Web Site Usability Test
March 1999

Introduction

In March of 1999 the MIT Libraries Web Advisory Group conducted a usability test of the libraries' web site. The purpose was:

- to set some benchmarks for measuring the success of future site designs
- to identify specific usability problems as a starting point for improving the site design

This site contains a summary of what was learned by this test. See "observed problems" for a summary of the top 5 usability problems.

Presentation slides

A presentation was given by Nicole Hennig to the MIT Libraries Visiting Committee on April 7, 1999. The presentation slides are available here in HTML format.

webgroup-lib@mit.edu
2 April 99

[web advisory group]
The Test
Introduction
Testing Process
Testing Materials

The Results
Overview
Success rate
Observed problems
User survey

Testing Process

The test consisted of asking volunteer users to find the answers to specific questions by locating certain pages on our site while being observed by someone on the library staff. See "overview" for information about who was tested.

Each observer made an individual appointment with a volunteer to conduct the test. There were 2 sets of 8 questions. See "testing materials." Half the volunteers were given test A and half test B. Each test consisted of easy, medium, and difficult questions. Volunteers were asked to think out loud about what they were clicking on and why. Detailed notes were taken on how they went about finding the answers.

Two items were measured:

- how many answers were found successfully
- how long it took to find each answer (given a 3-minute limit per question)

See "success rate" for the results.

We also gathered a large amount of qualitative data on how users were navigating the site. See the section: "observed problems."

A very brief survey was included at the end of each observed test. See "user survey."

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Testing Materials

[schedule] [questions] [observers] [testers]

Test schedule:

1. Demo of usability process:
   Tues., Feb. 23, 10:30am to 11:30am, Dewey
   Electronic Classroom
   or Wed., Feb. 24, 3:15-4:15pm, Dewey Electronic
   Classroom
2. Discussion notes from demo meeting
3. Observer training meeting:
   Tues., Mar. 2, 2-3pm (Barker Conference Room)
4. Conduct individual tests:
   anytime between March 8 and March 26
5. Observer follow-up meeting:
   Mon., March 29, 2-4pm (Rotch seminar room - on
   lower level)

Test Questions:

(pdf format: requires Acrobat Reader)

- Test A: observer worksheets
- Test A: large-size questions
- Test B: observer worksheets
- Test B: large-size questions

Volunteer observers
Observer sign-up sheet

1. Nataly Reed
2. Poping Lin
3. Diane d’Almeida
4. Diann Smothers
5. Shana Gass
6. Jim Eggleston
7. Nicole Hennig
8. Wayne Jones
9. Marlene Manoff
10. Stephanie Hartman

Observer instructions

http://libstaff.mit.edu/webgroup/usability/results/materials.html
Volunteer testers (aim for 30, hope to test 25)

**undergrad students: 8**
(we'll include a few users with disabilities of various sorts)
(we'll include some whose first language is not English)

**grad students: 8**
(we'll include a few users with disabilities of various sorts)
(we'll include some whose first language is not English)

**faculty: 5** (we'll aim for a balance of senior and junior faculty)

**researchers: 3**

**MIT staff/admin: 3**

**library staff: 3**

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MIT Libraries Web Usability Test A
Observer Comment Form

Name of observer: ________________________________

Name of tester: ____________________________ Date: ____________

Status:

___ undergrad
___ grad student
___ faculty (how many years? ________)
___ researcher
___ MIT staff/admin
___ library staff

Department or field of study: __________________________

Has the tester ever used our web site before? ___ yes ___ no

Is the tester’s first language English? ___ yes ___ no

Where is this test being conducted?

___ tester’s office/dorm room
___ observer’s office or work area
___ Athena workstation
___ other ____________________________

Read this to the tester before you begin:
The goal of this test is to evaluate how users find information on the MIT Libraries web site. I will ask you a series of questions and would like you to think out loud while you look for the answer. I will be timing you, and will stop you after 3 minutes have passed. Some questions are easy and some are more difficult. Don’t worry if you can’t find the answer every time. Remember: we are testing the effectiveness of our site design--this is not a test of you! The whole test should take about 1/2 hour. Do you have any questions?
1. Where can I find a description of the collection of Harold Edgerton?


browsing path:
home / archives / Harold "Doc" Edgerton Collection

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool: yes no

Search words used:

Did the tester find the answer? yes no

Describe issues/problems:
2. What databases are available for engineering topics? 

URL of answer http://libraries.mit.edu/lists/databases.html
or http://libraries.mit.edu/barker/databases.html

browsing path:
home / Barker / databases
home / resources / databases / databases & online search services / subject list of all
databases / engineering & technology

Indicate what the tester did:
Browsing: (indicate path)

Used the search tool:  ____ yes  ____ no
Search words used:

Did the tester find the answer?  ____ yes  ____ no

Describe issues/problems:

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3. Where is there an online dictionary?

URL of answer http://libraries.mit.edu/services/virtuairef.html

browsing path:
home / resources / virtual reference collection / dictionaries & thesauri

Indicate what the tester did:
Browsing: (indicate path)

Used the search tool:   ____ yes   ____ no
Search words used:

Did the tester find the answer?   ____ yes   ____ no

Describe issues/problems:
4. Is Barker or Humanities Library open later on Thursday nights?

URL of answer: http://libraries.mit.edu/admin/hours.html

browsing path:
home / hours – scroll down to Barker and Humanities
or
home/ Barker / hours
home / Humanities / hours

Indicate what the tester did:

Browsing: ( indicate path )

Used the search tool:  yes  no

Search words used:

Did the tester find the answer?  yes  no

Describe issues/problems:
5. Can you find a page that lists all the electronic journals we make available to our users?


browsing path:
home / resources / electronic journals

Indicate what the tester did:
Browsing: (indicate path)

Used the search tool:  yes  no
Search words used:

Did the tester find the answer?  yes  no

Describe issues/problems:

March 99 test
6. Where can I find a list of links to U.S. company information?  

URL of answer: http://libraries.mit.edu/dewey/company/  
browsing path:  
home / Dewey / resources & services / resource guides / company information: U.S.  

Indicate what the tester did:  
Browsing: (indicate path)  

Used the search tool:  
____ yes  ____ no  
Search words used:  

Did the tester find the answer?  
____ yes  ____ no  

Describe issues/problems:
7. Which page gives information about scanning and photographic services?
    time started: _____
    time stopped: _____

URL of answer http://libraries.mit.edu/docs/

browsing path:
home / document services - scroll down to "scanning & photographic services"

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool:    yes    no

Search words used:

Did the tester find the answer?    yes    no

Describe issues/problems:
8. What is the fine for overdue books? time started: _____ time stopped: _____

browsing path:
home / policies / circulation – scroll down to "fines"

Indicate what the tester did:

**Browsing:** (indicate path)

---

Used the search tool: ___ yes ___ no
Search words used:

Did the tester find the answer? ___ yes ___ no

---

Describe issues/problems:

---

**Observers:**
Ask your tester to complete the on-line survey located at:


and remember to give them the Toscanini's coupon!

March 99 test
1. Where can I find a description of the collection of Harold Edgerton?

2. What databases are available for engineering topics?

3. Where is there an online dictionary?

4. Is Barker or Humanities Library open later on Thursday nights?
5. Can you find a page that lists all the electronic journals we make available to our users?

6. Where can I find a list of links to U.S. company information?

7. Which page gives information about scanning and photographic services?

8. What is the fine for overdue books?
MIT Libraries Web Usability Test B
Observer Comment Form

Name of observer: ________________________________

Name of tester: ________________________________ Date: ____________

Status:  
___ undergrad  
___ grad student  
___ faculty (how many years?_______)  
___ researcher  
___ MIT staff/admin  
___ library staff

Department or field of study:

Has the tester ever used our web site before?  ___ yes ___ no

Is the tester’s first language English?  ___ yes ___ no

Where is this test being conducted?

___ tester’s office/dorm room  
___ observer’s office or work area  
___ Athena workstation  
___ other __________________________

Read this to the tester before you begin:
The goal of this test is to evaluate how users find information on the MIT Libraries web site. I will ask you a series of questions and would like you to think out loud while you look for the answer. I will be timing you, and will stop you after 3 minutes have passed. Some questions are easy and some are more difficult. Don’t worry if you can’t find the answer every time. Remember: we are testing the effectiveness of our site design--this is not a test of you! The whole test should take about 1/2 hour. Do you have any questions?
1. Which page allows you to request a book from a non-MIT library?  

URL of answer http://libraries.mit.edu/iils/ilb.html

browsing path:
home/services – scroll down to "Interlibrary Borrowing (electronic form)"

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool:   yes  no

Search words used:

Did the tester find the answer?   yes  no

Describe issues/problems:
2. Find a page that contains links to housing statistics.

time started: ____
time stopped: ____

URL of answer http://libraries.mit.edu/dewey/data/data-social.html

browsing path:
home/resources/Data Resources/Social (housing category is on this page)
or
home/Dewey/Resources & Services/Resource Guides/Data Sources/Social

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool:  ____ yes  ____ no

Search words used:

Did the tester find the answer?  ____ yes  ____ no

Describe issues/problems:
3. Where can you ask a reference question through the Libraries’ web pages?

URL of answer: http://libraries.mit.edu/services/owl.html

browsing path:
home/services/ Ask a Reference Questions (OWL)
or
any individual library that has a link to “Ask a Reference Question”

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool: ___ yes ___ no

Search words used:

Did the tester find the answer? ___ yes ___ no

Describe issues/problems:

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4. Find a page that links to our online catalog.

URL of answer http://libraries.mit.edu/services/barton.html

browsing path:
home/ Barton
or any page with the black bar at the top ("Barton")

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool:  yes  no

Search words used:

Did the tester find the answer?  yes  no

Describe issues/problems:
5. Which librarian would you seek out if you had a chemistry question?

URL of answer http://libraries.mit.edu/science/people.html
http://libraries.mit.edu/Science/Chemistry/top.html

browsing path:
home/science/staff - scroll down to look for a chemistry librarian
or home/science/subject guides/Chemistry & Chemical Engineering – her name is on bottom of this page

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool:   ___ yes   ___ no

Search words used:

Did the tester find the answer?   ___ yes   ___ no

Describe issues/problems:
6. For how long may music CD's be borrowed? 

URL of answer: http://libraries.mit.edu/music/collection.html

browsing path:
home/music/collection information/circulation policies (read paragraph)

or scroll down to circulation policies

Indicate what the tester did:
Browsing: (indicate path)

Used the search tool: yes no
Search words used:

Did the tester find the answer? yes no

Describe issues/problems:
7. Where is there a list of research databases we have available sorted by subject?

URL of answer: http://libraries.mit.edu/lists/databases.html

Browsing path:
home/ resources/ databases/ databases & online search services / subject list
(many individual libraries have links to this page also)

Indicate what the tester did:

Browsing: (indicate path)

Used the search tool:  yes  no

Search words used:

Did the tester find the answer?  yes  no

Describe issues/problems:

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8. What are the terms and licensing restrictions on the use of the Lexis/Nexis database?  

URL of answer http://libraries.mit.edu/lists/db-web.html
(click on the little "L" icon)

browsing path:
home/resources/databases – scroll down to Lexis/Nexis, click on "L" icon

Indicate what the tester did:
Browsing: (indicate path)

Used the search tool:  ____ yes  ____ no

Search words used:

Did the tester find the answer?  ____ yes  ____ no

Describe issues/problems:

Observers:
Ask your tester to complete the on-line survey located at:


and remember to give them the Toscanini’s coupon!

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1. Which page allows you to request a book from a non-MIT library?

2. Find a page that contains links to housing statistics.

3. Where can you ask a reference question through the Libraries' web pages?

4. Find a page that links to our online catalog.
5. Which librarian would you seek out if you had a chemistry question?

6. For how long may music CD's be borrowed?

7. Where is there a list of research databases we have available sorted by subject?

8. What are the terms and licensing restrictions on the use of the Lexis/Nexis database?
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Results: Overview

Who was tested: (29 volunteers)

- 9 undergraduates
- 9 graduate students
- 4 faculty (4 years, 32 years, 8 years, ? years)
- 1 researcher
- 2 MIT staff/admin
- 3 MIT Library staff
- 1 MIT affiliate (user with disability)

Their fields of study or department:

- architecture
- psychology
- electrical engineering
- course 6: EECS
- chemical engineering
- biology and writing
- political science
- Sloan
- Technology & Policy Program (TPP)
- urban studies & planning
- political science
- civil engineering
- course 6: EECS
- computer science
- history
- materials science
- urban planning
- architecture - history
- 2 undeclared majors
- IS department
- library departments: Barker, Dewey, Humanities
- 6 unknowns

Have they used our site before?

- 24 yes
- 5 no

Is their first language English?

- 20 yes
- 9 no

Where the test was conducted:

http://libstaff.mit.edu/webgroup/usability/results/overview.html
• 10 tester's office/dorm room
• 14 observer's office or work area
• 4 Athena workstation
• 1 other (ATIC Lab)

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MIT LIBRARIES

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Success Rate

- 25% answers not found
- 75% answers found

Users found, on average, **6 out of 8** answers:
a **75%** success rate.

The average time per questions was **1.35 minutes**.

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Observed Problems

Summary: Top 5 Usability Problems

1. Unclear link names: Barton, RSC, ILB, "virtual reference"

2. Vague and unclear category names: resources, services, subjects

3. Difficult to find databases by subject. Subject page is buried deep or you must visit individual library pages that lack consistency.

4. No central subject page for electronic journals. Need to visit individual libraries for subject access to these.

5. Databases and electronic journals pages not easy to find from the home page. Lack of knowledge that these pages exist.

Detailed list of usability problems observed

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User Survey

[rated on a scale of 1 to 5 (5 is the best)]
Overall, finding specific information was: 1 2 3 4 5
1. (difficult --- easy)
   Organization of our site was: (not effective -
   2. -- very effective) 0 1 13 10 4

3. Which pages or sections of our site do you find to be the
   most valuable?

   The largest category of pages mentioned were
   our various databases and resources pages:
   - databases and resources
   - resources
   - links to all the databases
   - databases: WorldCat and Books in Print
   - resources, databases, links to other
     libraries
   - Barker and Science databases and
     ejournals
   - all databases by subject or alphabetically
   - resources and databases
   - resources
   - resources, esp. databases
   - links on left of home page, resources, etc.
   - large number of web resources
   - subject list

   Barton (our online catalog) was also frequently
   mentioned:
   - Barton
   - Barton
   - Barton, resources
   - Barton, databases, virtual ref
   - web searching for book, thesis, and
     periodicals

   Also mentioned were individual library home
   pages, and the main home page:
   - individual library home pages
   - individual library home pages
• individual library websites
• home page
• home page
• home page and services page
• overall appearance and design of
  homepage

The search engine was also mentioned:
• "find" page - search engine
• find page, links to individual libraries
• search engine

A few other pages:
• pages listing what the library has
• library hours and policies
• page that Deb Helman created for my
  class

4. Use this space to describe any ideas you have for new
content or features you would like to see on our web site.

Testers made the following suggestions for new
content or features:

• virtual guided tour
• each library should have circulation
  policies page
• list of new books sorted by subject with
  links to book reviews
• database: Book Review Digest
• short description of how to get started for
  new users
• page that describes databases available in
  addition to online catalog
• alternative home page in other languages
  - especially Japanese
• a central page indexing the whole library
  system (in columns to avoid scrolling)
• more explanations of the different kinds of
  databases and how they work
• things linked according to category, esp.
  for databases and e-journals, integrate with
  info about physical journals held

Testers also used this space to suggest changes
or mention features that were problematic:

• change title of Virtual Reference
• resources and subjects guides are
  confusing
• list resources more prominently on Home
  page
• change home page to draw attention to
  most important resources
• lists are too long, require too much
  scrolling down
• make finding statistics easier, esp. for humanities people
• have pop-down menus to explain links on Home page, esp. Barton
• ask MIT to make it easier to find library page from web.mit.edu
• front page is nice, but confusing, instead have list of services available by topic
• better centralized information system, too much info. hidden in specific library pages
• simplify titles on screens
• add more data, could not find anything about electrical engineering
• whole site is not flexible enough
• some prompts on form buttons are ambiguous
• saw many pages that I didn't realize were available and have gone outside the institute to find in the past
• "find" should be larger, didn't notice until end that there was a search function

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