Innovations in Data Visualization and Collaboration

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Business Analytics Forum

From the Labs…

This presentation provides information about software that is in the Labs – it is not a "product"

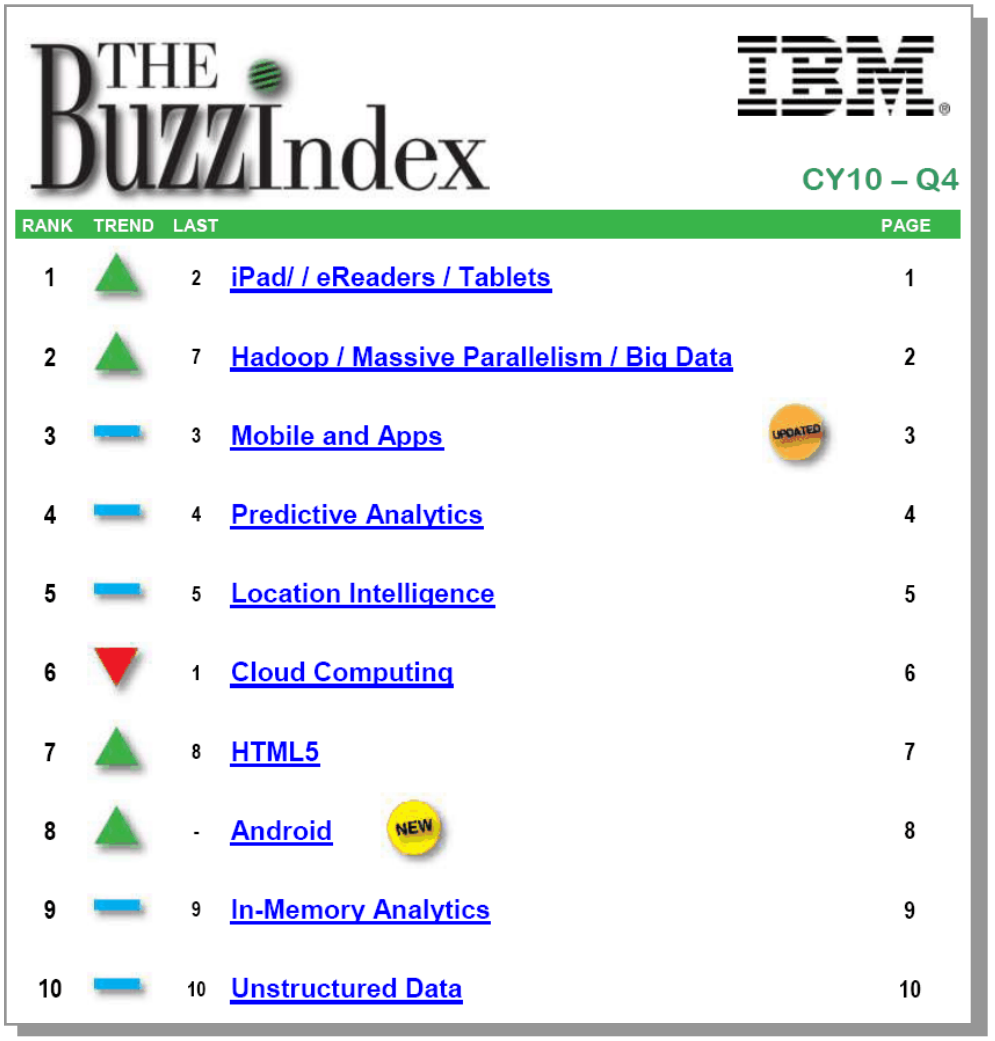
Disclaimer: *Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.*

Agenda

- Introductions
- Trends in Web, BI and Visualization
- Visualizing with Many Eyes
- Demo
- Possible Directions

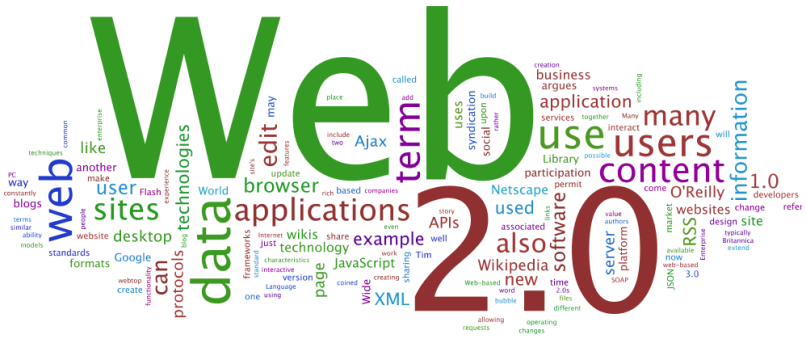
From our "Technology & Innovation" team

- Monitor and evaluate technology trends
- Work closely with researchers (IBM Research and colleges/universities)
  - Provide market needs input into research
  - Shepherd new innovations into IBM Business Analytics



Evolution of Web Sites/Applications

- Web 1.0:
  - Static
  - Centrally published content
- Web 2.0:
  - “The term "Web 2.0" (2004-present) is commonly associated with web applications that facilitate **interactive information sharing, interoperability, user-centered design,** and **collaboration** on the World Wide Web.” [Wikipedia]
  - Common traits:
    - Active participation
    - Interactive
    - User-generated content
    - Virtual community



Business Intelligence

BI 1.0

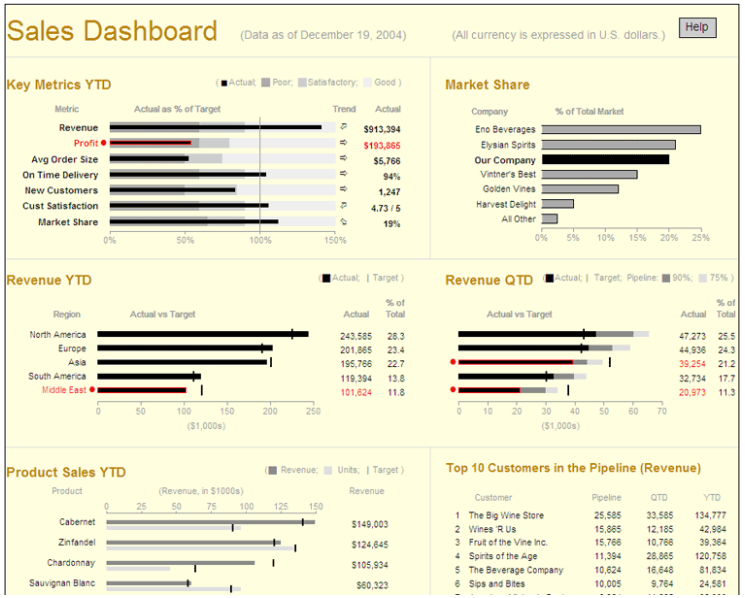
- Report authors
- Report consumers

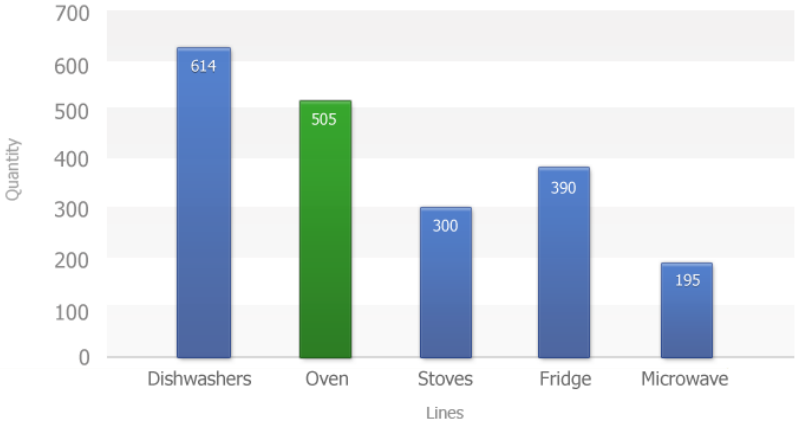
BI 2.0

- What if everyone could create their own “reports”?
- What if everyone could interact?

Data Visualization Research

- Aesthetics, perception, biological-factors, pre-attentive properties, colors, animation, shading, etc.
- Enable data consumers to get
  - Deeper insight
  - Faster
- Visual appeal to
  - support and enable that understanding
  - Without becoming a barrier to understanding





IBM Research: Watson Labs

Collaborative User Experience | Visual Communication Lab

The Sparks

- Email inboxes
- Baby names
- Map of the Market

The Goals

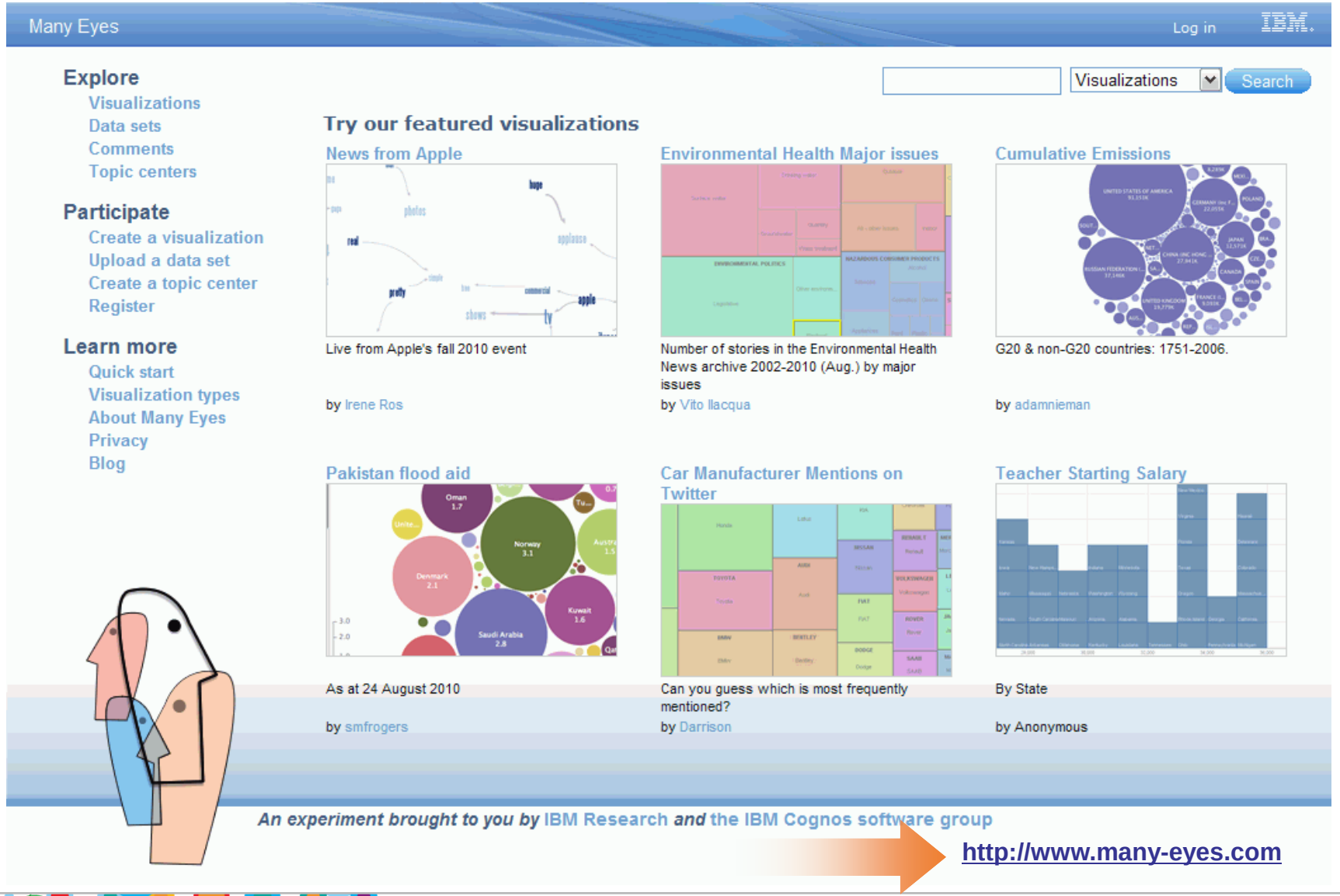
- “Democratize” visualization
- Enable visualization to be a catalyst for discussion and collective insight

The Result

- Many Eyes
- Public site launched in January 2007
- Leadership: Respected site among visualization researchers

Introduction to original Many Eyes

Introduction to the new Many Eyes Experiment



Many Eyes: Rapid, Social, Data Visualization

Many Eyes enables anyone to:

- Represent content in visual ways
- Share
- Gather thoughts, new perspectives and related information from others

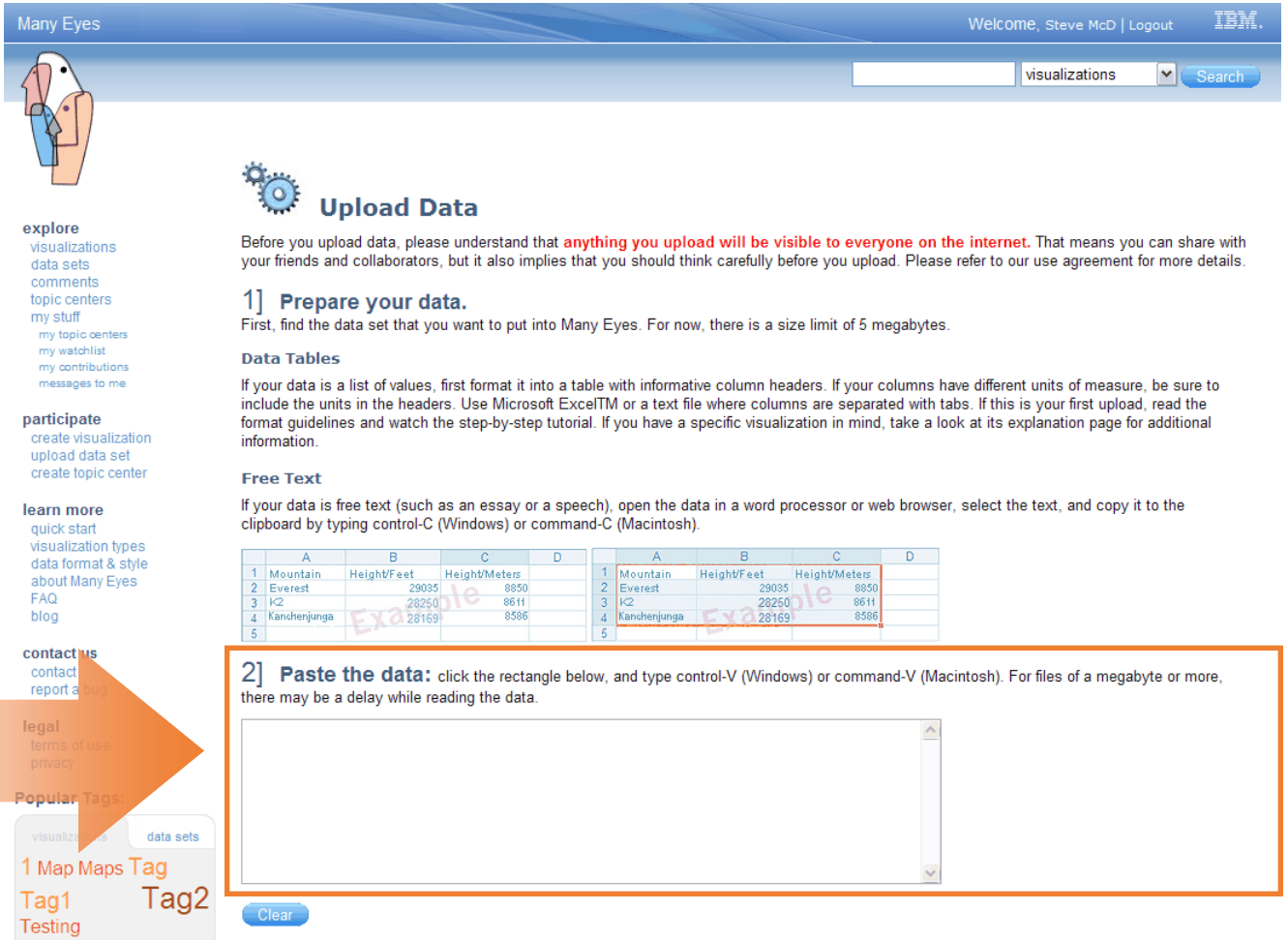
A bet on …

1. …the power of human visual intelligence to find patterns, and
2. …the value of different perspectives

Simple Data Upload

Self-serve simplicity

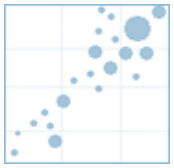
- No training needed
- Fast time to value



Broad Set of Visualizations

See Relationships Among Data Points

Network Diagram



Scatterplot

Matrix Chart

See Parts of a Whole

Treemap

Pie Chart

Treemap for Comparisons

Analyze Text

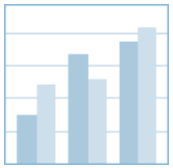
Phrase Net

Word Tree

Tag Cloud

Word Cloud

Compare a Set of Values



Bar Chart

Bubble Chart

Block Histogram

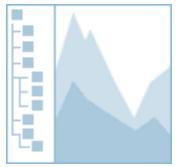
See Data Spatially

Maps

Track Rises and Falls Over Time

Stack Graph

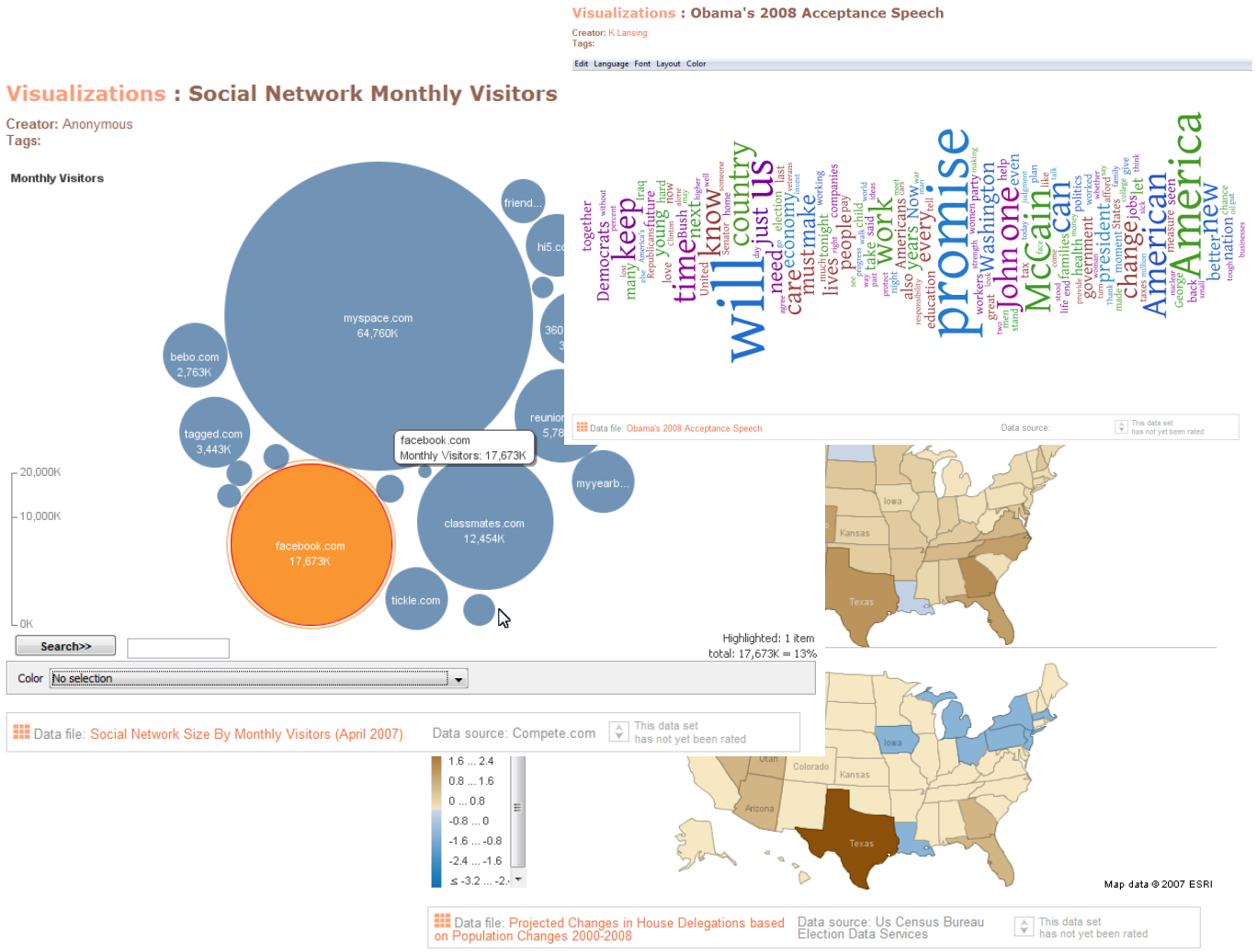
Line Graph



Stack Graph For Categories

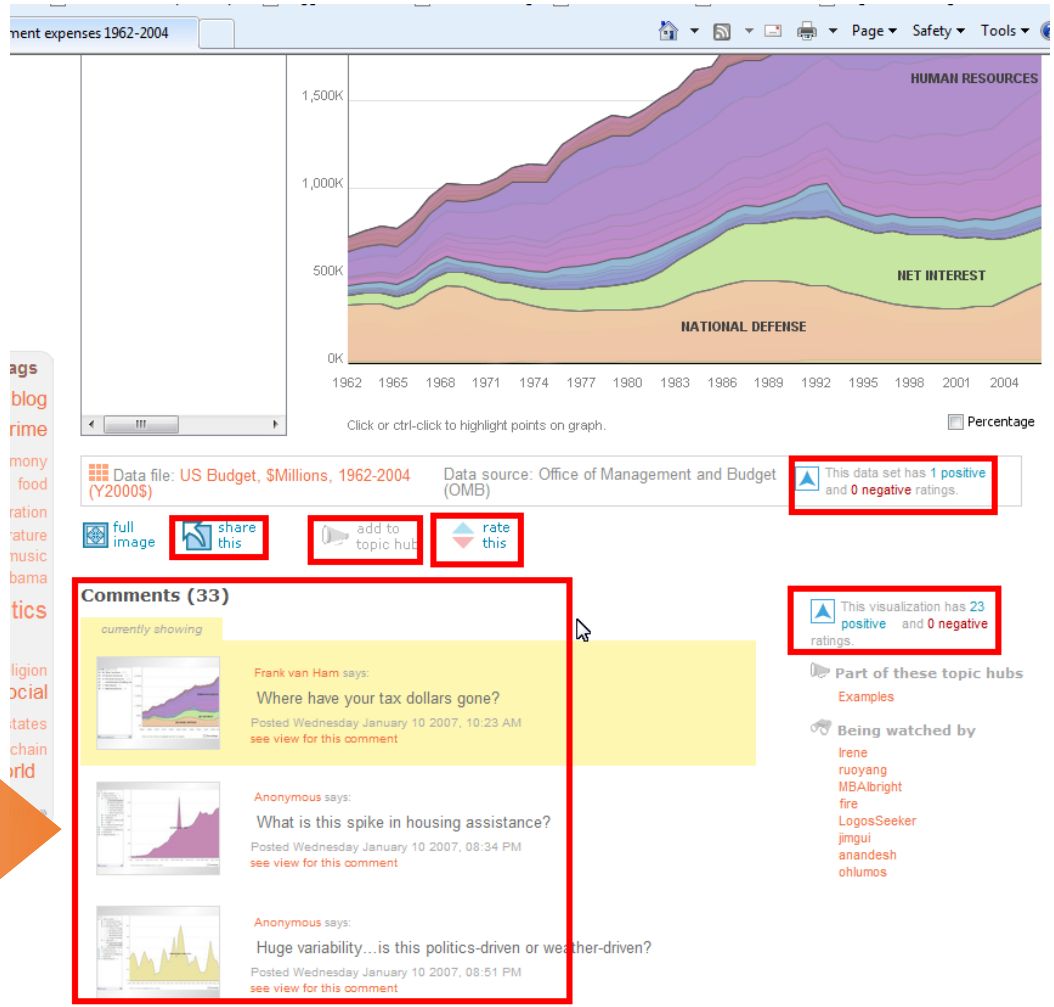
Interactivity

- Each user can view the data in a different way
  - Filtering
  - Flip X & Y axes
  - Highlighting selected information
  - Fonts, colors
  - Tooltips
  - Zoom in/out



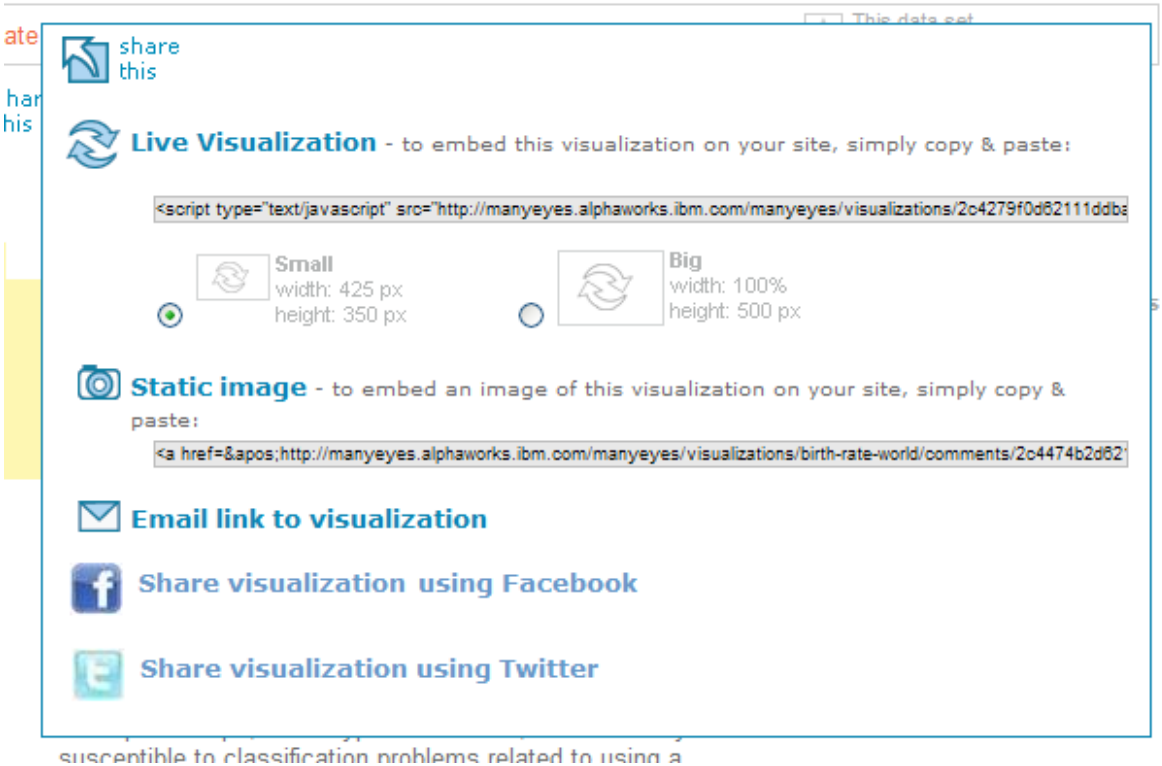
Social and Collaborative

- Comments
  - saved with the commentor's view of the data
- Data set and visualization ratings
- "Topic Centers"
  - A collection of data sets and visualizations around a topic



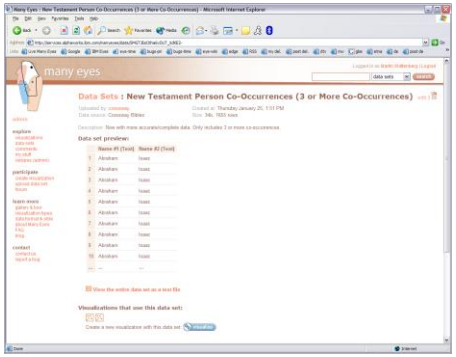
Social and Collaborative

"Share This" allows simple export of visualizations into other places

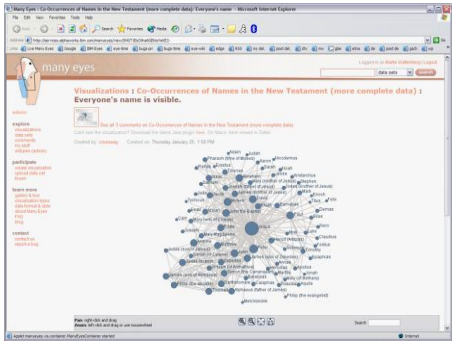


Expanding Conversations

1 User “crossway” uploads co-occurrence data for biblical figures to Many Eyes

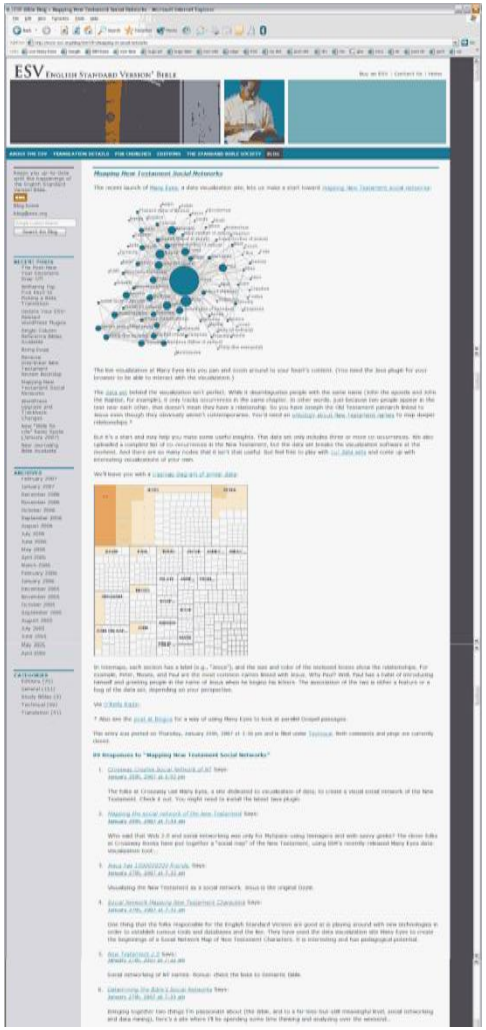


2 Crossway uses the network diagram tool to create a graph visualization



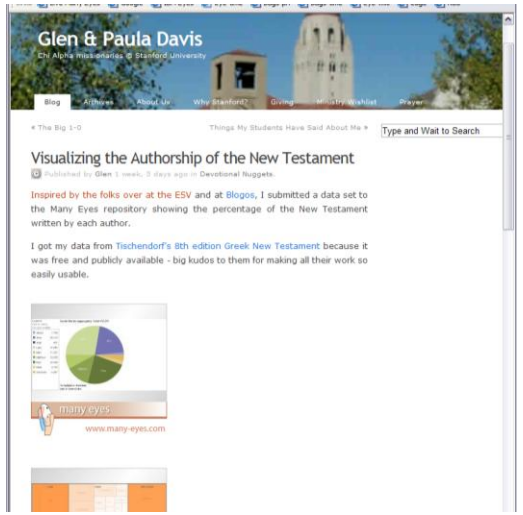
The long list of responses / trackbacks on the ESV blog entry: a discussion about the visualization and analysis.

3 Crossway writes about the visualization on ESV blog



4 Many blogs (almost 100 by Google’s count) write about crossway’s blog entry.

5 One of these bloggers posts new data to Many Eyes—and, of course, blogs about the results.



Demo

Business Analytics Forum

Information and Analytics Communities

- **On-line communities, User Groups, Technical Forums, Blogs, Social networks, and more**
  - Find a community that interests you at…
    - **ibm.com**/software/data/community

- **Information Champions**
  - Recognizing individuals who have made the most outstanding contributions to Information Management communities
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