

Storytelling in InfoVis



CS 7450 - Information Visualization
September 30, 2013
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

The screenshot shows the TED website interface for a talk by Hans Rosling. The title is "Hans Rosling shows the best stats you've ever seen". The video player shows a man (Hans Rosling) speaking, with a "gapm" logo visible in the background. The page includes navigation links, a search bar, and a sidebar with "About this talk" and "What to watch next" sections. The "About this talk" section describes the talk as a "data visualization" that "debunks myths about the so-called 'developing world'". The "What to watch next" section lists other TED talks, including "Hans Rosling's new insights on poverty" and "Jaw-dropping inspiring information".

Hans Rosling
Gapminder

2006

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. At the top, there's a navigation bar with the TED logo and the tagline 'Ideas worth spreading'. Below that, there's a search bar and a menu with options like 'TED Conferences', 'TED Events', 'TED Talks', and 'TED Fellows'. The main content area features a video player for Hans Rosling's talk, 'Hans Rosling's new insights on poverty'. The video player includes a play button, a progress bar, and a volume control. To the right of the video player, there's a section titled 'About this talk' with a description of the talk and a link to 'Open interactive transcript'. Below that, there's a section titled 'About Hans Rosling' with a brief biography. At the bottom of the page, there's a section titled 'Other talks from "Presentation Innovation"' with a list of related talks.

2007

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

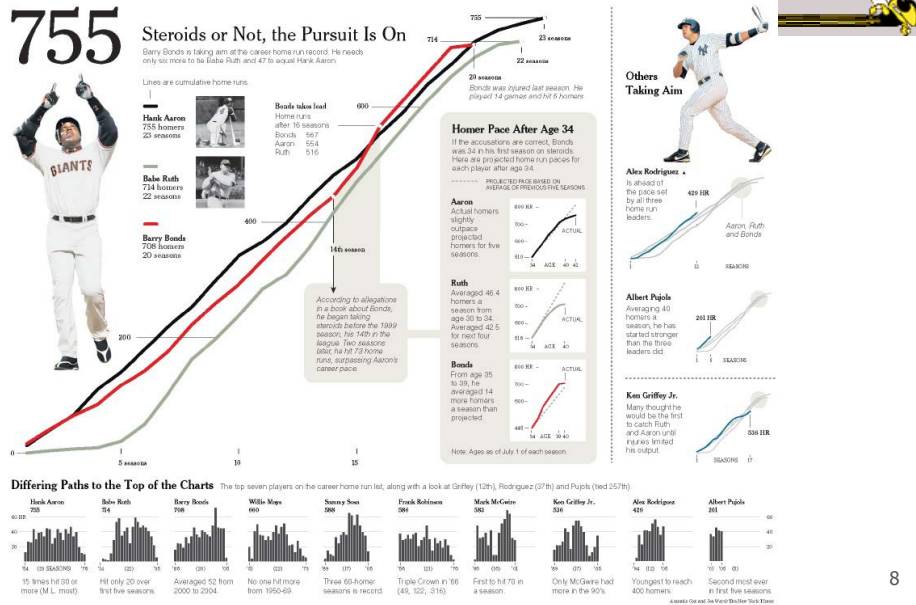
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Case Studies

NY Times 2006



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Design Space



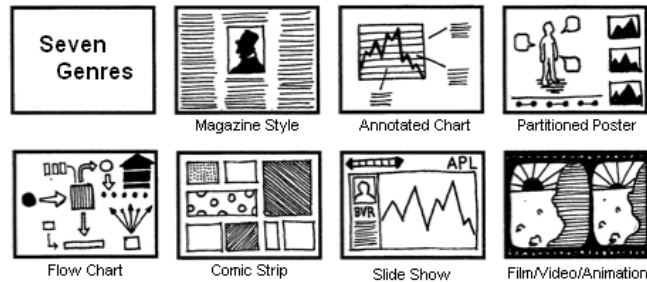
- Genre
- Visual Narrative
 - Visual structuring
 - Highlighting
 - Transition Guidance
- Narrative Structure
 - Ordering
 - Interactivity
 - Messaging

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Genres



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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

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, invite them to make a personal connection to the data, 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.

WHAT ARE SOME COMPLEX?
Data can speak for people in a variety of different ways, with the right audience in the right context. A right-by-right can be dramatic. A good data narrative includes a strong perspective that tells a story; it may lead the reader through the data in a way that helps to make discoveries. As designers know their audience and build from a personal connection to the data, and most importantly, it guides the audience towards insights, an "ah-ha" moment that is new insight and/or helps them see facts in a different light.

Here are a few of the data narratives that were our inspiration for organizing this workshop.

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 printable version](#) | [See all speaker abstracts and bios](#)

Time	Description
8:30	Welcome and workshop overview ALIST AIRKIN, JEAN DIEZOU, KERRIE KINHOLTS
8:45	Short Introductions

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

FlowingData
About Archive Contact Events Projects

Telling Stories with Data, A VisWeek 2010 Workshop

This is a guest post by Jean Diezou, who heads the IIR Visual Communication Lab, Matt McKinn, Kerrie Kinholts, and Jean Heald 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. In our postmodern, multi-referenced culture, we also think there about story-telling in the context of the author and audience.

How valid if the story involves data? How does visualization support telling a story with data? How do journalists think about data visualization as part of their stories? How can visualization tools help data storytellers construct narratives?

At VisWeek 2010 in Salt Lake City, Matt McKinn, Kerrie Kinholts, and I organized a workshop to explore this topic of Telling Stories with Data. We were initially motivated by our observation that people often use visualization to share personal perspectives about real-world social and business situations.

For example, in May of this year, Matt was interviewed in exploring how Facebook's default privacy settings have changed over time. To that end, he created a visualization to illustrate their evolution. Matt then posted the visualization to his website, along with some explanation that had further emphasized his point of view. After time, Facebook's privacy policy changes were a trending news topic, and the visualization spread rapidly through Twitter, Facebook, and several news blogs. Through use of annotation and appropriate metadata, this visualization told a simple yet compelling story; the information presented on Facebook is visible to larger and larger groups of people.

Create Interactive Graphs & Dashboards in Minutes.
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100 Million Time Series
Data from Twitter, Facebook, and more!

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

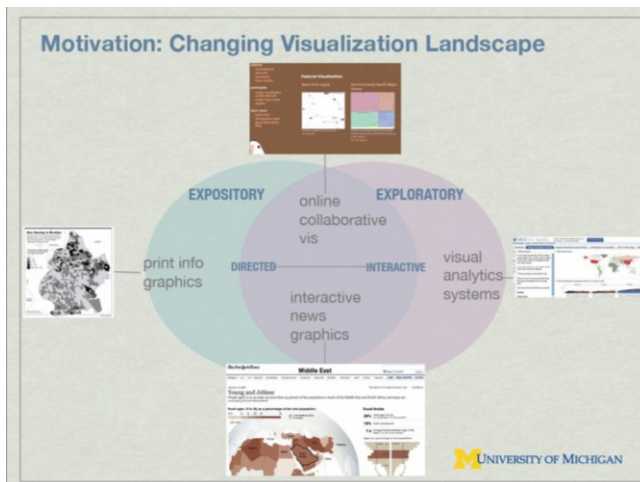
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http://thevcl.com/storytelling/docs/jessica_hullman.pdf

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 livblog

Videos

Nicolas Kaiser - DIT: Storytelling with Data
Alan Rickman - Storytelling with Data
Niraj Lokesh - Data Production, Usage and...
Tony Frost - Data Production, Usage and...
What is there to learn? Data-Driven Journalism
Jonathan Gray - Data Production, Usage and...
Simon Rogers - Data Production, Usage and...
Gavin Sheridan - Storytelling with Data
Lorenzo Mattal - Data Production, Usage and...

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

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Data Journalism Handbook

Data Journalism Handbook 1.0 BETA

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Google Custom Search

Front Matter

- For the Great Unmanned
- Contributor List
- What This Book Is (And What It Isn't)
- The Handbook At A Glance

Introduction

- What Is Data Journalism?
- Why Journalists Should Use Data
- Why Is Data Journalism Important?
- Some Favorite Examples
- Data Journalism in Perspective

In The Newsroom

- The ABC's Data Journalism Play
- Data Journalism at the BBC
- How the News Apps Team at Chicago Tribune Works
- Behind the Scenes at the Guardian Datablog
- Data Journalism at the Zeit Online
- How to Hire a Hacker
- Harnessing External Expertise Through Hacktunes

The Data Journalism Handbook
Edited by Jonathan Gray, Liliana Baurer and Lucy Chambers

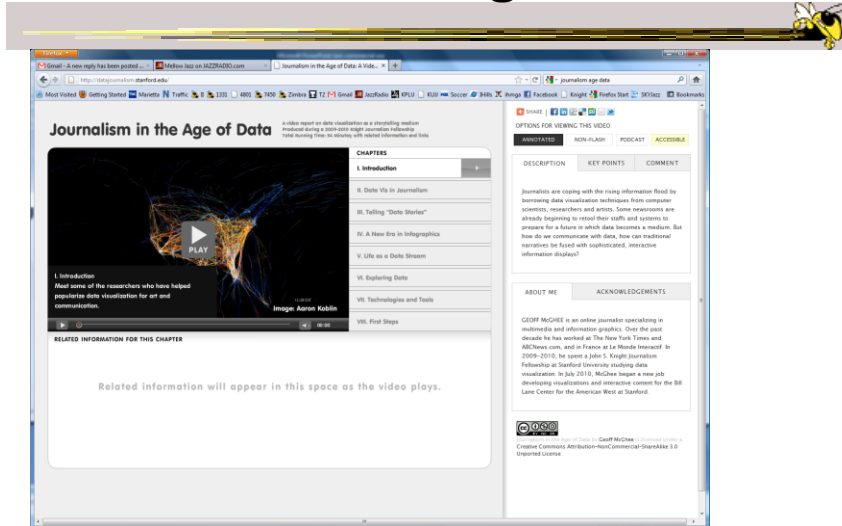
http://datajournalismhandbook.org/1.0/en/

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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

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An Inconvenient Truth

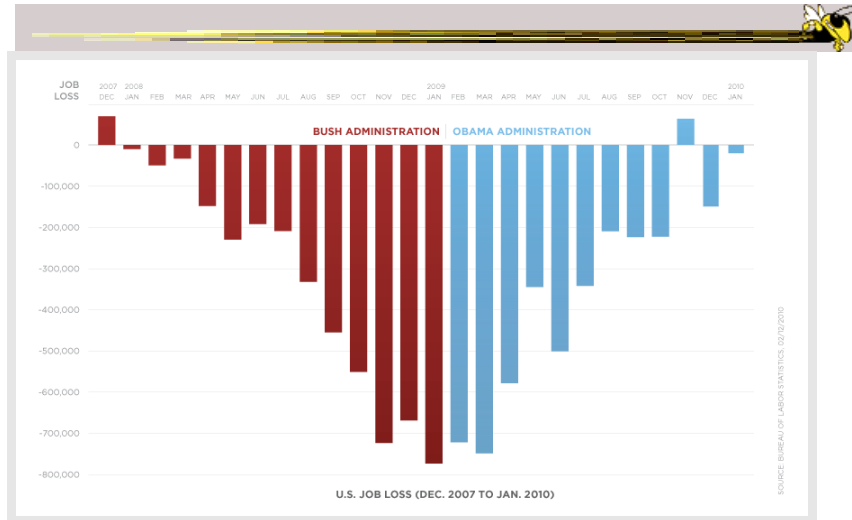
Gore made extensive use of data graphics

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

Mariano Rivera

The screenshot shows the New York Times Magazine website. The main article is titled "How Mariano Rivera Dominates Hitters" and is dated June 29, 2010. The sub-headline reads "The closer has confounded hitters with mostly one pitch: his signature cutter." Below the headline is a video player showing Mariano Rivera in a Yankees uniform throwing a ball. To the right of the article is an advertisement for the Audi A8, with the text "The new Audi A8 is here. Luxury has progressed." Below the advertisement is a "Times Delivers E-Mail" sign-up box. At the bottom right, there is a "MOST POPULAR - MAGAZINE" section with a list of seven articles.

Published: June 29, 2010

How Mariano Rivera Dominates Hitters

The closer has confounded hitters with mostly one pitch: his signature cutter. [Related Article](#)

By GRAHAM ROBERTS, SHAN CARTER and JOE WARD | [Send Feedback](#)

Sources: Major League Baseball; New York University Movement Lab; Complete Game Consulting.

5:00 / 6:00

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MOST POPULAR - MAGAZINE

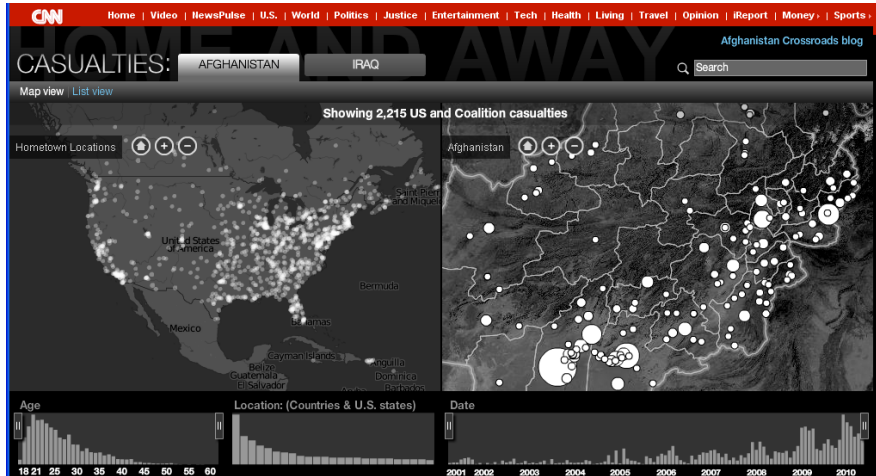
1. Food: Coffer's Slow Dance
2. Shaken-Baby Syndrome Faces New Questions in Court
3. Unhappy Meals
4. Recipes: Yuza Chiffon Cake
5. The Medium: A Prescription for Fear
6. How He Got His Groove Back
7. A Plan for Peace That Still Could Be

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Casualties of War



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VisualEyes

The screenshot shows the VisualEyes website. At the top, there's a logo for 'visualeyes'. Below it, there's a sample visualization titled 'Jefferson's Travels' showing a map of the United States with various locations and dates. The text below the sample visualization reads: 'VisualEyes is web-based authoring tool developed at the University of Virginia to weave images, maps, charts, video and data into highly interactive and compelling dynamic visualizations. Click on the image above to watch a short screen-cast about VisualEyes. VisualEyes enables scholars to present selected primary source materials and research findings while encouraging active inquiry and hands-on learning among general and targeted audiences. It communicates through the use of dynamic displays - or "visualizations" - that organize and present meaningful information in both traditional and multimedia formats, such as audio, video, animation, charts, maps, data, and interactive timelines. The effective use of the visualizations can reveal and illuminate relationships between multiple kinds of information across time and space for more effectively than words alone. This project was created at the Virginia Center for Digital History and is partially funded by a grant from the National Endowment for the Humanities with continued support from the University of Virginia's Sciences, Humanities & Arts Network of Technological Initiatives (SHANTI). VisualEyes is freely available for academic and non-profit use.' Below this text, there's a section titled 'Some projects made using VisualEyes' with two examples: 'Jefferson's Travels to England' and 'Vinegar Hill: Memory Scapes'.



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The President Going Interactive

2011 State of Union Address

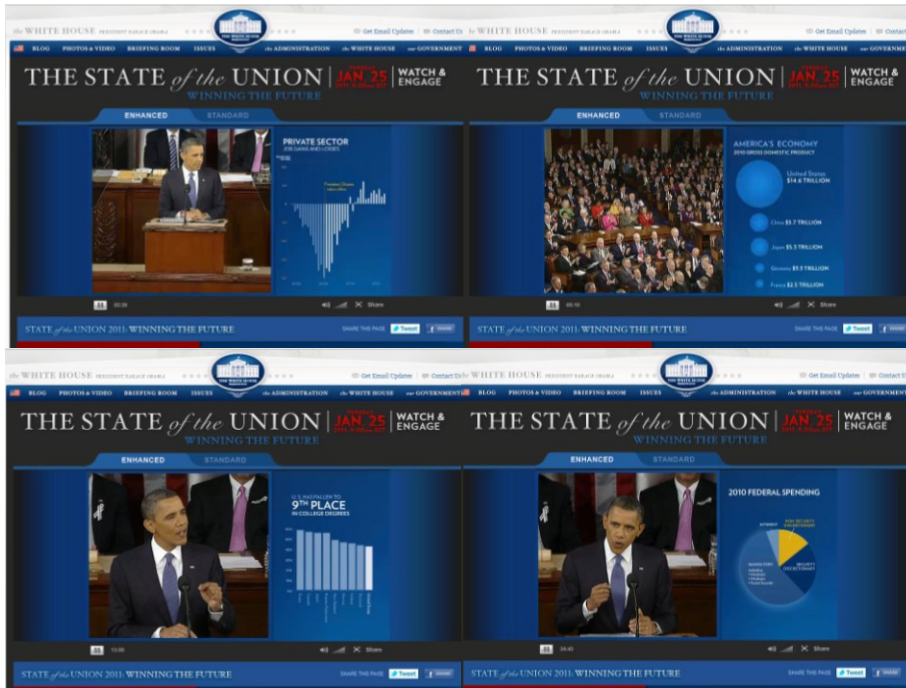


Side channel data visualizations accompanied speech

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Data Matters

The screenshot shows the TED website interface. At the top, there's a navigation bar with 'Sign In | Register' and a search bar. Below that, there are tabs for 'Themes', 'Speakers', 'Talks', and 'Translations'. The main content area features a video player for David McCandless's talk, 'The beauty of data visualization', which was filmed at TEDGlobal 2010. To the right of the video, there are sections for 'About this talk', 'About David McCandless', 'Thanks to our sponsor' (Rolex), and 'What to watch next'.

David McCandless

http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization.html

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McCandless Website

The screenshot shows the homepage of the 'Information is Beautiful' website. The header includes the site's name and tagline 'Ideas, issues, knowledge, data - visualized?'. Below the header, there's a navigation menu with links for 'Home', 'Hello', 'Visualizations', 'Play Books', 'Data', 'Help', 'Contact', and 'Store'. The main content area features a large article titled 'INFORMATION IS BEAUTIFUL AWARDS - THE RESULTS ARE IN!' dated September 23, 2010. To the right, there are sections for 'MY LOVELY BOOKS!', 'DOWNLOAD STORE', and 'RECENT POSTS'. The website has a clean, modern design with a white background and blue accents.

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

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More Visualization Stories

TED Ideas worth spreading

Talks TED Conferences TED Conferences TED Conferences TED Conferences TED Conferences
Speakers TED Events TED Events TED Events TED Events TED Events
Themes TED Prize TED Prize TED Prize TED Prize TED Prize
Translations TED Fellows TED Fellows TED Fellows TED Fellows TED Fellows

Sign In Register

TALKS

Aaron Koblin: Artfully visualizing our humanity

280,249 Views

INTERACTIVE TRANSCRIPT

ABOUT THE SPEAKER

ABOUT THIS TALK

What Aaron Koblin takes vast amounts of data – and at times vast numbers of people – and weaves them into stunning visualizations. From elegant lines tracing airline flights to landscapes of cell phone data, from a Johnny Cash video assembled from crowd-sourced drawings to the “Widerness Downriver” video that customizes for the user, his works brilliantly explore how modern technology can make us more human.

WHAT TO WATCH NEXT

Dennis Stanning data visualization in the Alosphere
04:30 Posted: Sep 2009
Views: 262,876 | Comments: 88

Evan Grant Making sound visible through synesthesia
04:30 Posted: Sep 2009
Views: 194,777 | Comments: 87

Carlo Ratti: Architecture that senses and responds
12:40 Posted: Sep 2011
Views: 268,817 | Comments: 89

Aaron
Koblin

http://www.ted.com/talks/aaron_koblin.html

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<http://www.youtube.com/watch?v=jbkSRLYSojo>

Back to Where We Started

YouTube - Hans Rosling's 200 Countries, 200 Years, 4 Minutes - The Joy of Stats - BBC Four - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.youtube.com/watch?v=jbkSRLYSojo

Most Visited Getting Started Marietta Traffic 1331 4801 7450 Zimbra T2 Gmail JazzRadio KPLU KUJW Soccer iBills

YouTube - Hans Rosling's 200 Cou... x Smooth Jazz on SKY.fm

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Hans Rosling's 200 Countries, 200 Years, 4 Minutes - The Joy of Stats - BBC Four

BBC 8,424 videos Subscribe

1:28 / 4:43 3626,603

Like Add to Share Embed

BBC November 26, 2010 11,875 likes, 90 dislikes

More about this programme: <http://www.bbc.co.uk/programa> Hans Rosling's famo...

As Seen On: talkingpointsmemo.com

Transferring data from v4.3c3ach3.c.youtube.com...

Suggestions

- Should You Drink Eight Cups Of Water Per Day? ... by BBC 66,368 views
- Posh Totty with a Tan - Snog Mary Avoid? Ser... by BBC 138,143 views
- You're Stuck In A Metaphor - The Trip, Episode ... by BBC 22,426 views
- Bette Midler's Diva Boot Camp - The Graham Not... by BBC 14,239 views
- Jem Melts Rock Using Sunshine - Bang Goes The T... by BBC 1,054,431 views
- In The Club - Being Human - BBC Three by BBC 452 views
- Scott Mills, the Witch Doctor... and the Chicken...

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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 9

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Upcoming



- Tufte's design principles
- Poster session

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