Exploring the VALUE of Casual Infovis

Casual Infovis is non-expert users consuming or creating images created from large amounts of information for the purpose of insight (or other purposes).

“the dumpster”: 20,000 breakup blogs from 2005, commissioned by the Whitney Museum, NYC

Project Presentation: Harriet King CS 5090 – Data Visualization, December 2010
Presentation Outline

- Review & Introduction
- Excluded Topics
- Diversity of Types
- Overview of Value
- Findings
- Outlook for Casual Infovis
- Concerns
- Conclusion
- Sources

What Makes Good Information Design?

InformationIsBeautiful.net, David McCandless, November 2009
Review and Introduction

● New opportunities to explore “edge cases”:
  - art, non-expert public use, online accessibility, ambient infovis, education, journalism, community collaborative infovis, and more
● Casual could be in purpose, audience, or context
● Who has tools, data, skills? What purposes for casual infovis? What makes it valuable?
● Usability and accessibility concerns are crucial in attracting non-expert public users
● Casual infovis producers and consumers need to use critical thinking and beware false influence

“Last Clock”: video surveillance in public area capturing time and motion and mapping seconds, minutes, hours, completely non-utilitarian, intended as art
Due to Time Limitations – Excluded Topics

These can be found in the paper

- Discussion of Casual Infovis
- Detailed Purpose and Types of Casual Infovis
- Relevance of Casual Infovis
- Detailed Discussion of Value: Attributes, Accomplishing Purpose, Measuring Value
- Selected Examples

“tree.growth”: Tree and program code intended as art, 2006
Types of Infovis and Examples, page 1/3

Ambient
- ambient orb or Skog’s bus schedule

Personal data & finance
- Smartmoney’s Map of the Market
- Digg.com’s “Stack”, “Swarm”, and “Arc” visualizations
- Slife (spend time)
- photomesa
- Nicholas Felton’s Annual Reports

Journalism (an entire field by itself)

World trends and education, e.g. gapminder.org

“Wealth and Health of Nations”, gapminder.org

Skog, Ambient Infovis of bus schedule, styled after Mondrian
Types of Infovis and Examples, page 2/3

Artistic work that visualize information
- “Artifacts of the Presence Era”
- “Tableaux Machine” surveillance as art
- Ray’s Visitor.Files: data gathered by hand, painted strict mapping by hand

A “measuring” topic, e.g. energy use (vampireenergy), diet, exercise

Persuasive visualization: Persuasive Mirror

“Tableaux Machine”: in home surveillance cameras using AI to report the “mood” of the home via screen art display

“Persuasive Mirror”: screen showing future self, recently purchased by Accenture
Social Visualization
& Collaboration

- “PeopleGardens”
- “The Dumpster”
- “wefeelfine.org”
- “vizster”, social network graph
- “themail”
- tagging of digital artifacts
- collaborative web bookmarking, e.g. del.icio.us
- news, e.g. digg.com
- public space, e.g. plazes.com, yellowarrow.org

“wefeelfine.org”: mines for “I feel..” and visualizes in real time

“vizster”: graph of “friendster” social network
Discussion of Value

Value can be objectified, quantified, measured, and abstracted to fit a variety of infovis and measured with cost benefit formulas.

Value can be non-utilitarian, subjective, aesthetic, sublime.

Kosara, examples of utilitarian to the sublime in infovis.
Attributes & Elements

Attributes:

1. Design Principles & Choices
2. Objective or Subjective
3. Interaction or Not
4. Functional, Physical, & Qualitative Requirements
5. Individual & Social Aspects

Outcomes

- Accomplishing the Purpose
- Measuring Value

Van Wijk, demonstrating errors experts can make using common interpolation method that caused erroneous results, a lesson learned.
Findings – Overview

- Casual infovis encourages non-expert public to be users and creators, but it is not mainstream yet.
- Value includes serving a purpose, solving a problem, being usable and accessible, & also the sublime aesthetic, building community, and many other individual values.
- Casual infovis is as subjectively valued as any other art or entertainment.

NY Times online visualization: 2008 county presidential elections returns.
Findings – Overview

- No widespread effort to create public demand for infovis tools
- No clear problem for an infovis to solve, then no incentive for the public to be bothered with casual infovis
- Wrong assumption that individuals have piles of data, time, or problems to solve with infovis
- Service industries fill the gap, e.g. bank graphs & power company statistics
- Attempts to commercialize infovis services have recently failed, e.g. swivel.com & verifiable.com

“PeopleGardens”, 1999: flower = user, height = number of messages posted to message board

http://www-958.ibm.com/software/data/cognos/manyeyes/
Findings: Outlook for Casual Infovis, 1/2

- Analogy of photography: broaden producers, consumers, manipulation tools, develop critical thinking

- Journalism infovis is effective in attracting the public’s interest in infovis in general and driving innovation and advancement of casual infovis

- Popularizing casual infovis requires: free, online, easy, effective, sharing and community, import/export control, hidden technical details, choices in usability

Mashable.com: 2010 cell phone usage
Findings: Outlook for Casual Infovis, 2/2

Increase exposure through:

- blogs, product marketing, journalism
- “visualati” like Hans Rosling, Edward Tufte, or Al Gore
- social and collaborative visualizations
- Ambient intelligence & data mining infovis, e.g. “Tableaux Machine”, “wefeelfine.org”
- Information Is Power: infovis used to eradicate poverty, e.g. rural Indian villagers infovis of Anne Chappuis

Anne Chappuis: “Rural Female Literacy” (India, 2001), vista-info.net: “We believe that the villagers, even if illiterate, are clever and capable of analyzing their situation and planning for their future if they are provided with information, and specially with visual information.”
Findings: Concerns

- Avoid abuses of casual infovis
  - build a savvy public who understand that not all infovis is legitimate
  - public provide many-eyes-watching method of checks and balances on infovis legitimacy

- Privacy issues, especially ambient surveillance & data mining e.g. vizster

- Casual infovis assumes computer literacy, access, and desire (no Luddites)

- Casual infovis is too broad, detracts from intentions of data visualization

Conclusion

- Casual infovis is not mainstream
- Value can be functional, subjective, accomplishing any purpose, individual values, aesthetic, and social
- Infovis is for presentation and exploration. Letting the non-expert public use it is a great idea, let’s see what innovation arises

Encouragement

“Our networks are awash in data. A little of it is information. A smidgen of this shows up as knowledge. Combined with ideas, some of that is actually useful. Mix in experience, context, compassion, discipline, humor, tolerance, and humility, and perhaps knowledge becomes wisdom.”


Michael Danziger, “Information Visualization for the People” Submitted to the Program in Comparative Media Studies on May 9, 2008 in Partial Fulfillment of the Requirements for the Degree of Master of Science

Eagle, Nathan, Technology Review, “Mining mobile-phone data for the public good” Nathan Eagle, MIT data mining,

http://www.technologyreview.com/tr35/Profile.aspx?TRID=802


Grimwade, John, “Visualize this: is it information or is it art?”, Society for News Design (SND), February 2nd, 2010 : http://www.snd.org/2010/02/visualize-this-is-it-info-or-is-it-art/
37 Resources read page 2/5


R. Kosara, “Visualization criticism — the missing link between information visualization and art,” IN PROCEEDINGS OF THE 11TH INTERNATIONAL CONFERENCE ON INFORMATION VISUALISATION (IV, 2007, pp. 631 - 636)


Stasko, John, Information Interfaces, “InfoCanvas: Information Art”, http://www.cc.gatech.edu/gvu/ii/about.html


A few websites

http://www.informationisbeautiful.net/
http://vizlab.nytimes.com/
http://mashable.com/2010/12/03/cell-phone-mobile-infographic/
http://www.huffingtonpost.com/
http://www.cs.umd.edu/hcil/photomesa/
http://www.slifeweb.com/
http://www.youtube.com/watch?v=zgZfry82LC4
http://www.gapminder.org/
http://r-s-g.org/carnivore/
http://blog.blprnt.com/
http://www.swivel.com/
http://www-958.ibm.com/software/data/cognos/manyeyes/
http://www.vista-info.net/pages/home.html
http://www.youtube.com/watch?v=jbkSRLYSoujo&feature=player_embedded

http://alumni.media.mit.edu/~fviegas/projects/themail/study/index.htm
http://alumni.media.mit.edu/~fviegas/ICA/
A few websites

http://www.delicious.com/
http://www.daytum.com/
http://reality.media.mit.edu/viz.php
http://www.wordle.net/
http://www.nullsoft.com/free/milkdrop/.
__DdeLink__1415_864627515http://www.wefeelfine.org/.
http://hci.stanford.edu/jheer/projects/vizster/
http://eagereyes.org/
http://artport.whitney.org/commissions/thedumpster/
http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html
http://www.sics.se/fal/projects/infoart/
Casual Infovis Examples: Two Wordles
Original Proposal (left) compared to the Final Report (right)

Thank you. Questions?

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