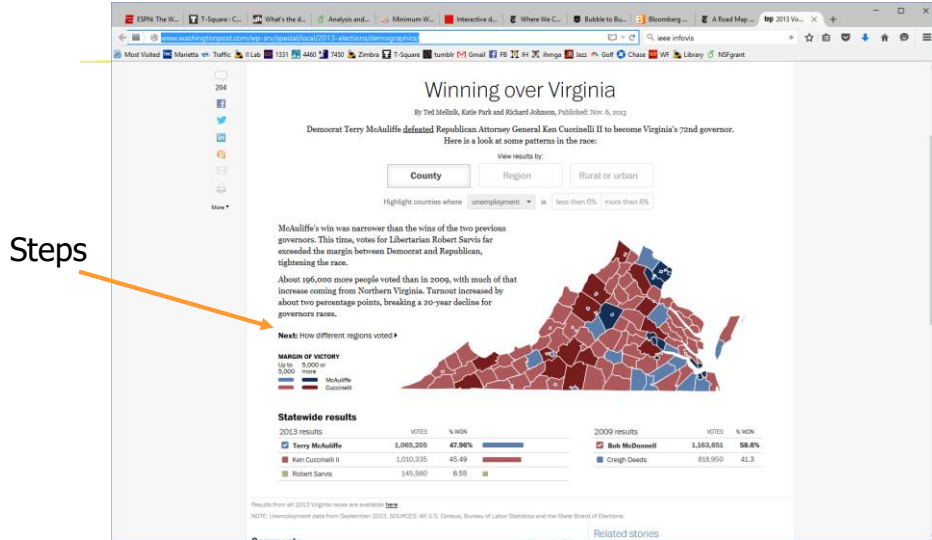
Steps

Linear steps with much interaction, comments
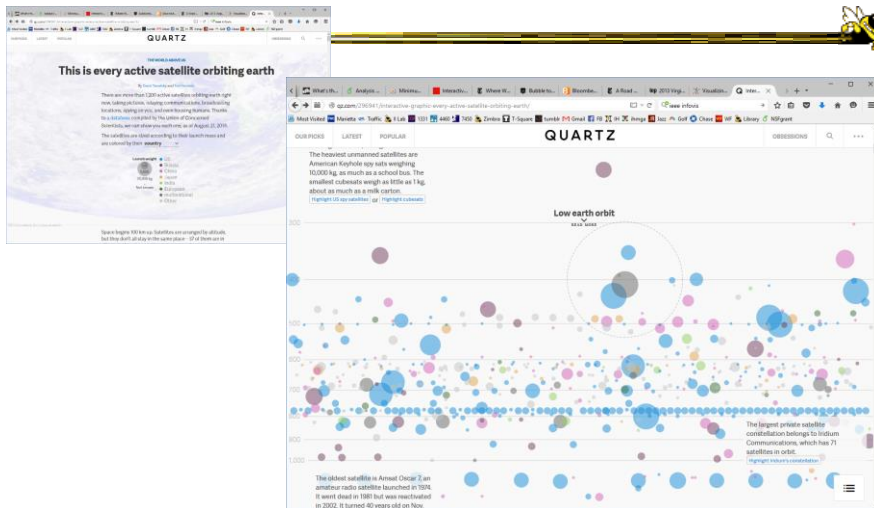
Animated interaction, tooltips, scrolling

http://www.facesoffracking.org/data-visualization/

Scrolling page with geovis updates

http://mbtaviz.github.io/
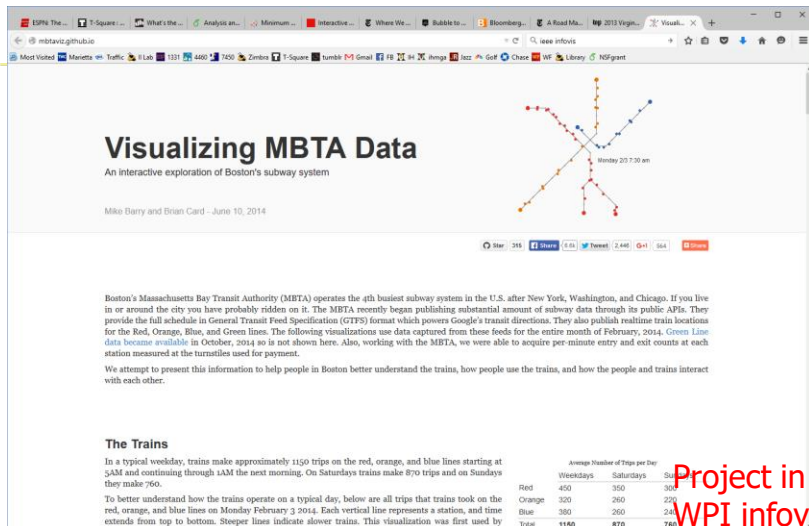
Project in
WPI infovis
class

Scrolling page with many visualizations, much interaction

http://www.r2d3.us/visual-intro-to-machine-learning-part-1/

Design discussion

https://www.youtube.com/watch?v=Z4tB6qyxHJA

http://fivethirtyeight.com/features/gun-deaths/

http://polygraph.cool/films/

http://www.georgelmurphy.com/berrics/

Even President Obama Went Interactive

2011 State of Union Address

Side channel
data visualizations
accompanied speech
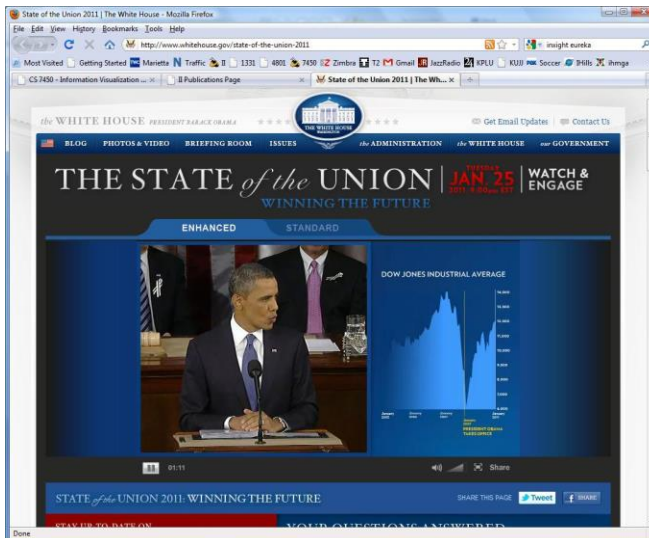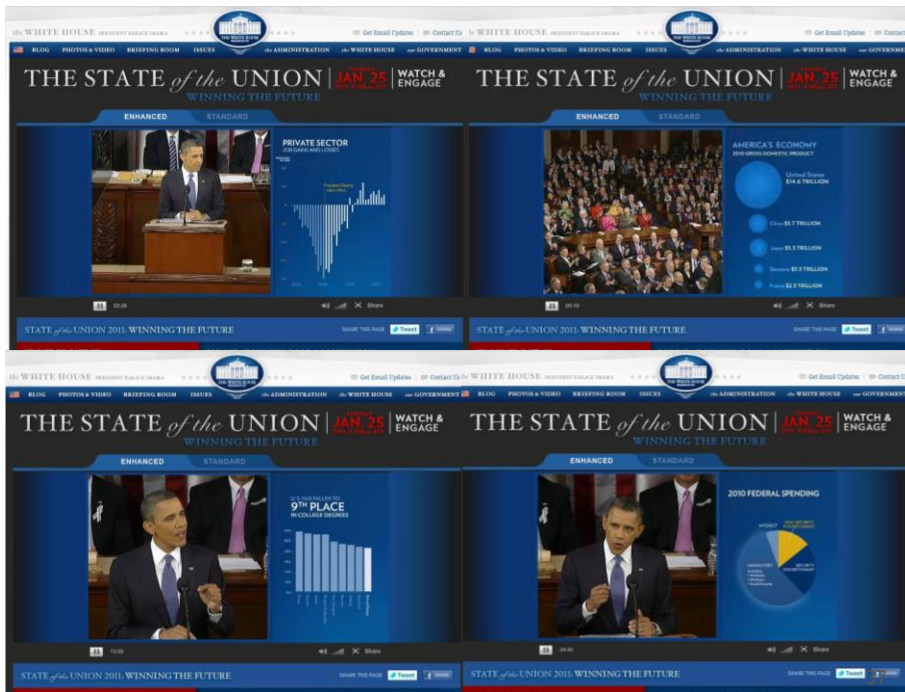
Storytelling Scenarios

- Self-running presentations for a large audience
- Live presentations
- Individual or small group presentations
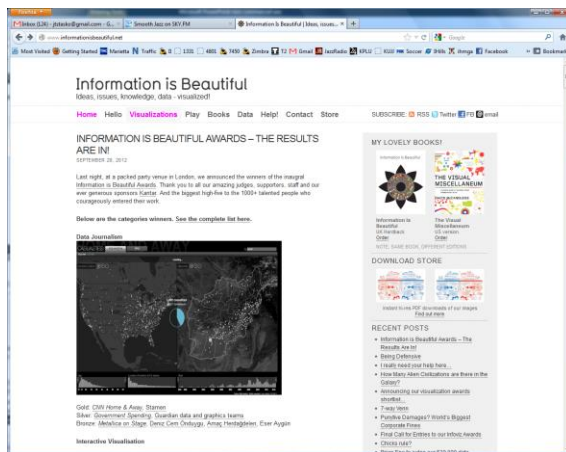
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Data Matters

David
McCandless

McCandless Website

Back to Where We Started
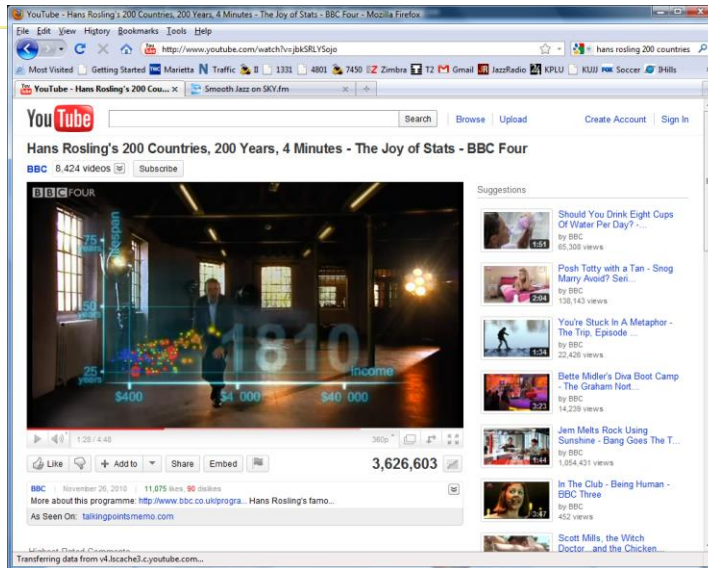
Changing Trends
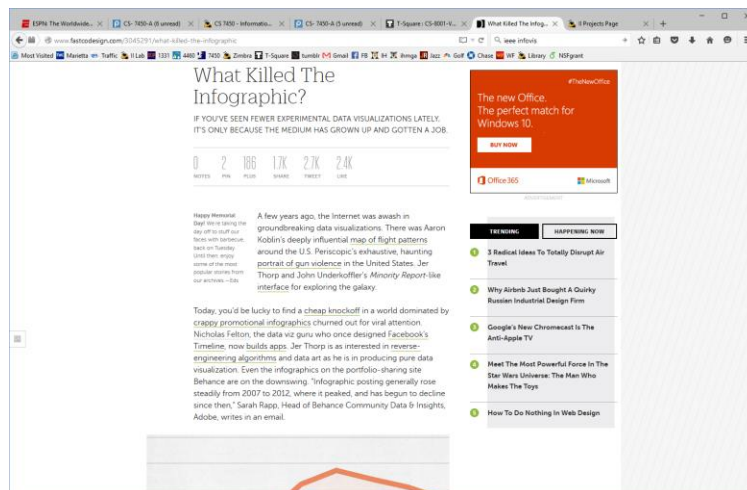
Questions

- How do these types of visualizations differ from "traditional" infovis?

Questions

- Would you characterize all of these as information visualizations?
  - Consider some of the different examples

My Reflections

- InfoVis for analysis and presentation are different
  - Apples & oranges (both fruit though)

- How?

http://www.juiceanalytics.com/writing/the-ultimate-collection-of-data-storytelling-resources

Resources

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Upcoming

- Lab: D3 – Enter, Update, & Exit
  - Prep: Murray chapter 9
  - Implementation change: Turn in code at end

- Hierarchies & Trees 1