

# Storytelling in InfoVis



CS 7450 - Information Visualization  
October 3, 2012  
John Stasko

## Purpose

Review



- 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

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## A Famous Example



A screenshot of a TED talk page. The title is "Hans Rosling shows the best stats you've ever seen". The video player shows a man (Hans Rosling) speaking. The page includes navigation links, a description of the talk, and a list of other recommended talks. The TED logo and tagline "Ideas worth spreading" are visible at the top left.

Hans Rosling  
Gapminder

2006

[http://www.ted.com/index.php/talks/hans\\_rosling\\_shows\\_the\\_best\\_stats\\_you\\_ve\\_ever\\_seen.html](http://www.ted.com/index.php/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html)

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# They Had Him Back



The screenshot shows the TED website interface for a talk by Hans Rosling. The main content area features a video player with the title 'TED0917: Hans Rosling's new insights on poverty'. To the right of the video, there is a section titled 'About this talk' which describes Rosling's use of data to show how countries are pulling themselves out of poverty. Below the video player, there are social media sharing options and a 'Discuss this Talk' section. The page also includes a navigation menu at the top with options like 'Themes', 'Speakers', and 'Topics'. A small bee icon is visible in the top right corner of the page.

2007

[http://www.ted.com/index.php/talks/hans\\_rosling\\_reveals\\_new\\_insights\\_on\\_poverty.html](http://www.ted.com/index.php/talks/hans_rosling_reveals_new_insights_on_poverty.html)

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## Discuss

- Why has this had such a big impact?

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# Characterizing the Area



- 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

Segel & Heer  
*TVCG (InfoVis)* '10

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# Thoughts?



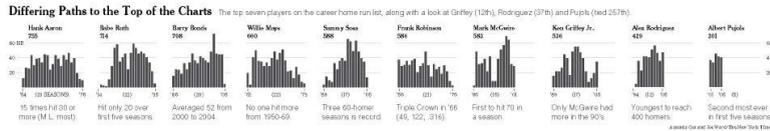
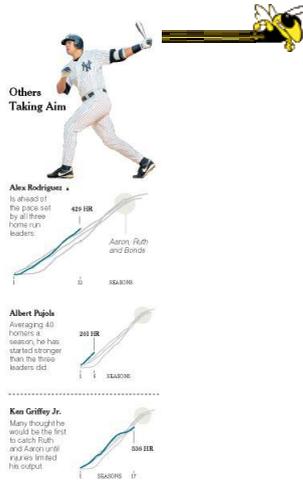
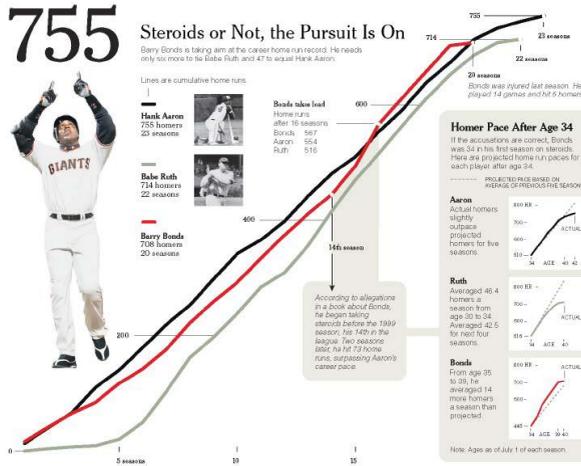
- Discuss

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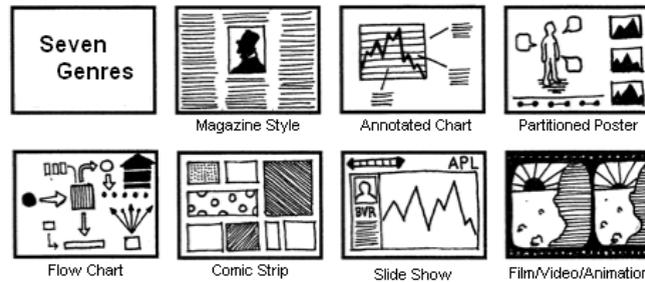
# Case Studies



# Design Space

- Genre
- Visual Narrative
  - Visual structuring
  - Highlighting
  - Transition Guidance
- Narrative Structure
  - Ordering
  - Interactivity
  - Messaging

# Genres



# Observations



- Clusters of different ordering structures
- Consistency of interaction design
- Under-utilization of narrative messaging

# Approach



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

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# A Hot Topic

VisWeek 2010 Workshop  
Reprised again this fall



**TELLING STORIES WITH DATA**  
Using visualization to create narratives and engage audiences  
A VisWeek 2010 Workshop

While visualization is an excellent tool for discovery and analysis, it is also a powerful medium for communication. The best information graphics do more than just present numbers; they tell a story, engage and connect their readers, and help them tell stories of their own.

This **VisWeek 2010** workshop examined the construction of narratives with visualization. We drew participants with interests in visualization, social media, journalism, and the humanities.

**Time and Place**  
This workshop took place on **Tuesday, October 26th, 2010**, from 8:30AM to 6:00PM, at the **VisWeek 2010 conference** in Salt Lake City, Utah, USA.

**Program**  
[Go to workshop agenda](#) | [List all previous abstracts and titles](#)

Time	Description
8:30	Welcome and workshop overview Matt Jackson, Joan DiBiase, Marisa Kirshfeldt
8:45	Short introductions

<http://thevcl.com/storytelling/>

**FlowingData**  
Telling Stories with Data, A VisWeek 2010 Workshop  
November 11-12 in News, Visualization

This is a guest post by Joan DiBiase, who heads the IBM Visual Communication Lab. Matt Jackson, Marisa Kirshfeldt, and Joan hosted a workshop on Telling Stories with Data. These are the highlights.

What is a story? In a classic sense, a story has characters, events, and a progression to our audience. With data visualization, we also benefit from good story-telling: the audience is the author and audience.

Now what if the story involves data? How does visualization support telling a story with data? How do you make that story about data visualization so good that others expect? How can visualization help non-storytellers construct an abstract?

At VisWeek 2010 in Salt Lake City, Matt Jackson, Marisa Kirshfeldt, and I organized a workshop to explore the best of Telling Stories with Data. We were excited to include in our curriculum that people often use visualization to share personal perspectives about hot stories about social situations.

For example, in the fall of this year, Matt was interested in exploring how Facebook's default privacy settings have changed over time. To do this and to create a visualization to describe these results, Matt first collected the necessary data, along with some exploratory work that further confirmed his point of view. After that, Facebook's privacy policy changes were a leading news topic, and the visualization opened up a dialog. Matt, Joan, and I were able to help, through use of animation and appropriate highlights. This visualization had a simple yet compelling story: the information presented on Facebook is accessible to large and larger groups of people.

100 Million Time Series  
Visualizing  
DataMetrics

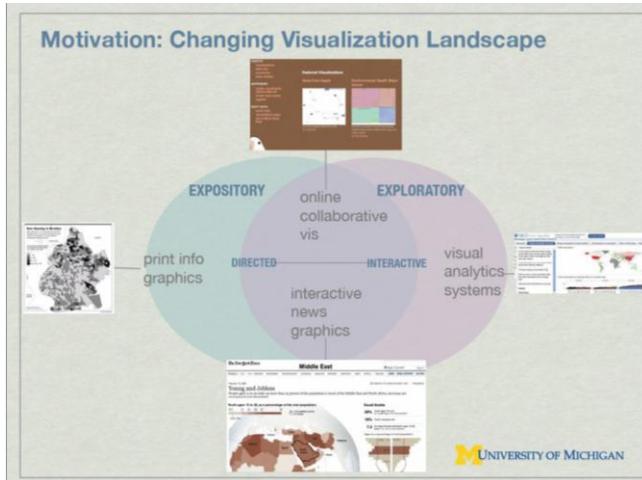
<http://flowingdata.com/2010/11/11/telling-stories-with-data-a-visweek-2010-workshop/>

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# Narratology



Interesting talk at workshop

Jessica Hullman  
Univ. Michigan

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# Journalism Angle



data driven journalism

24 August, 2010, Amsterdam  
journalism meets data

home speakers programme videos slideshows liveblog

Videos

Nicolas Kaiser - Ent - Storytelling with Data

Alex Rickman - Storytelling with Data

Primo Loewy - Data Production, Usage and

Tony Hoek - Data Production, Usage and

What is there to learn Data-Driven Journalism

Josephine Kelly - Data Production, Usage and

Simon Rogers - Data Production, Usage and

Geoffrey Shierlock - Storytelling with Data

Lorenzo Mattini - Data Production, Usage and

vimeo

See below for event programme and video links. Hyperlinks indicate available videos -

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# Data Journalism Handbook



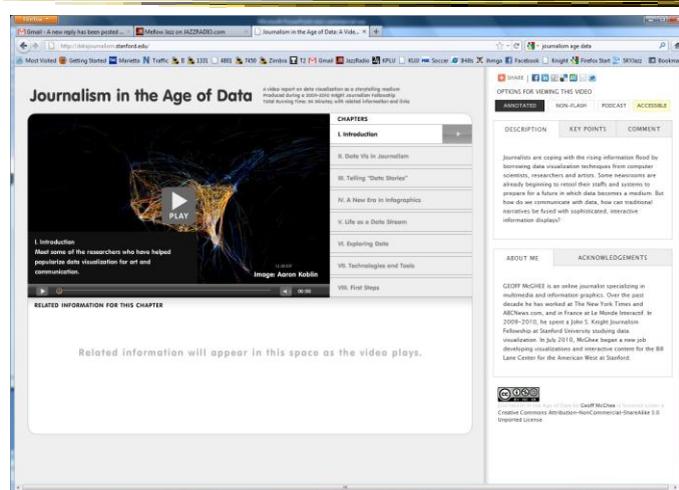
<http://datajournalismhandbook.org/1.0/en/>

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# Journalism in the Age of Data



<http://datajournalism.stanford.edu/>

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# Some Examples



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## News Stories

Tufte praises the work of Megan Jaegerman at NY Times



HOME BOOKS COURSES POSTERS AND GRAPHIC DESIGN FINE ART SCULPTURE  
ET WRITING ARTWORKS NEWS DOGS & OTHERS OF GRAPHICS PRESS POWERSPO

[ [Current Topics](#) | [Complete List of All Active Topics](#) | [RSS Feed](#) | [Search](#) ]

### Megan Jaegerman's brilliant news graphics

Edward Tufte, July 2007

Megan Jaegerman produced some of the best news graphics ever while working at The New York Times from 1990 to 2008. Her work is smart, clearly designed, elegant, witty, inventive, informative. A fierce researcher and reporter, she writes gracefully and precisely. Megan has the soul of a news reporter, who happens to use graphic, tables, and illustrations as well as words to explain the news. Her best work is the best work in news graphics.

#### Spitting a hidden handgun

CONSTITUTIONAL LAW  
A 2006 Supreme Court decision in *Hiibel v. Sixth Judicial District Court of Nevada* held that a state law requiring a person to identify himself to police officers is constitutional. The Court's decision was based on the fact that the law did not require a person to provide any information beyond their name. The Court also noted that the law was a reasonable means of identifying a person who might be a criminal.

WHY DOES THIS MATTER?  
The Court's decision in *Hiibel* is significant because it is the first time the Court has ruled on the constitutionality of a "stop-and-identify" law. The Court's decision is also significant because it is a narrow ruling that only applies to the specific facts of the case.

#### From Montauk to Cape May: The State of the Beaches

BEACH & OCEAN  
The state of the beaches along the New York coast is a complex issue. The state has a long coastline with many different types of beaches. The state's beaches are subject to a variety of factors, including erosion, sea level rise, and pollution. The state's beaches are also subject to a variety of regulations, including zoning laws and environmental laws.

#### The Jumping Off Points: Moves That Will Be Made in the Free Skating Programs

THE SKATER  
The skater's position is a key factor in determining the success of a jump. The skater's position is determined by the skater's weight, height, and the angle of the skater's body. The skater's position is also determined by the skater's speed and the angle of the skater's feet.

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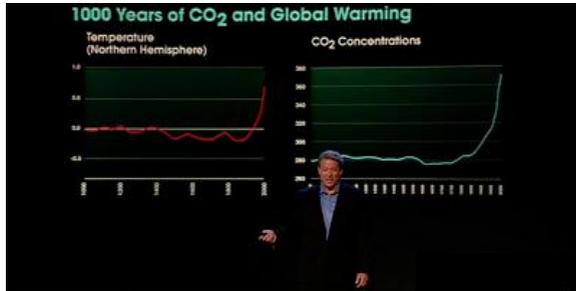
[http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg\\_id=0002w4](http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=0002w4)

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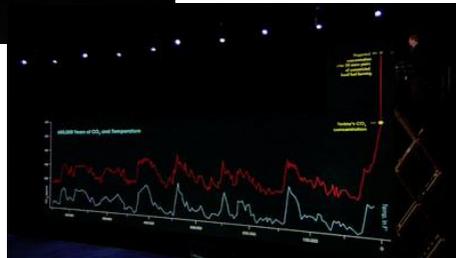
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# An Inconvenient Truth



Gore made extensive use of data graphics

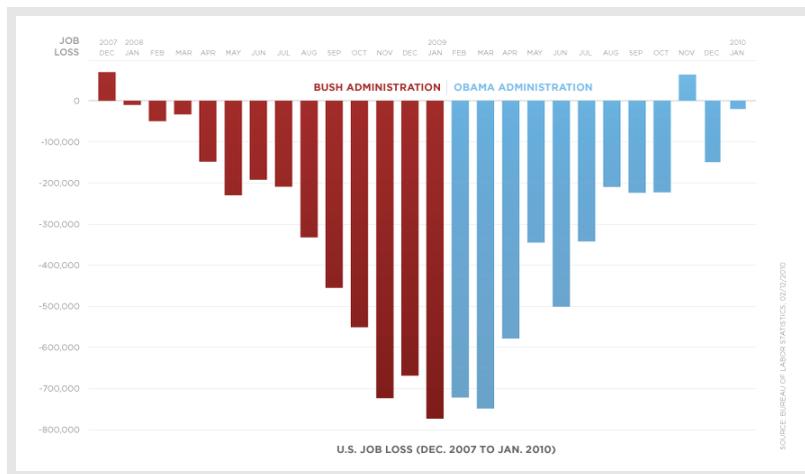


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# Job Losses



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

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# Mariano Rivera



The screenshot shows the 'Magazine' section of The New York Times website. The main article is titled 'How Mariano Rivera Dominates Hitters' and features a video player showing Rivera in a pitching motion. To the right, there is an advertisement for Audi A8 and a sign-up for 'Times Delivers E-Mail'. Below the article, there is a 'MOST POPULAR - MAGAZINE' list with seven items.

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# Casualties of War



The screenshot shows the 'Casualties of War' interactive map on CNN's website. It features a map of the United States and Afghanistan with casualty locations marked by white dots. Below the map are three bar charts: 'Age' (18-60), 'Location: (Countries & U.S. states)', and 'Date' (2001-2010). The map is titled 'Showing 2,215 US and Coalition casualties'.

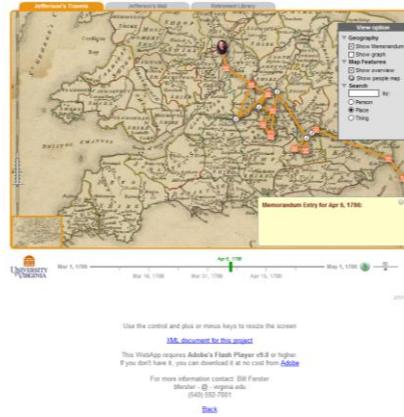
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# VisualEyes

http://www.viseyes.org



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# The President Going Interactive

2011 State of Union Address

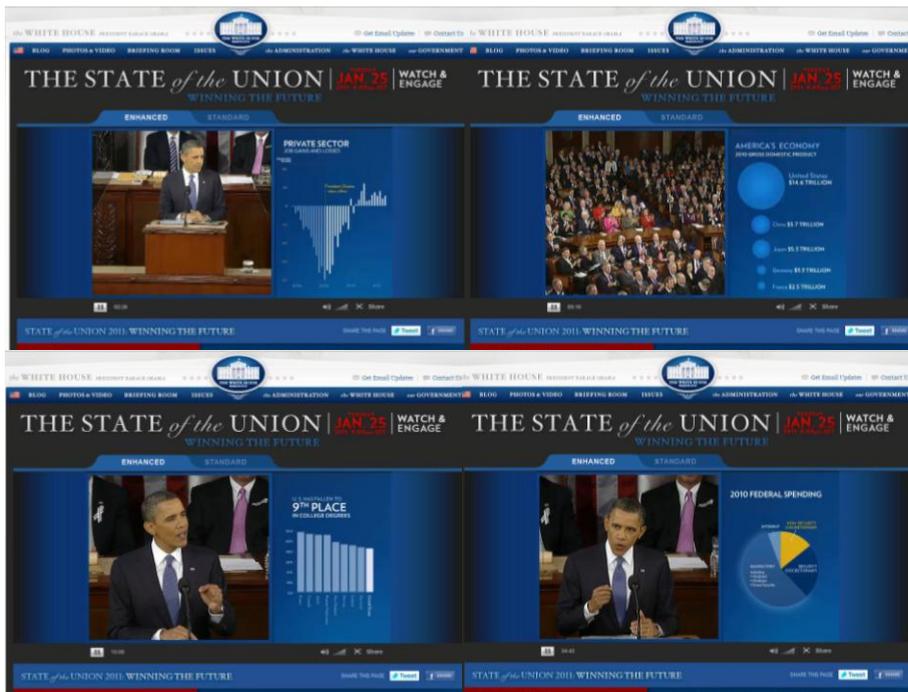


Side channel data visualizations accompanied speech

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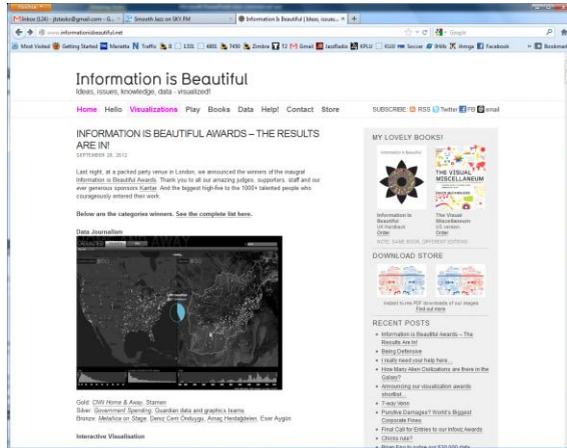
# Data Matters



David McCandless

[http://www.ted.com/talks/david\\_mccandless\\_the\\_beauty\\_of\\_data\\_visualization.html](http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization.html)

# McCandless Website



<http://www.informationisbeautiful.net/>

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# More Visualization Stories



Aaron  
Koblin

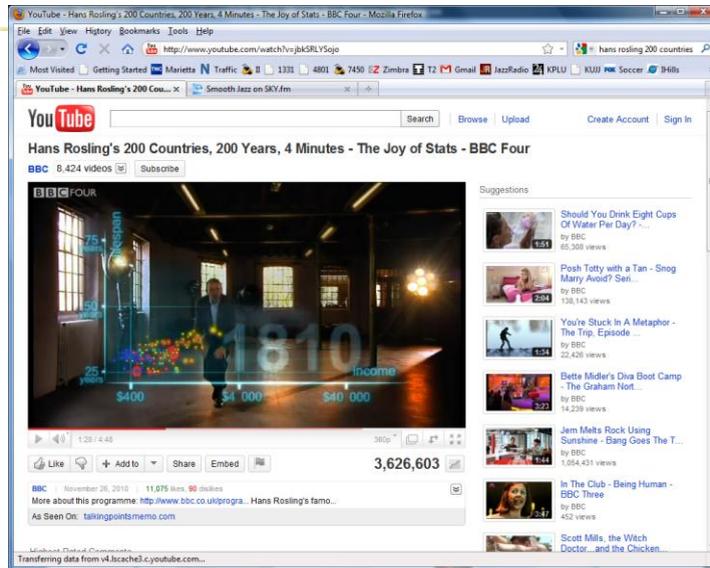
[http://www.ted.com/talks/aaron\\_koblin.html](http://www.ted.com/talks/aaron_koblin.html)

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# Back to Where We Started



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## Questions

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

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## Questions



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

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## HW 5



- Commercial systems review
  - Any questions?
- Due next Weds Oct 10

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# Upcoming



- Guest speakers
- Overview and Detail
  - Reading:  
Bederson et al '04