Student’s World: Photo Diary Study

Nicole Hennig
Web Manager & Usability Specialist

www.hennigweb.com/presentations/cil2007/
Outline

• why we did it
• methodology
• findings
• what we plan to do because of it
• further resources
you hear all these theories:

“students are using google”

“they aren’t coming to libraries”

“they use wikipedia, instead of scholarly resources”
We wanted to find out what our students REALLY do.
So we studied their information-seeking habits in the context of real life.
In the past we’ve done usability tests of our systems, one by one.
Web Advisory Group

Usability Testing

The Web Advisory Group coordinates usability testing for web interfaces.

New home page [paper prototype]
New home page - usability test results: April 2004

Digital Library of MIT Theses
Digital Library of MIT Theses usability test results: June 2003

MIT Institute Archives web site
Archives web site usability test results: May 2003

The "Big Test" results: November 2002
The aim of this test was to learn how our students use our many web-based interfaces together. Included in the test were:

- web site: http://libraries.mit.edu/
- listings of databases + e-journals: http://libraries.mit.edu/vera
- web OPAC: http://libraries.mit.edu/barton
- individual databases listed in Vera
- test version of SFX menu screens in Alternative Press Index/Firstsearch test account
- "Ask Us - Live" (live chat reference service, no longer live at MIT)
- subject pages: http://libraries.mit.edu/subjects/
- The Information Navigator: http://libraries.mit.edu/tutorials/general/

MIT Libraries' GIS web site
GIS web site usability test results: September 2002

MIT Libraries' DSpace web site
DSpace web site usability results: August/September 2002

Margaret Price of MIT Library coordinated this test.
But that only tells us how each system works or doesn’t work for them, once they’ve found it and are using it.
usability testing is good for:
fixing an existing system

contextual research is good for:
deciding what to build
So we turn to... anthropology
An anthropologist on staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Title &amp; Department</th>
<th>Phone &amp; Email</th>
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<tbody>
<tr>
<td>Finger, Ann</td>
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<td>585-275-9308 <a href="mailto:afinger@library.rochester.edu">afinger@library.rochester.edu</a></td>
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<td>Foster, Nancy</td>
<td>Lead Anthropologist, Digital Initiatives Unit</td>
<td>585-273-5036 <a href="mailto:nfoster@library.rochester.edu">nfoster@library.rochester.edu</a></td>
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<tr>
<td>Fox, Deborah</td>
<td>Music Subject Librarian, Art and Music Library</td>
<td>585-275-9277 <a href="mailto:dfox@library.rochester.edu">dfox@library.rochester.edu</a></td>
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<tr>
<td>Frontz, Stephanie</td>
<td>Department Head, Art and Music Library</td>
<td>585-275-4476 <a href="mailto:sfrontz@library.rochester.edu">sfrontz@library.rochester.edu</a></td>
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Thanks, University of Rochester!
If you can’t follow the users around all day in their environment, instead you can give them a “cultural probe.”
We called it the “photo/diary study.”
students volunteered to track their information-seeking behavior for one week
in-depth interviews
16 undergrads + 16 grad students
students from:

1 art & architecture
14 engineering
6 science
5 school of humanities & social sciences
3 management
3 undecided

(roughly like the population at MIT)
Their photos, screen shots, and a diary of what they did helped them tell us the story.
the interviews
a total of 8 librarians
teams of 2 people

- one to conduct the interview
- one to take notes
warm up questions

1. what department are you in?

2. how long have you been at MIT?

3. about how many times a month do you use the libraries in person?

4. about how many times a month do you use our electronic resources?

5. about how many times a month do you search for information NOT using the MIT libraries?
they tell the story of their week

(about an hour)

use the photos and diary to jog their memories
questions we used to guide the interviews

**what** were you looking for?
**where** were you doing your research?
**when** were you doing this?
**what strategies** did you use?
**what sources** did you use?
**how did you learn** about these sources?
questions we used to guide the interviews

what **devices** did you use?
what **worked**?
what **problems** did you have?
**how often** do you usually do this task?
we repeated back what we heard along the way:

“let me get this right, you’re saying that....”

“so in other words you did x?”
useful book for interviewing techniques:

Understanding Your Users: A Practical Guide to User Requirements Methods, Tools, and Techniques

Catherine Courage & Kathy Baxter
results
Everyone was busy and sleep-deprived.

Especially undergrads.

Students rarely asked for help.
goals, tasks, methods
we used cards to write down each method used for each task they were working on
we wanted to understand their goals so that we could find ways to help them meet those goals
grad student goals

- research & thesis 64%
- conference presentations & publishing 14%
- current awareness 9%

- helping the lab function
- networking
- job search
undergrad student goals

- complete their course work  75%
- research        7%
- current awareness 7%

- participate in MIT clubs & social activities
tasks - most frequent

- search for a known item

- search for information on a topic

- find facts

- search for a partially known item (don’t have complete citation)

- take notes & organize information
tasks - most frequent

- complete class assignment

- check web sites or email or RSS feeds for current awareness

- study for a class

- learn about a software program

- do course readings
methods - most frequent

- search Google
- go directly to a known URL
- use the library catalog to browse or search
- search our licensed citation databases
- use course web sites
- review class notes
- search our finding tool for e-resources (Vera)
methods - most frequent

- read textbooks
- consult with other students
- consult with faculty or guest lecturers
- search Google Scholar
- search our licensed full text databases
- physically browse a collection in the library
- refer to books in their personal library
- use Wikipedia
none of that is surprising.
so we asked ourselves...
- were they successful from their own points of view?

- were they efficient and effective from our point of view as librarians?
- were they successful from their own points of view?

grads: yes, for 86% of their tasks
undergrads: yes 93%

(we always asked: did you find what you were looking for?)
- were they efficient and effective from our point of view as librarians?

grads: yes for 77% of their tasks
undergrads: yes 85%

(we subjectively rated each task)
For all tasks

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<td><strong>grads</strong></td>
<td>86%</td>
<td>77%</td>
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<tr>
<td><strong>undergrads</strong></td>
<td>93%</td>
<td>85%</td>
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percentage of tasks done during the week of the study
- you might say... well librarians will always think of better ways

but...
- we also broke it down by type of task and that’s where we saw a big difference
Searching for information on a topic

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<td><strong>grads</strong></td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>undergrads</strong></td>
<td>82%</td>
<td>64%</td>
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Percentage of tasks done during the week of the study
Searching for information on a topic

This is an area where we can help.
They had a tendency to start with sources they were familiar with.
and with sources recommended by a trusted network of people.
advisors

colleagues

friends

family

roommates
not librarians
also common:

- figuring it out themselves
that’s the culture at MIT
This is another area where we can help.

Help them make connections
Include our expert librarians in those connections.
They used a wide variety of sources.
Google, e-books, Google Print, library databases, textbooks, Google Scholar, Google maps, personal libraries, web sites of other universities, MIT Open Courseware, social science data sets, Amazon.
Google

library databases

e-books

Google Print

old course notes

Google Scholar

textbooks

lab notebooks

Google maps

MIT Open Courseware

personal libraries

social science data sets

web sites of other universities

Amazon

personal contacts (people)
usually began with Google.
Almost everyone had a few favorite resources.
They tended to reuse their favorites, rather than try new ones.
Many students did their TOPICAL discovery in non-library sources.
then came to the library to look up the items they found.
Looking up known items in our systems usually worked well.
Undergrads mainly looked for information related to courses they were taking.
Often a few good sources were enough.
In those cases, people get what’s convenient to get.
Graduate students looked for information related to their research.
- more difficult and time-consuming.

- highly-specific topics.

- needed more depth and comprehensiveness.
1. trouble with knowing where to look

2. trouble with effectively searching the sources they used
They spent a large amount of time with varying degrees of success.
Sometimes used “brute force” methods.

VERY time consuming
from our point of view as librarians

“if they had only known about X!”

(fill in the blank)
from their point of view:

They often thought that’s how it had to be.
Another area where we can help.
Also:

They used a wide variety of methods for “personal info management.”

i.e., organizing what they found
They spend a lot of time doing this (in creative ways).
Most students are suffering from information overload.
Refworks, Endnote, Zotero, CiteULike, Connotea....

a big interest in this area.
By the way:

We conducted a large library survey this past year with a very high response rate.
users want us to simplify search, felt there were too many starting points
Too many starting points
Too many starting points
Too many starting points
Another finding:

They are not aware of many of the services we provide beyond the obvious ones.
A picture of their culture

- sleep deprived
- stressed, in a hurry
- do it yourself
- focused on getting course work done or doing research
- current awareness important
- relying on trusted network of friends and colleagues
A picture of their culture

- not asking for help
- not knowing about all our services
- not knowing about all our research databases
- using “brute force” methods
- struggling with organizing the info they have already found
- need to share the info with colleagues
so what are we going to do?
Priorities

• Make **topical discovery** easier and more effective.

• Incorporate **community & trust features** in our systems.

• Embed ourselves & our systems **where users are.**

• Build **our expertise into the systems**, create systems that you learn from by using.
Faceted browsing improves discovery

Catalog Search: hurricane katrina

Search 'hurricane katrina':
We found 115 matching items.

Narrow Results By:

Subject: Topic
- Hurricane Katrina, 2005 (98)
- Disaster relief (53)
- Emergency management (33)
- United States (32)
- Law and legislation (18)

Subject: Genre
- Rules and practice (5)
- Personal narratives (1)
- Textbooks (1)
- Textbooks (1)

Format
- eBook (77)
- Book (38)
- Microfiche (1)
- CD-ROM (1)

Library

Brief View | Full View

1. A failure of initiative [electronic resource]: final report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina
   Author: United States. Congress. House. Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina
   Published: 2006.
   Format: eBook
   Online: View resource online

2. GAO's preliminary observations regarding preparedness and response to Hurricanes Katrina and Rita [electronic resource].
   Author: Walker, David M. (David Michael), 1951-
   Published: [2006]
   Format: eBook
   Online: View resource online

3. Environmental health needs & habitability assessment [electronic resource]: Hurricane Katrina response: initial assessment
   Published: [2005]
   Format: eBook
   Online: View resource online

4. Shelter from the storm : repairing the national emergency management system after Katrina
   Published: c2006.
   Format: Book; eBook
We’re looking at different solutions for a new catalog interface using faceted browsing:

- Endeca
- Siderean
- Univ. of Rochester XC
- build our own using Solr & Lucene
- Worldcat Local
Not just our catalog, but also to include:

- DSpace repository
  - Image collections
  - Future archival collections
  - Pages from our web site

all with different types of metadata:
MARC, Dublin Core, VRA, etc.
aggregated search of our local content with faceted browsing

catalog

DSpace repository

image collections

archives

federated search of licensed e-content

nearly 500 research databases
And we’re building a better way for students to discover our research databases (almost 500 of them), using federated searching.

(to be released next fall)
community and trust features
So many community features available now:

- Social bookmarking
- Tagging
- Comments
- Reviews
- Rating
- Popularity rankings
  (circ stats and e-resource usage stats)
We want more of these features in our systems
We’d like a system where the MIT community can contribute reviews
We’d like a multi-university tagging system.

(PennTags.. across academia).
putting ourselves where users are
Where are the users?

- Google
- Google Scholar
- Google Print
- Wikipedia
- Amazon
- iTunes
- Facebook
- Stellar (course management system at MIT)
- MIT departmental web sites
- Faculty web sites at other institutions
We are already embedded in Google Scholar.
Scholar Preferences

Interface Language
Display Google tips and messages in: English

Search Language
- Search for pages written in any language (Recommended).
- Search only for pages written in these language(s):
  - Chinese (Simplified)
  - Chinese (Traditional)
  - English
  - French
  - German
  - Japanese
  - Portuguese
  - Spanish

Library Links
(what's this?)
mit
 e.g., Harvard

Show library access links for (choose up to three libraries):
- Open WorldCat (Library Search)
- Massachusetts Institute of Technology (Full Text@IngentaConnect)
- Massachusetts Institute of Technology (Full text - MIT Libraries)

Online access to library subscriptions is usually restricted to patrons of that library. Without a library password, use a campus computer, or configure your browser to use a local library website or ask a local librarian for assistance.
Beyond Global Warming: Ecology and Global Change - Full text - MIT Libraries - group of 2
PM Vitousek - Ecology, 1994 - esajournals.org
Cited by 419 - Related Articles - Web Search - BL Direct

Fingerprints of global warming on wild animals and plants - Full text - MIT Libraries - group of 5
TL Root, JT Price, KR Hall, SH Schneider, C ... - Nature, 2003 - frontiersinzoology.com
Click here to read Fingerprints of global warming on wild animals and plants. Root TL, Price JT, Hall KR, Schneider SH, Rosenzweig C, Pounds JA. ...
Cited by 350 - Related Articles - Cached - Web Search - BL Direct
Browser extensions

• LibX - Firefox extension
  libraries.mit.edu/libx
**Library Betas**

**LibX - MIT Edition**

**What is LibX?**

1. **Toolbar:** LibX is a Firefox toolbar that allows you to quickly search the Barton catalog, Vera, Google Scholar, the SFX FullText Finder and other search tools
2. **Right-click menu:** when you have installed LibX you can highlight text on a web page or PDF and right-click for a menu of search options
3. **Embedded links:** LibX will also embed links on search results in Amazon, Barnes & Noble, Google Scholar, NYT Book Reviews, and more that will lead you to MIT-only resources

1. **Toolbar:** Enter search words in the box in the LibX toolbar; the Barton catalog is the default, but you can switch to Vera, the SFX FullText Finder or Google Scholar. You can search by multiple terms in different fields (author, title, ISBN/ISSN, etc.) and by clicking on the down arrow you can add additional search boxes. Which fields can be searched changes based on which database is being searched.
LibX

adds our search to the browser toolbar
Puts links to the libraries where the users are:

- such as Amazon, Barnes & Noble, Powell’s
- New York Times book reviews
- Google
- and more.
Links from Amazon to our catalog
Links from Amazon to our catalog
LibX

links ISBNs to our catalog

Without LibX, the ISBN is not a link.
LibX

right-click sends selected text on a page to Google Scholar and more
LibX - A Firefox Extension for Libraries

LibX is a Firefox extension that provides direct access to your library's resources. LibX is an open source framework from which editions for specific libraries can be built. Currently, 45 academic and public libraries are offering LibX editions to their users, an additional 77 libraries are testing editions. Take a look at the screenshots & screencasts hosted at this site.

LibX Features

- **Toolbar & right-click context menu**: Direct access to the catalog via a toolbar and context (right-click) menu - automatic construction of simple or advanced searches. Search by entering terms, select and right-click, or select and drag-and-drop without having to navigate to the library catalog page. LibX supports Millennium, Voyager, Aleph, Sirsi, Dynix/IPAC, and user-defined catalogs.

- **Adaptive context menus**: The context menu changes automatically depending on what is selected. For instance, if an ISBN is selected, the context menu will offer the option to search directly using that specific identifier. Currently recognized are CrossRef DOIs, ISBNs, and ISSNes, and PubMed IDs.

- **OpenURL support**: OpenURL is a standard that helps your library get you to appropriate resources, including the full text of journals to which it subscribes. LibX gives direct access to your institution's OpenURL resolver, which can directly point you at the full text of an article you are looking for. (OpenURL resolvers are often called "Find it@", "Article Finder", "Article Linker", "WebBridge", "Get it@", "Find Fulltext", "Article Express" or similar names.) OpenURL can work well in connection with Google Scholar.

- **Google Scholar Support (The 'Magic Button')**: Select text and search for the selected text on Google Scholar. In addition, LibX will read Scholar's results for you, determine whether the paper was found and if so, ask the OpenURL resolver for a paid-for copy, should you not have access to the copy to which Scholar links. You can use this feature even from inside a PDF, which makes retrieving papers referenced in a PDF file a snap. If your library has not subscribed to Scholar's services, see Question 11 in the FAQ: Can I get the Google Scholar search to work even if my institution has not registered with Google?

- **Web Localization via Embedded Cues**: LibX places localized cues in web pages you visit if the library has resources related to that page. Whenever you see the cue, click on the link to look at what the library has to
Other ways to put ourselves where they are

- our news blog (Wordpress)

- RSS feeds for the blog and for new titles in our catalog

- podcasts in iTunes

- “insideMIT” portal under development, build library widgets for that

- work on extending library systems inside course management systems
We now have a “betas” page

... similar to Google Labs
MIT Libraries' Betas

The MIT Libraries are experimenting with new technologies to help make access to information easier. The tools below are in "beta" form - they are still being tinkered with, but we'd like you to try them out and tell us what you think!

What works well? What doesn't? Have you written any scripts or tools yourself? Let us know! Email us at betas-lib@mit.edu.

RSS feeds for new books BETA

Check out the latest and greatest books that have recently arrived in the MIT Libraries! See: Recent Additions to the Collections.

We have RSS feeds for many different subjects - you can even find out about new music CDs and DVDs. Don't know what RSS is or how to use it? No problem - you can simply view new items via the link above. You can also have lists of new items emailed to you on a regular basis.

New Humanities Virtual Browsery BETA

The Humanities Virtual Browsery has been revamped! In addition to highlighting new books, the redesign also introduces several new features:
- an RSS feed
- the ability to comment on books, and discuss them with the rest of the MIT community
- links to informative book reviews
- information about the availability of the book in the Humanities Library
- links to other books by the same author

Graduates of Betas

Dewey Research Advisor
starting points for specific research questions in the fields of business, management, and economics

LibX - MIT Edition
a Firefox extension that adds a toolbar for quickly searching the Barton catalog, Vera, and Google Scholar. embeds links to MIT resources in Amazon, Google Scholar, and more.
Labs.google.com, Google's technology playground.
Google labs showcases a few of our favorite ideas that aren't quite ready for prime time. Your feedback can help us improve them. Please play with these prototypes and send your comments directly to the Googlers who developed them.

New! **Google Code Search**
Search public source code
10/05/06 - Give us feedback - Discuss with others

New! **Google Reader**
Use Google's web-based feed reader to keep track of your favorite web sites
09/28/06 - Give us feedback - Discuss with others

**Google Transit** (currently available in select cities)
Plan trips using public transportation
09/25/06 - Give us feedback - Discuss with others

**Google Music Trends**
See what music is popular among Google Talk users
8/16/06 - Give us feedback - Discuss with others

**Google 趋势** (Google Trends in Chinese)
世界在搜索什么
7/31/06 - 给我们反馈 - 参加讨论

**Accessible Search**
Web search for the visually impaired
7/19/06 - Give us feedback

**Google Extensions for Firefox** (Google Browser Sync now available)
Add powerful new tools to your Mozilla Firefox browser
6/7/06 - Give us feedback - Discuss with others

**Graduates of Labs**
- **Google Docs & Spreadsheets**
  Create, store and share documents and spreadsheets on the web
- **Google Video**
  Search TV programs and videos
- **Personalized Search**
  Get the search results most relevant to you
- **Personalize Your Homepage**
  See information you care about on your Google homepage
- **Google Maps**
  View maps, get driving directions, and search for local businesses and services.
- **Google Scholar**
  Search through journal articles, abstracts and other scholarly literature
- **Google SMS (US)**
  Get precise answers to specialized queries from your mobile phone or device
- **Google Desktop**
  Find all your information, whether it's on the web or stored on your computer, from one convenient location
Labs.google.com, Google's technology playground.

Google labs showcases a few of our favorite ideas that aren't quite ready for prime time. Your feedback can help us improve them. Please play with these prototypes and send your comments directly to the Googlers who developed them.
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Successful systems extend the users’ work practice.

- Karen Holzblatt
Design works best when it models user behavior.

-Joshua Porter
We should look for ways to understand and extend the practice of our users.
Useful resources

*Understanding your users: a practical guide to user requirements methods, tools, and techniques.*
Catherine Courage and Kathy Baxter.

*Contextual design: a customer-centered approach to systems designs.*
Morgan Kaufmann, 1997.
Hugh Beyer and Karen Holtzblatt.
www.hennigweb.com/presentations/cil2007/
questions?
Key reports with similar findings & recommendations to ours

Rethinking how we provide bibliographic services for the University of California. Bibliographic Services Task Force. December 2005.
http://libraries.universityofcalifornia.edu/sopag/BSTF/Final.pdf

Perceptions of Libraries and Information Resources. OCLC Reports, 2005.
http://www.oclc.org/reports/2005perceptions.htm