Iterative Design:
Users in Learning Object Development

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UI design
What is iterative design?
Ideate
Develop goals and content. Collaborate with stakeholders.

Validate Concept
Create wireframes. Test paper prototypes of wireframes with 5-10 users.

Design & Test
Build interactive, high-fidelity prototype. Test interactive prototype with 5-10 users.

Evaluate
Create mini summative assessment. Test users for retention of content.

Launch
Go live with learning object. Continue to evaluate with post-launch testing and assessments.
Ideate
- Conversations with library staff (Subject Matter Experts)
- Research Skills Challenge annual survey
- Focus groups
- Usability studies
1. Develop goals and create learning objectives
2. Develop content
3. Brainstorm design
4. Initial UI consult
Validate
1. Create wireframes & prototypes (paper or digital)
Diagnosing Your Search Headaches

Sifting through search results to find the best sources can sometimes be overwhelming.

Save yourself time with these strategies and get to the sources you really want faster.

**CHOOSE YOUR HEADACHE**

- Too Many Results
- Too Few Results
- Irrelevant Results
- View All Strategies

Click on an option to the left to reveal prescriptions for your search headaches.

**Irrelevant Results**

**CAUSES:**
- Your discipline may have specialized terms or jargon to use
- Searching is not easy and sometimes requires multiple attempts

**STRATEGIES:**

- Take Advantage of One Good Search Result
  - Click on or search the “Subject” terms attached to the record of one good article or book
  - Use the bibliography and works cited to find additional sources
  - Use Google Scholar to find related articles and others who have cited your good search result
  - SEE AN EXAMPLE

- Use Advanced Search Features
  - Use only the most important words and phrases that describe your topic
  - Ignore common words that do not have a lot of meaning
  - Look for your search words in the “Title” or “Subject” fields only
  - SEE AN EXAMPLE

- Talk to Experts
  - Ask topic specialists who are well versed in your discipline for search term suggestions
  - Librarians
  - Professors
  - Teaching Fellows
Do you know what PRIMARY SOURCES are?

You want to: Write a paper about cutting edge research on cancer.
You Found: A recent newspaper interview with researchers from Harvard Medical School discussing their work.

Is this newspaper interview a PRIMARY SOURCE for this topic?

YES  NO

You want to: Research contemporary attitudes towards leaders of the U.S. Women’s Right to Vote movement.
You Found: Original 1920 newspaper clippings that discuss Susan B. Anthony at the Schlesinger Library.

Are these newspaper clippings PRIMARY SOURCES for this topic?

YES  NO
Your Guide to Being a Successful Writer at Harvard

Academic writing at the graduate level is different from other writing you may have done in the past.

Learn more about what it means to be a successful writer at Harvard and a contributor to the scholarly conversation in your discipline.
Explore the Landscape

Get a snapshot of the typical writing assignments, resources, and citation styles used at each school.

Select a category:

School
Assignment Type

Find information for:

All Schools
All Assignment Types

Explore:

Assignment Types: academic paper, case analysis, journal/reflection, literature review, policy paper, research project, thesis/dissertation
Citation Styles: APA, Chicago, MLA
1. Create wireframes & prototypes (paper or digital)
2. Test with 5-10 users
3. Revise content/design and re-test if necessary
Design & Test
1. Start coding/building the digital version
2. Test with 5-10 users
3. Revise content/design and re-test if necessary
<table>
<thead>
<tr>
<th>Pick Your Problem</th>
<th>Too Few Results</th>
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**Why does this happen?**
- Your topic or search terms are too narrow
- You are researching a very new topic which may not have a lot of research written on it
- You are not using the most appropriate search tool

**How do I fix it?**

1. **Broaden Your Topic**
   - Use more general search terms instead of a specific idea
   - Eliminate long phrases, sentences, or questions
   - Remove one or two search terms to get more results

   **Example**
   - Instead of
     
     
     should employers read employee Facebook accounts
     
     which leads to 3 results
     
     Search for
     
     surveillance AND social media AND employer
     
     which leads to 440 results

2. **Conduct Multiple Searches**
   - Search for different aspects of your topic separately and synthesize the information later

3. **Choose a Different Search Tool**

1. Start coding/building the digital version
2. Test with 5-10 users
3. Revise content/design and re-test if necessary
4. Re-connect with Subject Matter Experts
Q: What do these three things have in common?

Shakespeare’s First Folio  Phineas Gage’s Skull  Original 1643 drawing of the Veritas Shield

A: These are all examples of primary sources found in Harvard’s Special Collections Libraries & Archives.

Test Your Knowledge of Primary Sources

Your topic:
How early microscopes are different than the ones you use in science labs today

You found:
Robert Hooke’s book, Micrographia: or, Some physiological descriptions of minute bodies made by magnifying glasses: With observations and inquiries thereupon (London, 1665), at Countway Library of Medicine

Can you use this as a primary source for this topic?

[YES] [NO]
Can you use this as a primary source for this topic?

[YES] [NO]

TRY MORE QUESTIONS!

Primary sources are...

- Documents, images, artifacts or audio/visual materials that provide firsthand testimony or direct evidence concerning a historical topic
- Original documents created or experienced at the time events occurred
- The raw materials of research - you provide the analysis!

Other Terms to Know...

**Manuscript**
- A handwritten letter or typed document
- An unpublished document
- An author’s draft of a book, article, or other work prepared for publication

**Archive**
- n. A collection of material relating to an individual or institution (John Harvard’s archive might include his letters and diaries)
- n. A place that maintains rare and fragile materials (the Harvard University Archives might contain historical documents)

**Finding aid**
- Provides a map for locating materials within a specific collection
- Assists you in understanding the collection by listing the materials, detailing the materials' location, and/or giving some information about the collection
- Prototype testing & usability testing validate design, learning assessment validates content
- Don’t forget accessibility
Diagnose Your Search Problems

Sifting through search results to find the best sources can sometimes be overwhelming. Save yourself time with these strategies and get to the sources you really want faster.

Pick Your Problem

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Why does this happen?

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How do I fix it?

Irrelevant Results
### Results for All locations (Everything)

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<th>Title</th>
<th>Author(s)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTERNET EXPRESSION IN THE 21ST CENTURY: WHERE TECHNOLOGY &amp; LAW COLLIDE: PRIVACY AS PRODUCT SAFETY</td>
<td>James Grimmett, students surveyed considered Facebook use by employers. Facebook, for example, should be required to take... privacy on Facebook.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A THEORY OF CREEPY: TECHNOLOGY, PRIVACY AND SHIFTING SOCIAL NORMS</td>
<td>Omer Tene, Jules Polonetsky, Acquisti, Silent Listeners: The Evolution of Privacy and Disclosure on Facebook. 4/12 Facebook profile of your babysitter, or should you use your status as her.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>OP-ED: Ringing in the new year with new laws</td>
<td>Rich Meneghelli, Daily Journal of Commerce (Portland, OR), Dec 4, 2015. Legislative moves in recent memory. Oregon employers will no longer be able to force their workers to create Facebook accounts. Yes, you read that correctly.</td>
<td></td>
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#### Refine My Results

- **Show only**
  - Peer-reviewed articles (1)

#### Resource Type

- Articles (2)
- Newspaper Articles (1)

#### Date

- From 2010 To 2015

#### Subject

- Introduction (2)
- Computer & Internet Law (2)
- Tech (2)
- Technologies (1)

#### Author / Creator

- Omer Tene (1)
- Rich Meneghelli (1)
- James Grimmett (1)
- Jules Polonetsky (1)

#### Journal Title

- Yale Journal of Law &amp; ... (1)
- Daily Journal of Commerce (1)
- Widener Law Journal (1)

#### Record Source

- More options

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*Harvard users: sign in to find more articles*
Sample Assessment Diagnosing Your Search Problems:
You are writing an argumentative essay about whether employers should be able to monitor social media accounts and you want to include scholarly opinions. You use HOLLIS+ to find your research.

Take a look at each of these screenshots of HOLLIS+ searches and evaluate the results.

What is wrong with this search? Check all that apply.
- Too many results
- Too few results
- Irrelevant results
- Results are good

Describe what next steps you would take to get better results.
Launch!
- Post-launch assessments
- Analytics
- Re-visit and revise if needed

Check us out:
learn.library.harvard.edu
Why iterative design?
- Saves time and $$
- Keeps the focus on the learner (user)
  - Informal instruction makes learner goals more salient
- Ensures learning objects are usable and useful
More info: