Incorporating Usability into the Database Review Process: New Lessons and Possibilities

Ilana R. Barnes
Purdue University, stonebraker@purdue.edu

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INCORPORATING USABILITY INTO THE DATABASE REVIEW PROCESS:
New Lessons and Opportunities

Ilana Barnes
@librarianilana
Business Information Specialist
Assistant Professor of Library Science
Purdue Libraries
OUTLINE

Problem Statement
The Project
Results
  • Satisfaction Survey
  • Heuristic Reviews
Lessons, Opportunities
Future Directions
How can we better record usability errors in vendor products to communicate those findings back to vendors and more formally incorporate usability into our collection assessments?
Database Reviews 2013
• Yearly (Summer project) on a three year rotation
• ~ 100 databases reviewed each year (300 total)
• Each subject librarian reviews 1-8 databases
• Usage, audience, content, cost per use
• Certain information needed for discontinue decision
Database Usability Heuristic Form

- Instructions to orient researching usability
- 8 sections with 1-4 likert questions and room for comment at the end
- Required for all database reviews by Associate Dean

Satisfaction Survey - how they liked the process, the form, etc.

IRB-approved
DATABASE USABILITY HEURISTIC REVIEW

Database Usability Heuristic Review

Database being reviewed: ___________________________

Purpose of Research

The objective of this study is to examine the impact of incorporating user experience study methods into library database purchase and renewal. It focuses on introducing a relatively standard usability concept (heuristic evaluation) into an existing yearly electronic resource evaluation process at Purdue. This study involves introducing more user experience parameters into process. This project could contribute to our internal process for database renewal and selection in the future at the libraries. Please fill out this form to the best of your ability.

Directions:

1. Review the information goals you have provided on the data resource. What is the expected user? Faculty from a specific department? Students? Staff?
2. Try a simple search in the product. As you go, write down any issues you find and their severity.
3. Observe the navigation of the site. Try a couple of links to observe consistency and path. As you go, write down any issues you find and their severity.
4. Try something incorrect in the database, such as a group of keywords that have no effect or a link that is not on our access area. What happens? Does it prevent your errors? As you go, write down any issues you find and their severity.
5. Observe if there is help or documentation provided. As you go, write down any issues you find and their severity.
6. Observe if the system is easy to learn for your expected users. As you go, write down any issues you find and their severity.
7. Observe: Is the system easy to use? Is the design aesthetically pleasing and clear? As you go, write down any issues you find and their severity.
8. Fill out the questionnaire on the page by putting X in the square the match your feelings about the systems. As you go, write down any issues you find and their severity.
9. Comment on the average usability of the product as you have summarized from doing the evaluation.
10. After you have finished your database review, please fill out this survey your experience:

Example:

1. Visibility of System Status

   The database keeps the user informed through constructive, appropriate and timely feedback.

   N/A 1 2 3 4 5 6

2. Match Between the System and the Real World

   Language usage in terms of phrases, symbols and concepts is similar to that of users in their day-to-day environment.

   N/A 1 2 3 4 5 6

4. Consistency and Standards

   The same concepts, word, symbols, situations or actions refer to the same thing.

   N/A 1 2 3 4 5 6

Common platform standards are followed.

   N/A 1 2 3 4 5 6
### DATABASE USABILITY HEURISTIC REVIEW

<table>
<thead>
<tr>
<th>Heuristic</th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Error Prevention</td>
<td>The database is designed in such a way that the users cannot easily make serious errors.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Recognition Rather than Recall</td>
<td>Objects to be manipulated, options for selection, and actions to be taken are visible.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Flexibility and Ease of Use</td>
<td>The database caters for different levels of users, from novice to expert.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Aesthetic and Minimalist Design</td>
<td>Site dialogues do not contain irrelevant or rarely needed information, which could distract users.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Help Users Recognize, Diagnose, and Recover from Errors</td>
<td>Error messages are expressed in plain language.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Error messages define problems precisely and give quick, simple, constructive, specific instructions for recovery.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>If a typed command results in an error, users need not retype the entire command, but only the faulty part.</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Comments on usability of product:
Does the incorporation of heuristic reviews affect the database review process?

• Is it redundant with other parts of the database evaluation process?
• Is it perceived as valuable?
37 databases
8 librarians
Overall, how much impact did the Database Usability Heuristic Review have on your final selection decision?

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Impact</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>88%</td>
</tr>
<tr>
<td>Some Impact</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>Highly Impact</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

“Usability is seldom a determining factor. We might complain to the vendor or ask for changes for usability but unless a database is completely unusable, I don't think it would affect retention.”

“I completed the database review form prior to the heuristic review so felt that I had sufficient information to make a decision.”

“The deciding factor is the importance of the content. The interface has zero influence on the decision to keep these databases.”

“The database that I am reviewing is core to the research done in a department. The current product is well designed. I didn't need the heuristic review to realize that.”
RESULTS- SATISFACTION SURVEYS

Overall, did you find the Database Usability Heuristic Review redundant with other parts of the database review form? Why or why not?

<table>
<thead>
<tr>
<th></th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>100%</td>
</tr>
</tbody>
</table>

“We already have to consider whether and how users are learning the database in the database review.”

“We did already evaluate the "quality of the product" in the database report.”

“The database review asks for need for instruction and access to help, which are also covered in the heuristic review, although in different ways.”

“It asks different questions than the database review form.”

“The questions were focused on usability of the interface not on the content and cost of the database.”

“I think some of these questions are worth asking but they could be asked more effectively and efficiently.”
RESULTS - SATISFACTION SURVEYS

Overall, did you find the Database Usability Heuristic Review easy to use? Why or why not?

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
</tr>
</tbody>
</table>

“The content was easy to use, but the formatting was not. The redundant use of the likert scale over and over had the effect of making it hard to read. The short answer questions part also became difficult to navigate after 4 or 5 of the questions had been answered.”

“The form itself was easy to use, the instructions did not match the work do be done on the form.”

“Overall, yes. Some of the statements were more challenging to evaluate than others, however. The "common platform standards" line stood out to me in particular. Many of us may not be aware of such standards...?”

“Some of the requested actions are not very well described so I was not sure how to answer the questions.”
Overall, did you feel that the Database Usability Heuristic Review should be done as part of the database reviews every year? Why or why not?

<table>
<thead>
<tr>
<th></th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>100%</td>
</tr>
</tbody>
</table>

“It could be done yearly for **databases that are not on large platforms**”

“It did not add to the decision making process. **One or 2 questions from this added** to the regular review might be good.”

“A heuristic review is likely to be more helpful when there is a **new interface**. Otherwise we've all long since learned to overlook, or adapt to any quirks of a given database interface.”

“Not sure if this exact form/process is the most effective way, **but something like it - yes.**”

It would be useful in the case of a **database that is really difficult to use or inappropriate for the intended audience**, otherwise, not so much.

“I think some of these **questions are worth asking** but they could be asked more effectively and efficiently.”
RESULTS - HEURISTIC REVIEWS

Proquest Statistical Insight (1)

- Visibility of System Status
- Match between the System and the Real World
- Consistency and Standards
- Error Prevention
- Aesthetic and Minimalist Design
- Flexibility and Ease of Use
- Recognition Not Recall

Proquest Statistical Insight (2)

- Help Users Recognize, Diagnose and Recover from Errors
- Aesthetic and Minimalist Design
- Flexibility and Ease of Use
- Error Prevention
- Recognition Not Recall

Proquest Statistical Insight (1)

Proquest Statistical Insight (2)
RESULTS - HEURISTIC REVIEWS

USA Trade Online

SRDS Media Solutions

- Visibility of System Status
- Match between the System and...
- Consistency and Standards
- Error Prevention
- Recognition Not Recall
- Flexibility and Ease of Use
- Aesthetic and Minimalist Design
- Help Users Recognize, Diagnose and Recover from Errors
- Consistency and Standards
- Error Prevention
- Recognition Not Recall
- Flexibility and Ease of Use
- Aesthetic and Minimalist Design
- Help Users Recognize, Diagnose and Recover from Errors
• Communication is key.
• Busy work vs. deeper dive vs. path of least resistance.
• Be aware of project deadlines versus real deadlines.
• Heuristic reviews might work better as a tool than a requirement.
OPPORTUNITIES

• New ways to visualize usability
• Recording of errors- 37 heuristic reviews
  • Could be useful as a jumping off point of discussing usability across products
• What’s the lowest an interface can get on DUHR before it’s too low?
• New possibilities for expert feedback
FUTURE DIRECTIONS

• Look into implementation into new database acquisition, database renewals, borderline cases
• Communicate findings to stakeholders
• Hold workshops and trainings on heuristic reviews for collection development
THANK YOU!

Ilana Barnes
@librarianilana
ibarnes@purdue.edu
Business Information Specialist
Assistant Professor of Library Science
Purdue University