(Social)
information visualization

INFOCOMM3450
Oct 21 2010
Today

• Information visualization
  – Visual supports (not tricks!) cognitive
  – The Baby Name Explorer

• Social navigation
  – Using others’ behavior to guide us
  – Social translucence vs. plausible deniability
Napoleon’s March (Minard through Tufte)


Paris, 20 November 1869

The number of men present at any given time is represented by the width of the grey line; one mm. indicates ten thousand men. Figures are also written beside the lines. Grey designates men moving into Russia; black, for those leaving. Sources for the data are the works of Messrs. Thiers, Segur, Feclenac, Chambray and the unpublished diary of Jacob, who became an Army Pharmacist on 28 October. In order to visualize the army’s losses more clearly, I have drawn this as if the units under Prince Jerome and Marshall Davoust (temporarily separated from the main body to go to Minsk and Mikihow, which then joined up with the main army again), had stayed with the army throughout.
Information visualization

• Goal: leverage our finely tuned visual systems to support our buggy, slow cognitive systems.

• Roots in Stu Card’s work
  – (and still going!) ScentIndex and ScentHighlights: Productive Reading Techniques for Conceptually Reorganizing Subject Indexes and Highlighting Passages; Ed H. Chi, Lichan Hong, Julie Heiser, Stuart K. Card, Michelle Gumbrecht

  – Ben Shneiderman also a major player

• Interactive, visual data exploration
Main ideas

• Use vision for cognition
  – Summarize and organize information
  – Discover patterns
  – Attend to anomalies

• Understand data, make decisions
  – But which data, whose decisions?
  – Where are the smarts?

• Render unto the computer...
FilmFinder

Murder on the Orient Express
Director: Lumet, Sidney
Country: USA
Language: English
Year: 1974
Actors: Balsam, Martin, Cassel, Jean-Pierre, Perkins, Anthony, Connery, Sean, Gielgud, John
Actresses: Bacall, Lauren, Bergman, Ingrid, Bisset, Jacqueline, Hiller, Wendy

Title: ALL
Actor: Connery, Sean
Director: ALL
Length: 269
Ratings: G, PG, PG-13, R
Films Shown: 24

Popularity
8
7
6
5
4
3
2
1
0

Year of Production

Type
Drama Mystery Comedy Music Action War Sci-Fi Western Horror
http://www.smartmoney.com/marketmap/
NameVoyager
http://babynamewizard.com/namevoyager/lnv0105.html

- A list of possibilities
- Summarization/aggregation
- Change over time
- Social aspects
- What’s left out?
- How to evaluate?
But no cheating!

THE CRESCIVE COW

1860

1936

JOBLESS CLAIMS FALL

seasonally adjusted numbers

SOURCE Dept of Labor

REUTERS

340
350
360
370
380
390
400
410
420
430

8/16 8/23 8/30 9/6 9/13 9/20 9/27 10/4 10/11 10/18 10/25 11/1

(x1000)
http://artport.whitney.org/commissions/thedumpster/index.html
Supporting memory

HOT TOPIC
Social navigation in the world

- Food surfing
- Jelly beans
- Wish paths
- Library books
- Crowded bars

- Goal: use others’ behavior to inform ours
Social navigation online

• Goal: leverage our finely tuned social systems to support our buggy, slow information processing systems.

• What can we learn?
  – What is interesting?
  – What is popular?
  – Personalized: What will I like?
Your examples first

• What are your favorite social navigation sites?
• Why?
Some examples

- News aggregators (digg, reddit, slashdot)
- Recommender systems
- Reputation systems
  - Components of other sites
- Social networks
- Erickson/Kellogg’s real world examples
- Tagging (del.icio.us, flickr, etc.)
<table>
<thead>
<tr>
<th>Rank</th>
<th>Title</th>
<th>Author</th>
<th>Points</th>
<th>Time</th>
<th>Comments</th>
<th>Save</th>
<th>Hide</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Never Leave Non-Technical People Alone In A Datacenter</td>
<td>thedailywtf.com</td>
<td>298</td>
<td>9 hours ago</td>
<td>3</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>2</td>
<td>PHP analysed pretty well</td>
<td>developers.slashdot.org</td>
<td>146</td>
<td>4 hours ago</td>
<td>19</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>3</td>
<td>Why you get fake wasabi at Japanese restaurants</td>
<td>sushifaq.com</td>
<td>161</td>
<td>5 hours ago</td>
<td>10</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>4</td>
<td>HBO Special - Hacking Democracy - Full Film</td>
<td>throwawayyourtv.com</td>
<td>181</td>
<td>9 hours ago</td>
<td>24</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>5</td>
<td>GOP Calling Democrats With Incorrect Poll Locations</td>
<td>tpmmuckraker.com</td>
<td>140</td>
<td>8 hours ago</td>
<td>10</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>6</td>
<td>Deceiving Pictures</td>
<td>media.skoopy.com</td>
<td>488</td>
<td>18 hours ago</td>
<td>16</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>7</td>
<td>CNN Money vs. Blog - Blog wins</td>
<td>adventurerealogy.com</td>
<td>133</td>
<td>9 hours ago</td>
<td>9</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>8</td>
<td>Trust in Science is Not the Same as Faith in Religion</td>
<td>stupac2.blogspot.com</td>
<td>66</td>
<td>5 hours ago</td>
<td>19</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>9</td>
<td>Looking for love, but used for sex</td>
<td>lifeandhealth.guardian.co.uk</td>
<td>146</td>
<td>11 hours ago</td>
<td>10</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>10</td>
<td>New Rules For Democrats: &quot;Bush lost the war. Period.&quot;</td>
<td>democrati underground.com</td>
<td>58</td>
<td>4 hours ago</td>
<td>5</td>
<td>save</td>
<td>hide</td>
<td>report</td>
</tr>
<tr>
<td>11</td>
<td>Cheney declares himself above the law</td>
<td>shadowmonkey.net</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Welcome cosleydr@jmu.edu (Log Out)
You've rated 289 movies.
You're the 18th visitor in the past hour.

There are 8292 movies matching your search:
Movies without a prediction are Not Shown
Movies you've rated are Not Shown
You've sorted by: Prediction

Show Printer-Friendly Page | Download Results | Suggest a Title

Tags Related to Your Search: classic (322), 70mm (304), Bibliothek (269), Oscar (Best Picture) (229), Can't remember (201), (about tags)

Page 1 of 166 | Go to page: 1...33...66...99...132...165...last page 2>

Predictions for you | Your Ratings | Movie Information | Wish List
---|---|---|---
5⭐️⭐️⭐️⭐️ | Not seen | Shawshank Redemption, The (1994) | DVD, VHS info | imdb | □
5⭐️⭐️⭐️⭐️ | Not seen | Dead Again (1991) | DVD info | imdb | □
5⭐️⭐️⭐️⭐️ | Not seen | Departed, The (2006) | info | imdb | □
5⭐️⭐️⭐️⭐️ | Not seen | Who Killed the Electric Car? (2006) | info | imdb | □
5⭐️⭐️⭐️⭐️ | Not seen | Prestige, The (2006) | info | imdb | □
4⭐️⭐️⭐️⭐️ | Not seen | Wallace & Gromit: A Close Shave (1995) | DVD info | imdb | □
4⭐️⭐️⭐️⭐️ | Not seen | Usual Suspects, The (1995) | DVD VHS info | imdb | □

Select Buddies
- L
- DanF

What are buddies?

http://movielens.umn.edu
Reputation systems
Visualizing social networks
Characterizing participation
Social visualization = power?

• Can social information change behavior?
  – Better communities, better participation?
  – Gilly’s Groupmeter work

• How social is “social enough” online?
  – The Making the Social Visible story
  – What is “social”? Are we really leveraging our own social mechanisms, or just writing fun algorithms?
What kind of info?

• Implicit indicators: behavior on the cheap
  – Things people do anyways
  – Reading, post contents, time spent, sites seen
  – Example: Viégas, my current work

• Explicit indicators: asking for information
  – Ratings/evaluations
  – Reviews
  – Social relations
Clash of the design principles

• Social translucence: accountability encourages pro-social behavior
• Ambiguity: plausible deniability enables smooth social interaction

• Who wins?
Summary

• Visualization is powerful
  – Like applied cognitive psychology!

• Social navigation is powerful
  – Like applied social psychology!

• Render unto computers and people...