USABILITY EVALUATION OF E-TEXTBOOK

GROUP 3

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Contents

- Task Design
- Think-Aloud Method (TA)
- Heuristic Method (HE)
- Analysis & Reflection
  - TA vs HE
  - Limitations
- Conclusion

Task Design – Abstract Tasks

1. Navigation Using the eBook Navigation Tools
2. Search
3. eBook Content Persistence
4. General Information about the eBook and eBook System
5. Make and save notes

Task Design – Concrete Tasks

1. Navigation Using the eBook Navigation Tools
   - Find the chapter named "The interaction Cycle and the User Action Framework"
   - Identify the number of headings on page 108.
2. Search
   - Find the definition of "ethnography"
   - Find the third occurrence of the word "Experience"
3. eBook Content Persistence
   - Go to page 69 and download the page in form of PDF.
   - Copy the first paragraph on page 2 into a notepad and save it on the desktop.

Task Design – Concrete Tasks

4. General Information about the eBook and eBook System

   - ☐ Find the publication year of the book
   - ☐ Find the FAQ (Frequently Asked Questions) and provide feedback for the eBook reader.

5. Make and save notes

   - ☐ Go to page #93 and make a note titled with your name.
   - ☐ Go to page #93 and make a note with content "Hello Usability" and download it in endnote format.
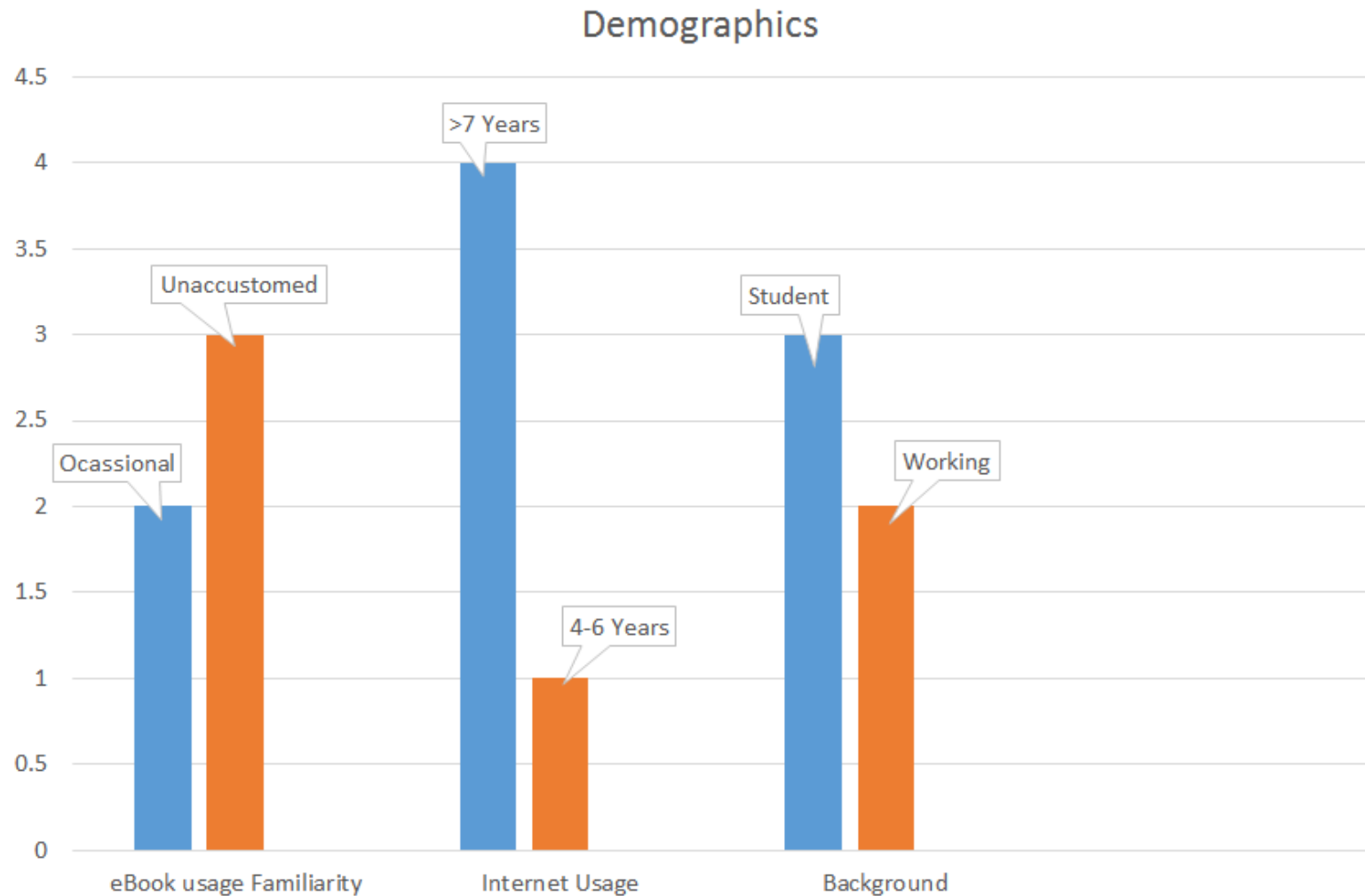
Think-Aloud Method (5 users)

DEMOGRAPHICS

- 2 Students in Usyd, 2 in other uni, 1 is a working professional
- Computer literacy: 3 – level 3, 2 – level 5
- Familiar with eBook: 2-occasional, 3-unaccustomed
- Internet usage: 4 (>7 years), 1 (4-6 years)
- Background: 3 Students, 2 are working

Think-Aloud Method (5 users)

Demographics
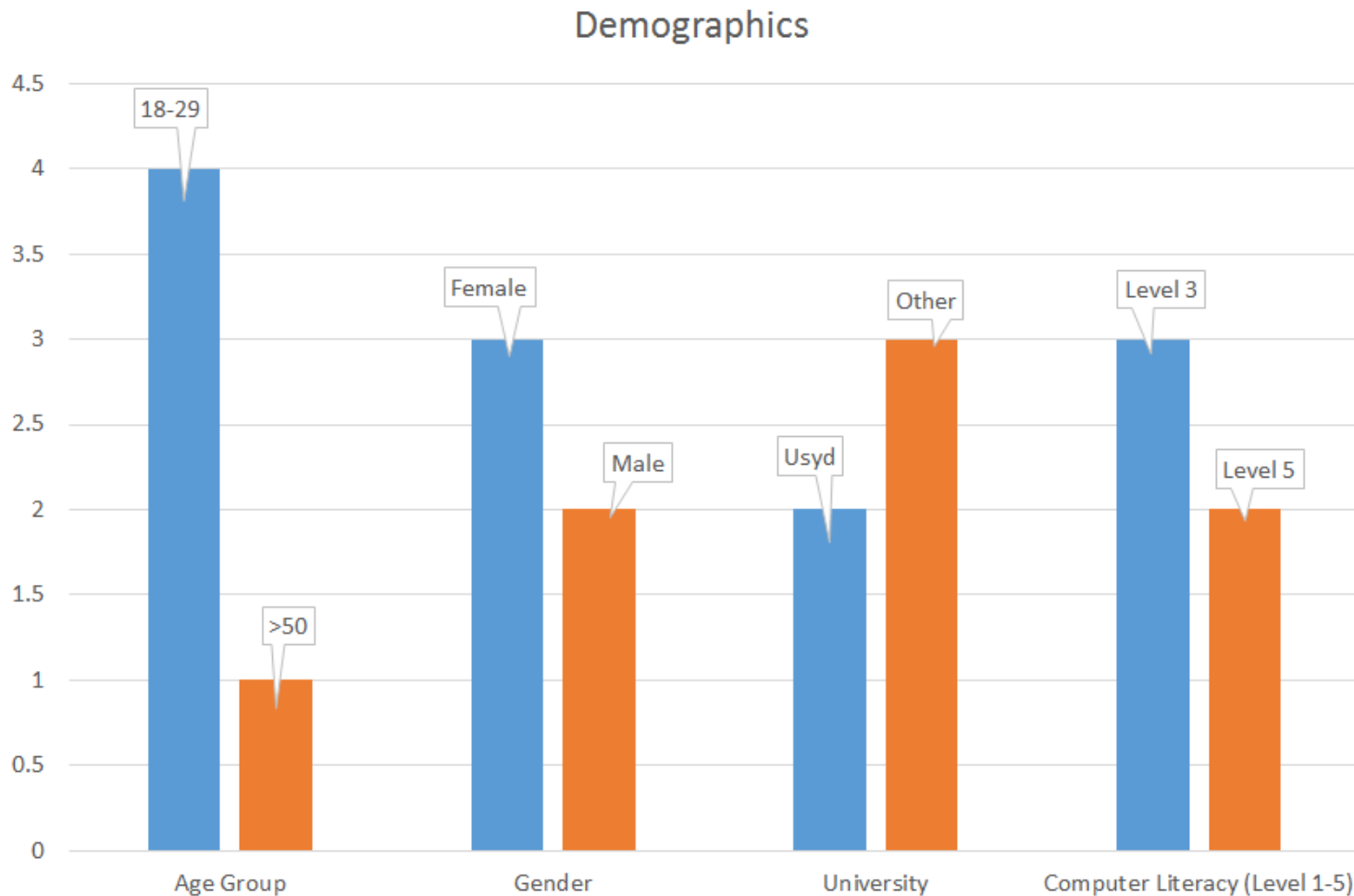
Think-Aloud Method (5 users)

Think-Aloud Method – User 1 (M,18-29,5,U)

ABSTRACT TASKS	TASKS	OBSERVATION
Navigation Using the eBook Navigation Tools	1.1	Accomplished at first go (32sec)
	1.2	Accomplished easily (15sec)
Search	2.1	Finding the dictionary was a task that the user failed to do and stated that the tab wasn't really visible.
	2.2	Search results not sorted. EBL not user friendly
eBook Content Persistence	3.1	Failed to accomplish
	3.2	Unhappy with the need to convert from image to pdf format
General Information about eBook and eBook System	4.1	Missed the 'Details' tab, retrieved info from Copyrights section
	4.2	Unhappy with the visibility of the 'help/feedback' button
Make and save notes	5.1	Accomplished easily (31sec)
	5.2	Accomplished easily (42sec)

Think-Aloud Method – User 2 (F,18-29,3,O)

ABSTRACT TASKS	TASKS	OBSERVATION
Navigation Using the eBook Navigation Tools	1.1	Unhappy with the 'search' options. Took a while to get it right.
	1.2	Took a while to figure it out, tried using search bar to retrieve count of headings.
Search	2.1	Accomplished easily (31sec)
	2.2	Unsuccessful since search results not sorted.
eBook Content Persistence	3.1	Failed to accomplish. Concluded that the task isn't possible
	3.2	Unhappy with the availability of copy option when in pdf (requires copy to be activated)
General Information about eBook and eBook System	4.1	Missed the 'Details' tab, retrieved info from the book directly
	4.2	Accomplished task at one go
Make and save notes	5.1	Right click attempt failed. Then found notes tab
	5.2	Took a while to find export task but accomplished without any help

Think-Aloud Method–User 3(F,>50,3,U)

ABSTRACT TASKS	TASKS	OBSERVATION
Navigation Using the eBook Navigation Tools	1.1	Missed the search tab, scrolled through the content to find the chapter. (completed with help-CWH)
	1.2	Scrolled initially. Then found the page number tab (completed with help)
Search	2.1	Accomplished easily since noticed the dictionary tab during the previous task
	2.2	Difficulty to find search tab. Unhappy since results not highlighted (CWH)
eBook Content Persistence	3.1	Took a while to figure it out. Tried copying instead of downloading (CWH)
	3.2	Repeated failed attempts to copy made user notice the copy tab (CWH)
General Information about eBook and eBook System	4.1	Initially tried 'searching' for the publication year , then noticed details tab
	4.2	Initially tried searching for FAQ. (CWH))
Make and save notes	5.1	Found notes tab easily. Accomplished task easily.
	5.2	Initially downloaded the whole book instead of exporting the notes. Unhappy with the term 'export' (CWH)

Think-Aloud Method – User 4 (M,18-29,3,U)

ABSTRACT TASKS	TASKS	OBSERVATION
Navigation Using the eBook Navigation Tools	1.1	Tried the top search button instead of the vertical search (only with help)
	1.2	Unhappy with the pace of page scroll. Found the page number tab
Search	2.1	Initially tried to search the definition then used the dictionary tab
	2.2	Used the wrong search tab again (completed only with help)
eBook Content Persistence	3.1	Completed the task with ease (45sec)
	3.2	Repeated failed attempts even after finding the copy tab. Gave up after 3 min
General Information about eBook and eBook System	4.1	Easily found the detail tab and retrieved the publication year (30sec)
	4.2	Found the feedback/help tab easily but found it hard to continue
Make and save notes	5.1	Easily found the notes tab and accomplished the task in a min
	5.2	Completed the task in 40sec but was unhappy with the term 'export'

Think-Aloud Method – User 5 (F,18-29,5,O)

ABSTRACT TASKS	TASKS	OBSERVATION
Navigation Using the eBook Navigation Tools	1.1	Scrolled through the content to find the chapter. Didn't use search functionality
	1.2	Accomplished easily in 31sec
Search	2.1	Searched for the term and assumed the first result to hold the definition. Failed to make use of the dictionary functionality.
	2.2	Stated that search results not sorted, hence 3rd occurrence has to be manually searched
eBook Content Persistence	3.1	Downloaded the entire book instead of the page
	3.2	Moved to pdf mode but was successful only after repeated attempts
General Information about eBook and eBook System	4.1	Was happy with the 'details' functionality provided. Completed the task in 41 sec
	4.2	Completed the task in a min
Make and save notes	5.1	Created the notes but wasn't sure if it would be saved automatically
	5.2	Completed the task but wished the export tab was placed below the note

Summary of Think-Alouds

Abstract Tasks	User 1	User 2	User 3	User 4	User 5
Navigation Using the eBook Navigation Tools	✔	✔	? Completed both with help	? Needed help with one of the tasks	✔
Search	✗	? Couldn't pin point the occurrence of the word	? Needed help with one of the tasks	? Used the browser search for one of the tasks	? Couldn't pin point the occurrence of the word
eBook Content Persistence	✗	? Concluded that the page download is not possible	? Completed both with help	? Needed help with one of the tasks (Copy task)	? Needed help with one of the tasks (Downloaded the book instead of page)
General Information about eBook and eBook System	?	? Used an alternate approach to find publication details	? Needed help with one of the tasks	✔	✔
Make and save notes	✔	✔	? Needed help with exporting the notes	✔	✔

Summary of Think-Alouds
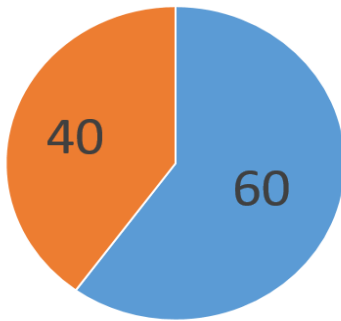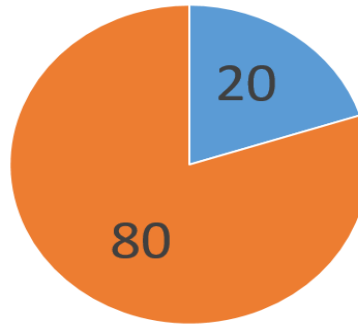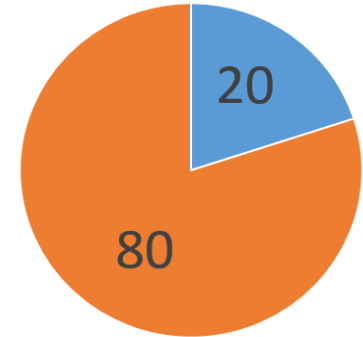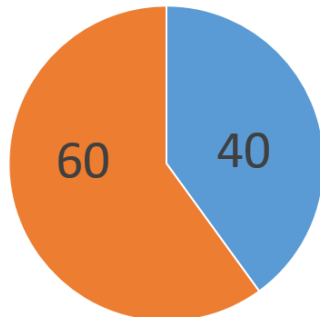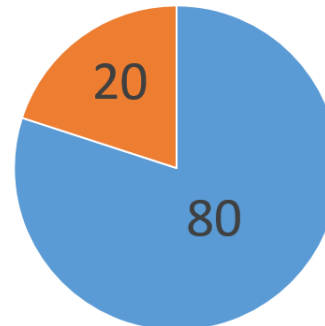
Heuristics Eval.

- Three experts were chosen from our group
- Conduct Heuristics using the TA Tasks

Heuristics Eval. – Severity

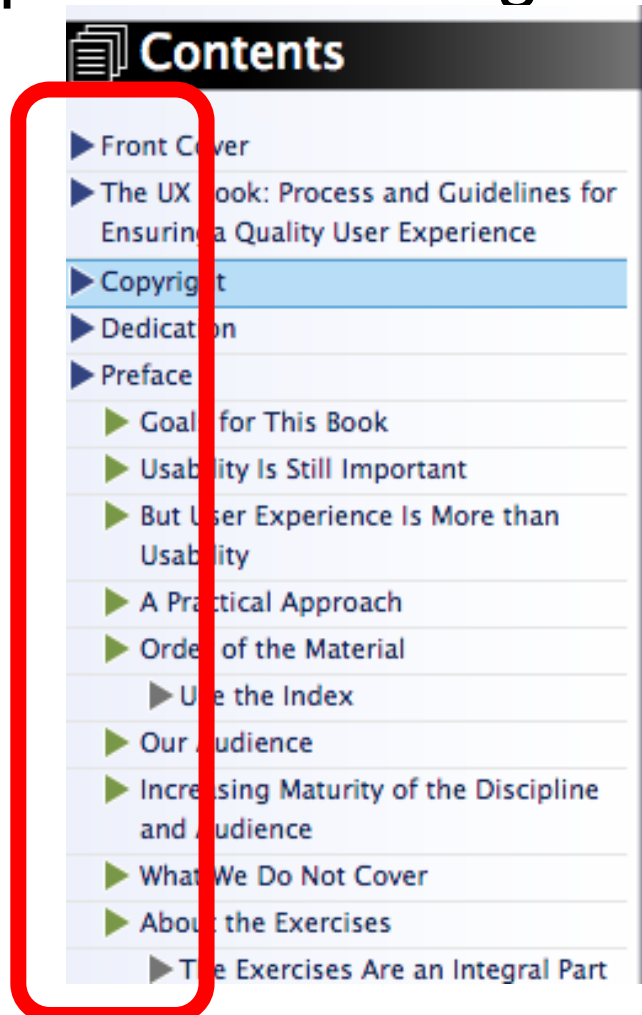| Problem Description	Heuristics Violated	S1	S2	S3
Expand/Collapse on left menu does not work	Flexibility, Consistency, User Control,	4	4	4
There are 2 search links which confuses the user	Consistency & Standards,	4	2	1
Search results are not in order; does not provide custom criterion	Flexibility, Consistency,	4	4	4
There is no glossary section to search on	Consistency, Match between System and real world	4	2	1
The download in pdf option does not perform as it says	Consistency, Match real world vs system user control & freedom	4	4	3

Heuristics Eval. – Severity

Problem Description	Heuristics Violated	S1	S2	S3
Selecting a text is tedious and is not possible across multiple pages	Flexibility, Consistency, user control and freedom	4	3	2
The 'Commonly Asked Questions' is misleading as users would look for FAQ	Consistency, Match between system and real world	3	2	2
Adding a note is limited and not clear since font size is small and cannot point it to a specific text - refers to whole page	Consistency, Match between system and real world, user control and freedom	4	2	2

Heuristics Eval. – Snapshots

□ Expand/Collapse for scrolling does not work

□

Heuristics Eval. – Snapshots

- Search results are not in order - limited flexibility
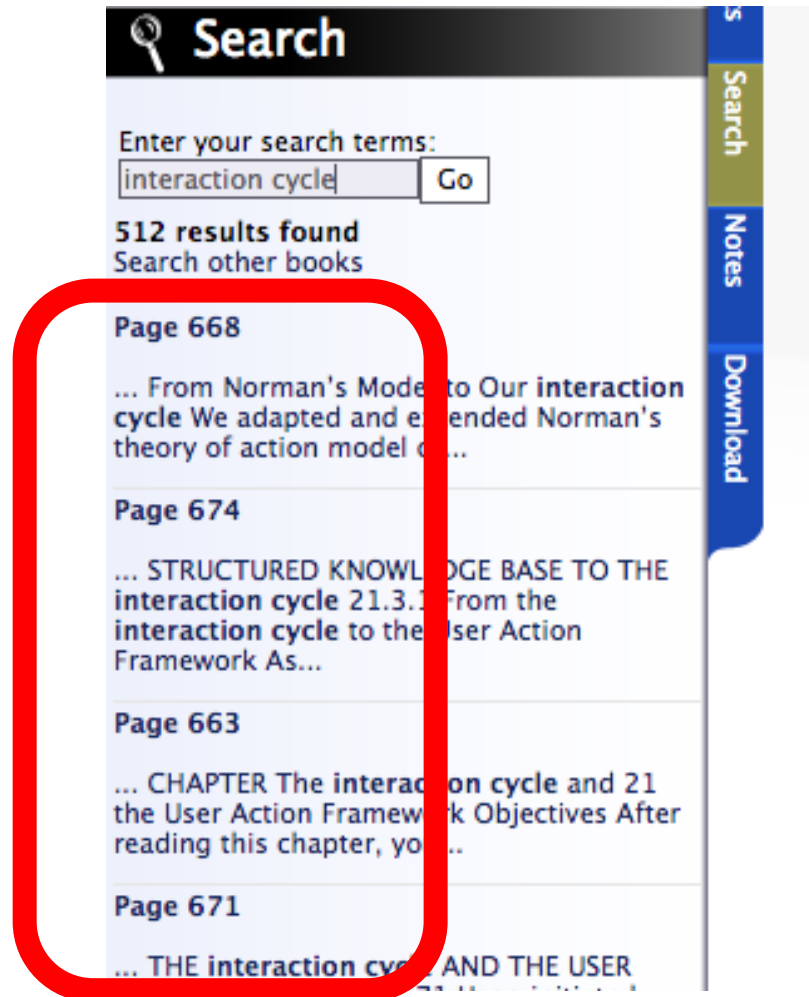
Heuristics Eval. – Snapshots

☐ There are 2 search links confusing the user
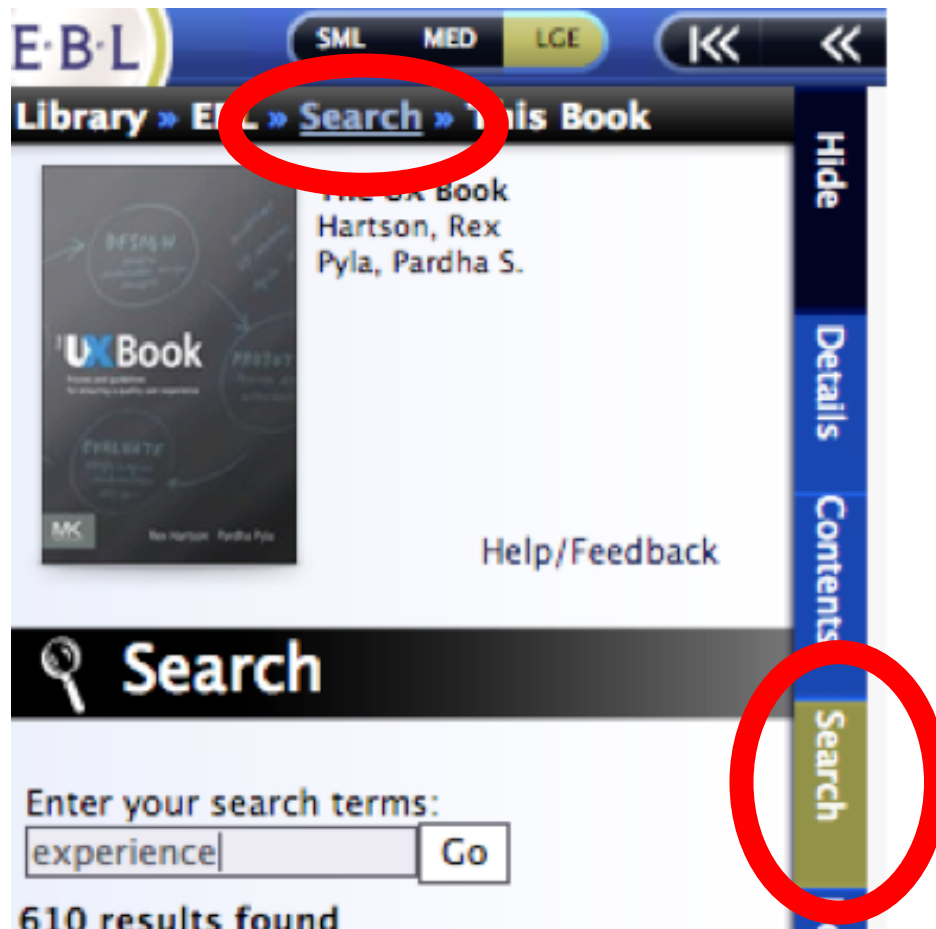
Heuristics Eval. – Snapshots

☐ Download to pdf does not actually save to pdf

Heuristics Eval. – Snapshots

- Create new note link labels are very small and clumped together
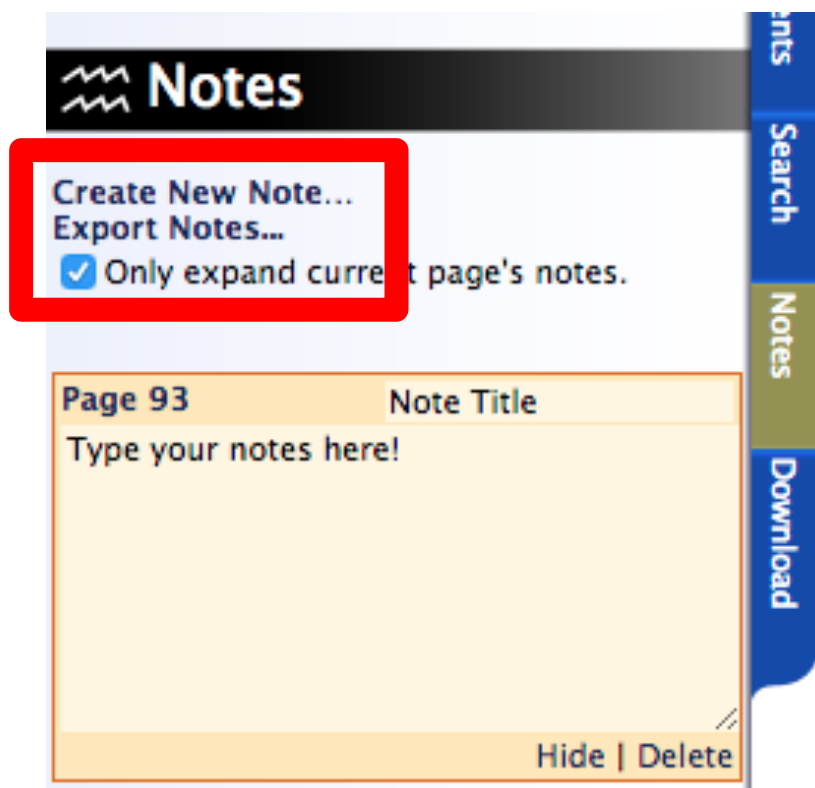
Heuristics Eval. – Summary

Usability Heuristcs vs No. of Violations

Usability Heuristics (y-axis) vs No. of Heuristic Violations (x-axis):
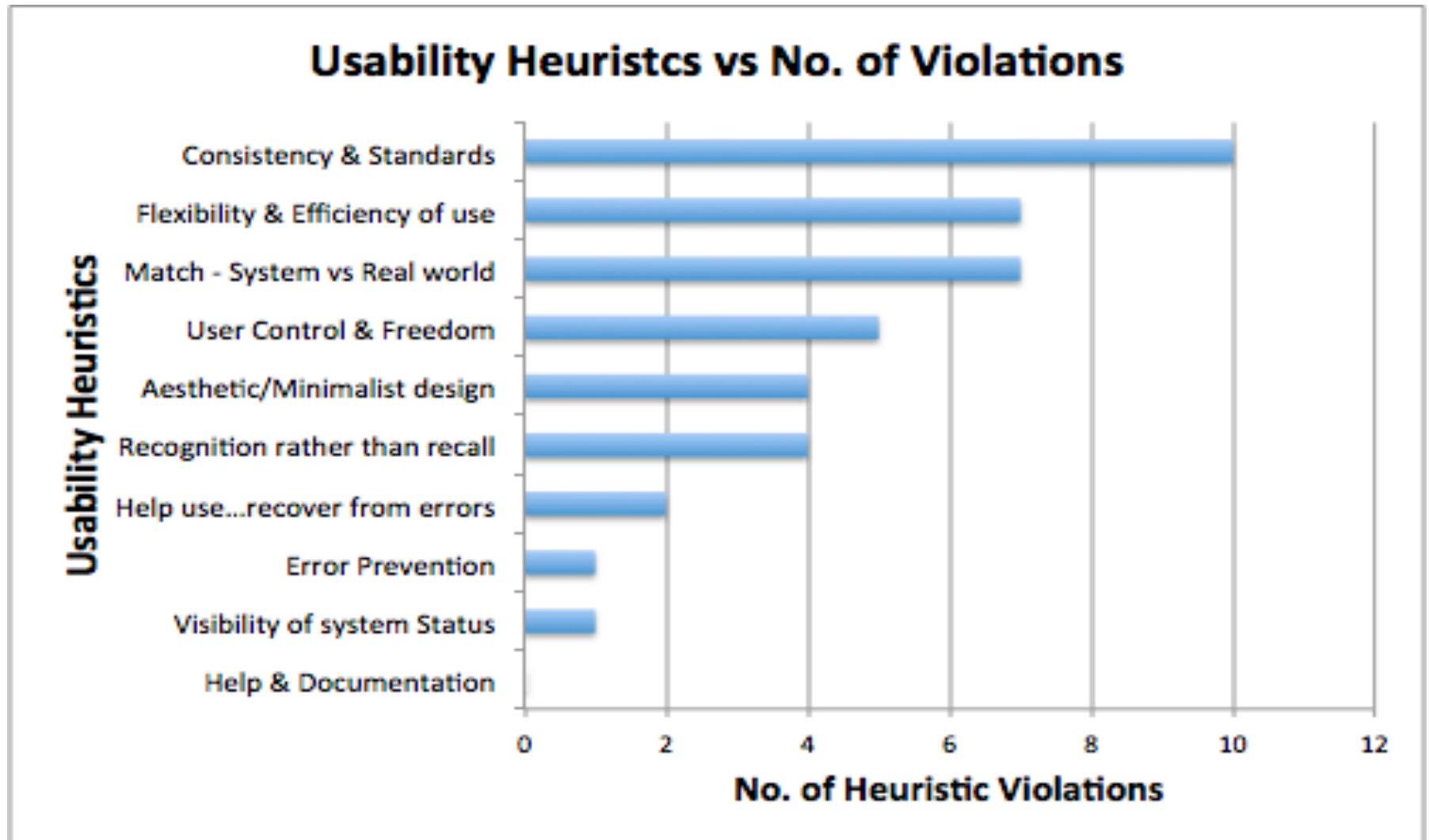
- Consistency & Standards: 10
- Flexibility & Efficiency of use: 7
- Match - System vs Real world: 7
- User Control & Freedom: 5
- Aesthetic/Minimalist design: 4
- Recognition rather than recall: 4
- Help use...recover from errors: 2
- Error Prevention: 1
- Visibility of system Status: 1
- Help & Documentation: 0

Analysis & Reflection: TA vs HE

Think-Aloud
- □ regular users, first time users
- □ Discovers barriers that hinder the completion of the task

Heuristics
- □ experts, already know the system
- □ reveals more on technical problems with the interface
- □ checks the level of intuitive of the interface

Analysis & Reflection: Limitations

- Due to the restrictions wrt the usage of system terms, it limited the user's ability to perform tasks
- Think-Aloud
  - sample size might be too small (5)
  - professional environment
- Heuristics
  - No. of experts might be too small (3)
  - Could have chosen a wider variety of experts with different backgrounds

Conclusion

□ Think-Aloud discovers the "usefulness" in accomplishing a task

□ Heuristics uncovers how "easy" or how "friendly" a system is

□ Overall, the eBook System is not a very usable system and needs changes to improve its usability