Search
No reading responses. Instead, submit 2 paragraphs about your evaluation plan:

What questions are you trying to answer?
How will you operationalize the questions?
Who will you recruit? How many participants?
When will you test?
What will the test protocol be?
How will you analyze your results?
Great progress by many teams!

Types of problems:

* Mockups with no implementations
* Implementations with no design plan
* Unknown final scope/evaluation
## End game...

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed 11/23</td>
<td>Lecture</td>
<td>Mobile Interation</td>
</tr>
<tr>
<td></td>
<td>Due</td>
<td>Evaluation Plan</td>
</tr>
<tr>
<td>Mon 11/28</td>
<td>Lecture</td>
<td>Usable Security (Course Survey?)</td>
</tr>
<tr>
<td>Wed 11/30</td>
<td>Lecture</td>
<td>Course Summary</td>
</tr>
<tr>
<td>Fri 12/2</td>
<td>Due</td>
<td>Paper Draft (Pilot test data)</td>
</tr>
<tr>
<td>Tue 12/6</td>
<td>Due</td>
<td>Final Presentations, 4pm, 510 Soda</td>
</tr>
<tr>
<td>Mon 12/12</td>
<td>Due</td>
<td>Final Paper</td>
</tr>
</tbody>
</table>
Search

(most material from M. Hearst, SIMS 141)
Standard Model of Search Process

- Task
- Information Need
- Verbal Form
- Query
- Corpus
- Search Engine
- Results
- Query Refinement

Berry-Picking Model

Searching vs. Browsing

“Browsing is a retrieval process where the users navigate through the text database by following links from one piece of text to the next, aiming to utilize two human capabilities ... the greater ability to recognize what is wanted over being able to describe it and ... the ability to skim or perceive at a glance. This allows users to evaluate rapidly rather large amounts of text and determine what is useful.”

[Hertzum and Frokjaer, 1996]
“Considered in cognitive terms, searching is a more analytical and demanding method for locating information than browsing, as it involves several phases, such as planning and executing queries, evaluating the results, and refining the queries, whereas browsing only requires the user to recognize promising-looking links.”

Information Foraging & Scent

Estimating the utility of distal information sources from proximal signals.
To what extent can the success of SO be replicated — even by the same design team — in other domains of specialized knowledge? An early experiment to license the SO Q&A engine for profit to third parties largely failed. Many of the communities started “with a credit card” but without appropriate leadership languished; the program was ultimately abandoned.

Currently, a second effort to broaden the reach of SO beyond programming is underway that attempts to improve on these prior missteps. New sites attempt to leverage the existing user base by largely focusing on leisure activities the current users already engage in (e.g., gaming, mathematics, cooking). The most interesting aspect to analyze in future work is the choice to introduce a formal community proposal system in which communities must define clear topic boundaries, demonstrate commitment to the project, and show viability through sufficient user activity in a test phase. To our knowledge, this formalization of online community formation is novel, the outcome is still uncertain.

REFERENCES


REFERENCES


Orienteering vs. Teleporting

**Orienteering**: start with short, general queries, then incrementally refine based on feedback

**Teleporting**: use one, long, specific query

Examples?
| Goals |

- Fact Finding
- Information Gathering
- Browsing
- Transactions
- Other
Early Web: Directories
Yahoo Homepage, 1996
Source: archive.org
Top: Education: Higher Education

- Directories (1)
- Indices (4)

- Academic Competitions@College Entrance (109)
- Colleges and Universities (95)
- Community Colleges (19)
- Distance Learning@
- Graduate Education (7)
- Honors Programs (20)
- Organizations (95)

- HEPROC - a higher education resource featuring archives, news, databases, forums, interactivity, and searching; and information about assessment, teaching, faculty development, and quality.
- Mailbase - electronic mailing list service for research in higher education, enabling groups to manage their own discussion topics and associated files.

Explore the Web without your computer!
Click for a Free issue of Yahoo! Internet Life

Copyright © 1994-96 Yahoo! All Rights Reserved.
Top:Regional:Countries:United States:Education:Colleges and Universities

Search [Options
○ Search all of Yahoo ○ Search only in Colleges and Universities

- Complete Listing
- Indices (20)

- Fort Valley State University @ NEW!

Explore the Web without your computer!
Click for a Free issue of Yahoo! Internet Life

Copyright © 1994-96 Yahoo! All Rights Reserved.
Top:Regional: Countries: United States: Education: Colleges and Universities: Complete Listing

- Fort Valley State University@ NEWS
- Community Colleges@

- Alcorn State University NEWS
- California Yuin University NEWS - school of business administration, theology, acupuncture and oriental medicine.
- Juilliard School NEWS - performing arts education in Music, Dance, and Drama.
- Rio Grande University and Community College NEWS
- Union College, Kentucky NEWS
- University of Montevallo@ NEWS

- Abilene Christian University@
- Academy of the New Church College
- Adams State College
- Agnes Scott College
- Alaska Pacific University
- Albany State College@
- Albertson College of Idaho@
- Albion College@
- Albright College - a small liberal arts college with a wide range of undergraduate majors.
- Alderson-Broadus College
- Alfred University@
- Allegheny College@
- Allegheny University of the Health Sciences
- Allentown College@
- Alverno College - Liberal Arts college for women.
- Ambassador University@
Tree Hierarchies
The Problem With Hierarchy

Forces a choice of one dimension vs another
Either you commit to one path,
Or you have to provide many redundant combinations

Examples
Each topic followed by all time periods followed by all locations
AND
Each topic followed by all locations followed by all time periods
AND
Each location followed by all topics followed by all time periods
… etc

Slide from: M. Hearst, SIMS141
Facets

Sets of categories, each of which describe a different aspect of the objects in the collection.

Each of these can be hierarchical.

(Not necessarily mutually exclusive nor exhaustive, but often that is a goal.)
Facet example: Recipes

COOKING METHOD
- Stir-fry

INGREDIENT
- Chicken
- Red Bell Pepper
- Curry

CUISINE
- Thai

COURSE
- Main Course

Slide from: M. Hearst, SIMS141
Hierarchical Faceted Metadata

A simplification of knowledge representation

Does not represent relationships directly

BUT can be understood well by many people when browsing rich collections of information.
SEARCH: We found 6377 items for “shoes”

YOUR SELECTIONS: SHOES  MENS  SNEAKERS AND ATHLETIC SHOES

NEAREST MOST POPULAR NAME LOWEST PRICE HIGHEST PRICE

Onitsuka Tiger by Asics
Ultimate 81@ $65.00

Onitsuka Tiger by Asics
Ultimate 81@ $65.00

Onitsuka Tiger by Asics
Ultimate 81@ $65.00

Vans
 Authentic™ $42.00

Red (214)
SEARCH: We found 42 items for “shoes”

YOUR SELECTIONS: SHOES SNEAKERS AND ATHLETIC SHOES SHOES RED RUNNING WOMENS

NEWEST MOST POPULAR NAME LOWEST PRICE HIGHEST PRICE

adidas Running Supernova™ Glide 2 W $100.00
Saucony Originals Jazz Original W $50.00
Saucony Originals Jazz Low Pro $40.00 $50.00
ASICS Gel-Kahana® 4 $58.83 $75.00

<table>
<thead>
<tr>
<th>BRAND</th>
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<tbody>
<tr>
<td>Adidas Running</td>
<td>(5)</td>
</tr>
<tr>
<td>Adidas Y-3 by Yohji Yamamoto</td>
<td>(1)</td>
</tr>
<tr>
<td>ASICS</td>
<td>(2)</td>
</tr>
<tr>
<td>Avia</td>
<td>(2)</td>
</tr>
<tr>
<td>Brooks</td>
<td>(1)</td>
</tr>
<tr>
<td>Inov-8</td>
<td>(3)</td>
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<tr>
<td>Karhu</td>
<td>(1)</td>
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<tr>
<td>New Balance</td>
<td>(1)</td>
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<tr>
<td>Nike</td>
<td>(11)</td>
</tr>
<tr>
<td>PUMA</td>
<td>(1)</td>
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<tr>
<th>WOMEN'S SIZE</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>5.5</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>10.5</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>13.5</td>
</tr>
<tr>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WOMEN'S WIDTH</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>W</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRICE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$50.00 and Under</td>
<td>(5)</td>
</tr>
</tbody>
</table>
Query Formulation
Query Formulation

Most people have an incomplete mental model of query formulation
Plenty of searches for “Yahoo” or “Google”
Sensitivity to ordering? Boolean connectors?
Shortcuts

“Zero-click” Results
Google search for "track status united 901"
What is the command language for the Google search box?
Search Result Visualization
Document Surrogates
Domain-Specific Search
protected UndoableEdit editToBeUndone() {
    int i = indexOfNextAdd;
    while (i > 0) {
        UndoableEdit edit = edits.elementAt(i);
        if (edit.isSignificant()) {
            return edit;
        }
    }
    return null;
}

/**
 * Returns the the next significant edit that can be undone. This returns <code>null</code>
 * to be redone.
 *
 * @return the next significant edit that can be undone.
 */
protected UndoableEdit editToBeUndone() {
    int count = edits.size();
    int i = indexOfNextAdd;

    while (i < count) {
        UndoableEdit edit = (UndoableEdit)edits.elementAt(i++);
        if (edit.isSignificant()) {
            return edit;
        }
    }
    return null;
}
Members calling 'editToBeUndone()' - in workspace

- `editToBeUndone() : UndoableEdit - javax.swing.undo.UndoManager`
- `canUndo() : boolean - javax.swing.undo.UndoManager`
- `getUndoPresentationName() : String - javax.swing.undo.UndoManager`
- `undo() : void - javax.swing.undo.UndoManager`
Stackplorer - Karrer, Krämer, Diehl, Hartmann, Borchers UIST’11
Language (API). The Processing Language has been designed to facilitate the creation of sophisticated visual and conceptual structures.
Code Search Engines

Assieme, Hoffman, UIST07
<?xml version="1.0" encoding="utf-8"?>
<mx:Script>

  urlLoader

</mx:Script>
Flex 3 - Using the `URLLoader` class

You can use the `URLLoader` class to load XML data from a URL.

```actionscript
var loader:URLLoader = new URLLoader();
loader.addEventListener(function(e:Event){
    trace("loaded");
};
loader.load(new URLRequest("example.com"));
```
<?xml version="1.0" encoding="utf-8"?>
<mx:Script>

    // @url http://livedocs.adobe.com/flex/3/net/URLLoader.html
    // @pasted Tue Mar 24 13:24:06 PDT 2009
    // @query: urlloader

    var loader:URLLoader = new URLLoader();
    loader.addEventListener(function(e:Event){
        trace("loaded");
    });
    loader.load(new URLRequest("example.com"));

</mx:Script>
</mx:Application>
Re-Retrieval
Collaborative Search
Collaborative Search

Many search tasks are completed by groups (e.g., *plan an itinerary for our vacation*).

Search user interfaces assume single users.

How can user interfaces enhance and support group information seeking?
SearchTogether
Social Search

Re-rank search results based on social graph information (e.g., links previously published by your friends)

Outsource IR to social graph: “Dear Lazyweb: ...”
<table>
<thead>
<tr>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>University of California, Berkeley</strong>&lt;br&gt;berkeley.edu/</td>
</tr>
<tr>
<td>University of California, Berkeley home page. Gateway to information on studying, teaching, research and public service at UC Berkeley, flagship campus of the ...</td>
</tr>
<tr>
<td>James Cook +1’d this</td>
</tr>
<tr>
<td>**Index</td>
</tr>
<tr>
<td>Mar 10, 2011 – User interface research on pen, tangible, speech, and multimodal interfaces. United States.</td>
</tr>
<tr>
<td>You shared this</td>
</tr>
<tr>
<td><strong>Home - Berkeley Graduate School of Journalism</strong>&lt;br&gt;journalsm.berkeley.edu/</td>
</tr>
<tr>
<td>Admissions, students, faculty, and alumni. Plus events and resources.</td>
</tr>
<tr>
<td>Jono Hey shared this on Blogger · May 13, 2009</td>
</tr>
<tr>
<td>**Electrical Engineering &amp; Computer Sciences</td>
</tr>
<tr>
<td>Oct 10, 2011 – Features history of the department, a mission statement, rosters, a FAQ, staff and faculty information.</td>
</tr>
<tr>
<td>Valkyrie Savage shared this on Blogger · Jan 25, 2011</td>
</tr>
<tr>
<td><strong>ken goldberg, professor, uc berkeley</strong>&lt;br&gt;goldberg.berkeley.edu/</td>
</tr>
<tr>
<td>prof. ken goldberg’s home page at uc berkeley, with links to artwork, courses, and research in robotics and automation.</td>
</tr>
<tr>
<td>Ken Goldberg shared this</td>
</tr>
<tr>
<td><strong>Doug Tygar's Home Page</strong>&lt;br&gt;www.tygar.net/</td>
</tr>
<tr>
<td>This is the root page of Doug Tygar's local web. Doug Tygar is a Professor of Computer Science and Information Management at UC Berkeley.</td>
</tr>
</tbody>
</table>