Card Sort Result & Analysis of The Journal of User Experience (JUX)

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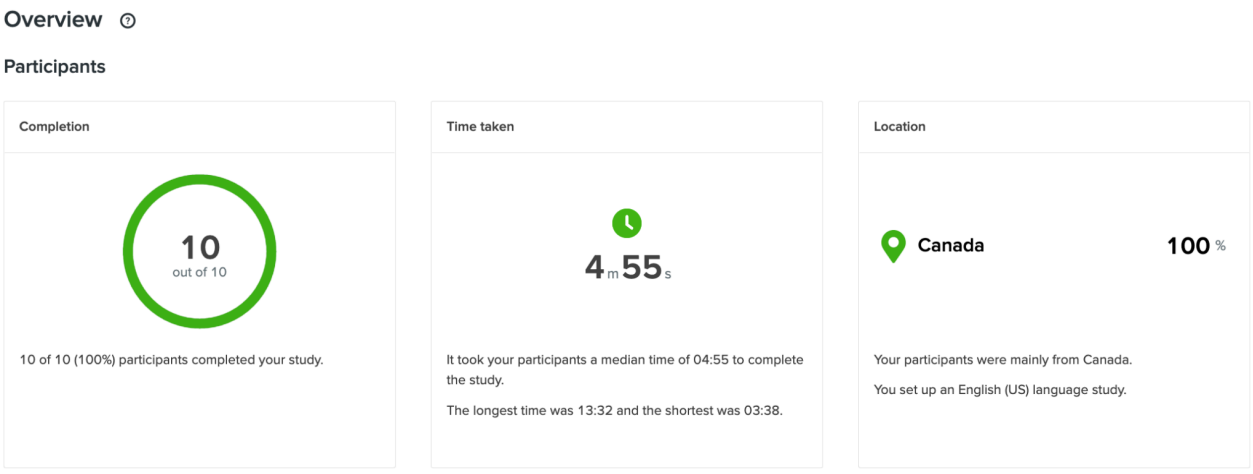
Contents

Cart Sort Analysis of The Journal of User Experience

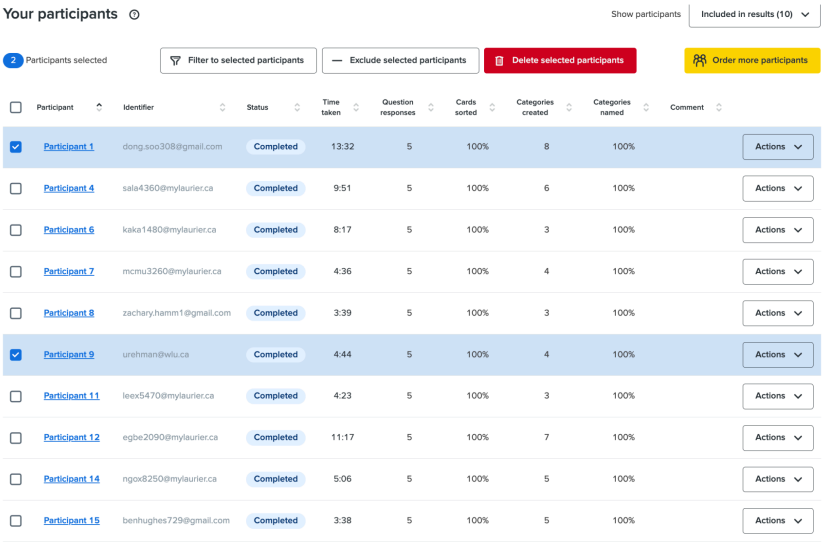
As an essential step in the progression to improve the IA of the *Journal of User Experience* (JUX) site, an unmoderated open card sort using the platform *Optimal Workshop* was conducted. While the usual participant level for card sort studies is 30 to 50, Optimal Workshop allows for a maximum of 10 participants due to the payment plan system. The unmoderated study was made possible using the OptimalSort tool. The card items were extracted from a previous Content Inventory study of the website. Participants were prompted with a pretest questionnaire, instructions, a card sort, and a post-test questionnaire. The uniform resource locator (URL) for the card sort is https://ows.io/os/aa9lkocq.

The results from the card sort are organised and analysed using Optimal Workshop's features and tools. The overview provided by this tool shows how many participants completed and abandoned the study. With a total of 10 participants from Canada, users completed the study with a median time of 4 minutes and 55 seconds to complete the study. This gauged how hard the study was to finish; with a median time of under 10 minutes, it revealed that the majority of participants were able to understand the items and differentiate the cards.



Participants

The 10 participants divided all 20 cards differently with a range of 3 to 8 categories each and all participants answered the 5 questions from the pre-test and post-test questionnaires. The participants' prior knowledge of User Experience (UX) varied from 1 to 12 years of experience studying and working in the UX field. However, the majority and the mode of experience was 1-2 years of knowledge. From a narrower perspective, the knowledge of the JUX website showed contrasting results. The pre-test questionnaire displayed that 0% of participants have visited the JUX website before.



Pre and Post-Study Questions

Based on the pre-study questionnaire, as mentioned, none of the participants had previously visited the JUX website. When asked what prompts their needs for finding scholarly, peer-reviewed articles;

- All participants showed interest as students.
- 3 people needed the content for their needs as educators.
- 5 people used peer-reviewed articles for personal needs.
- 1 person mentioned their needs are for other professional reasons.

Furthermore, the results of the post-study questionnaire indicate that most participants had no difficulty categorising or labelling the cards, finding the process relatively straightforward. However, for three of the participants, the "Call for Submissions" card was difficult to categorise as it seemed a bit out of place and confused them. They struggled to comprehend its meaning and relevance to the Journal of UX. This could be due to the lack of context in the card on the creator's part, or the lack of knowledge of the journal's jargon. Overall, most participants had no issues with the study.

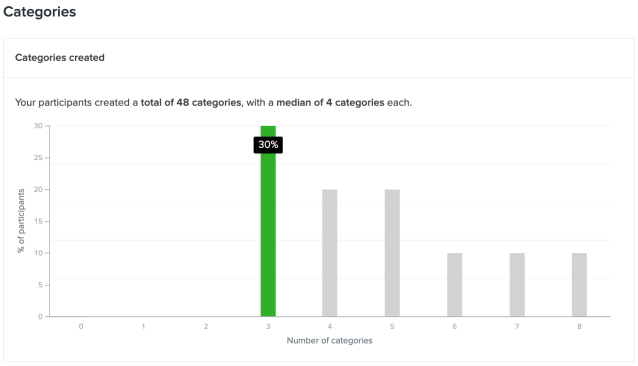
How Does Prior Knowledge Affect How Users Sort?

By examining individual participants, the user with the least prior knowledge, Participant #1, sorted the cards into 8 different categories. In contrast, the user with the most prior knowledge, Participant #9, sorted the cards into 4 categories. The user with the least amount of knowledge created category labels that were very narrow and specific to the items that were being sorted, such as "Methodologies for Conducting UX Research." This user completed the study in 13 minutes. In comparison, the most knowledgeable user categorized cards using broader terms such as "Research." This user completed the study in 5 minutes. Users with prior knowledge of UX thought items fit more into generic categories with less specificity and took less time to complete the activity. Participants with less knowledge of UX also labelled categories using terms and words that matched the cards provided in the study. For example, Participant #7 has one year of experience studying UX and sorted the card "**Methodology** of Wizard of Oz research testing" under a category labeled "**Methodologies** for Conducting UX Research." The repetition of card terms for labels is a common occurrence among participants with less experience. This indicates that potential bias may be occurring because users do not

understand what the card titles mean due to UX jargon. A participant with more UX experience sorted seven cards under the category label “Research.” Having more prior knowledge of UX topics, this user may have been able to interpret the card titles and understand the UX terms. Therefore, resulting in the user confidently labeling cards as “Research” because they understand what UX research topics generally look or consist of. However, regardless of prior knowledge, users were generally able to categorize content found on the current “About” section of the JUX site into categories labeled “About Us’ or “About JUX.” This suggests that users would not have much difficulty searching or finding content about or regarding the JUX organization with no prior knowledge of UX or the JUX site.

Creating Categories

The 10 users created a total of 48 categories to classify the 20 cards used in the study. The bar graph revealed that 30% of users created a median of 4 categories each.



The participant category choices are listed below, showing the commonalities in their choices, as well as which cards they grouped in the study.

Your categories

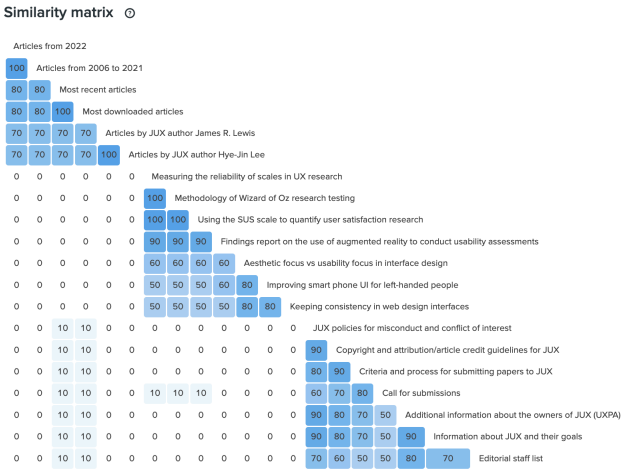
Search

Category	Contains	Cards	Show all	Freq	Avg pos	Created by	Agreement
About JUX	**9** different cards	Editorial staff list		5	4.6	**5** participants	76%
		JUX policies for misconduct and conflict of interest		5	3.0		
		Information about JUX and their goals		5	3.0		
		Show 6 more cards					
About Us	**1** different cards	Information about JUX and their goals		1	1.0	**1** participants	—
Accessibility	**2** different cards	Aesthetic focus vs usability focus in interface design		1	2.0	**1** participants	—
		Improving smart phone UI for left-handed people		1	1.0		
Accessibility articles	**2** different cards	Improving smart phone UI for left-handed people		1	2.0	**1** participants	—
		Keeping consistency in web design interfaces		1	1.0		
Application	**3** different cards	Improving smart phone UI for left-handed people		1	3.0	**1** participants	—
		Keeping consistency in web design interfaces		1	2.0		
		Aesthetic focus vs usability focus in interface design		1	1.0		
Article Info/Characteristics	**1** different cards	Editorial staff list		1	1.0	**1** participants	—
Article Search Criteria	**6** different cards	Articles by JUX author James R. Lewis		3	4.7	**3** participants	100%
		Articles by JUX author Hye-Jin Lee		3	3.7		
		Articles from 2006 to 2021		3	3.7		
		Show 3 more cards					
Article submission application	**2** different cards	Call for submissions		1	2.0	**1** participants	—
		Criteria and process for submitting papers to JUX		1	1.0		
Article Topics	**7** different cards	Improving smart phone UI for left-handed people		1	7.0	**1** participants	—
		Methodology of Wizard of Oz research testing		1	6.0		
		Measuring the reliability of scales in UX research		1	5.0		
		Show 4 more cards					
Articles	**6** different cards	Articles from 2006 to 2021		4	4.5	**4** participants	100%
		Articles by JUX author James R. Lewis		4	4.3		
		Most recent articles		4	3.8		
		Show 3 more cards					
Articles by Authors	**2** different cards	Articles by JUX author James R. Lewis		3	2.0	**3** participants	100%
		Articles by JUX author Hye-Jin Lee		3	1.0		

Articles Categorized by "Relevance"	**4** different cards	Articles from 2006 to 2021	3	1.7	**3** participants	**83%**
		Articles from 2022	3	1.3		
		Most downloaded articles	2	2.5		
		Show 1 more card				
Design	**3** different cards	Improving smart phone UI for left-handed people	1	3.0	**1** participants	**100%**
		Keeping consistency in web design interfaces	1	2.0		
		Aesthetic focus vs usability focus in interface design	1	1.0		
Design Principles of UXD/"How-to's"	**4** different cards	Keeping consistency in web design interfaces	1	2.0	**1** participants	**100%**
		Improving smart phone UI for left-handed people	1	2.0		
		Aesthetic focus vs usability focus in interface design	1	1.0		
		Show 1 more card				
Editors	**1** different cards	Editorial staff list	1	1.0	**1** participants	**100%**
Information about JUX	**7** different cards	JUX policies for misconduct and conflict of interest	3	5.7	**3** participants	**81%**
		Information about JUX and their goals	3	3.7		
		Copyright and attribution/article credit guidelines for JUX	3	3.0		
		Show 4 more cards				
Main Menu or footer items	**5** different cards	Editorial staff list	1	5.0	**1** participants	—
		Copyright and attribution/article credit guidelines for JUX	1	4.0		
		JUX policies for misconduct and conflict of interest	1	3.0		
		Show 2 more cards				
Methodologies for Conducting UX Research	**5** different cards	Using the SUS scale to quantify user satisfaction research	3	3.3	**3** participants	**80%**
		Methodology of Wizard of Oz research testing	3	2.3		
		Measuring the reliability of scales in UX research	3	2.0		
		Show 2 more cards				
Not sure...	**1** different cards	Call for submissions	1	1.0	**1** participants	—
Policies	**6** different cards	Criteria and process for submitting papers to JUX	1	4.0	**1** participants	**100%**
		Copyright and attribution/article credit guidelines for JUX	1	3.0		
		Additional information about the owners of JUX (UXPA)	1	2.0		
		Show 3 more cards				
Research	**7** different cards	Findings report on the use of augmented reality to conduct usability assessments	4	5.0	**4** participants	**89%**
		Using the SUS scale to quantify user satisfaction research	4	3.8		
		Measuring the reliability of scales in UX research	4	3.8		
		Show 4 more cards				
Submissions	**3** different cards	Copyright and attribution/article credit guidelines for JUX	1	3.0	**1** participants	—
		Call for submissions	1	2.0		
		Criteria and process for submitting papers to JUX	1	1.0		
UX Design	**1** different cards	Keeping consistency in web design interfaces	1	1.0	**1** participants	—
UX Research Articles	**7** different cards	Using the SUS scale to quantify user satisfaction research	2	5.0	**2** participants	**86%**
		Findings report on the use of augmented reality to conduct usability assessments	2	4.0		
		Aesthetic focus vs usability focus in interface design	2	2.5		
		Show 4 more cards				

What Cards Do Users Consistently Group Together?

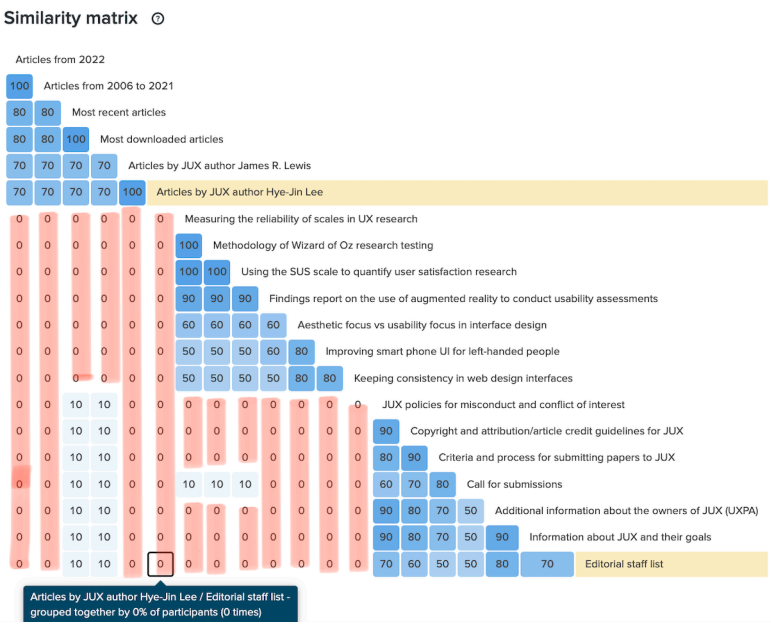
The Similarity Matrix from Optimal Workshop, using the results from participants, indicates strong card pairings and potential groupings. The Similarity Matrix shows that participants have a strong sense of where items belong and how frequently cards were grouped together. The darker shades of blue show a higher agreement from users that those two cards should be grouped. The cards “Articles from 2022” and “Articles from 2006 to 2021” were grouped together every time with common titles relating to dates. Additionally, the list of cards below were also always categorized together.



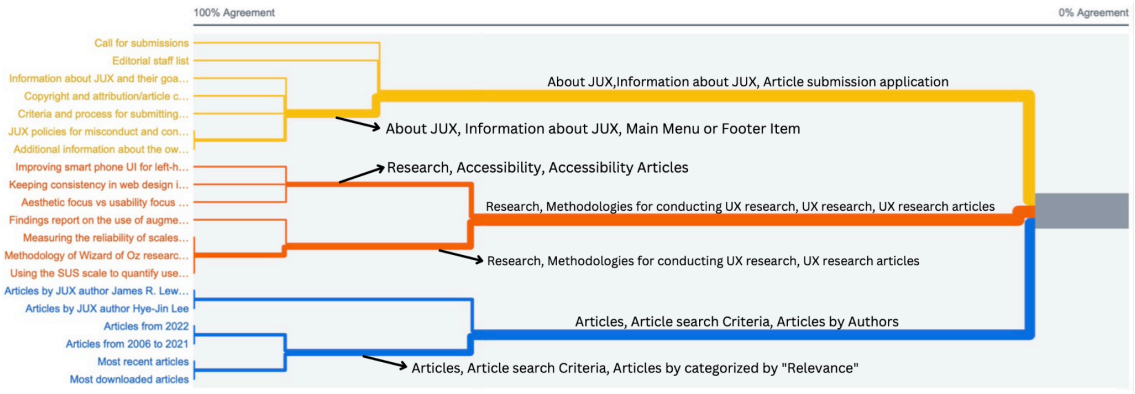
- “Most Recent Articles” and “Most Downloaded Articles”
- “Articles by JUX author Hye-Jin Lee” and “Articles by JUX author James R. Lewis”
- “Measuring the reliability of scales in UX research” and “Methodology of Wizard of Oz research testing”
- “Measuring the reliability of scales in UX research” and “Using the SUS scale to quantify user satisfaction research”
- “Methodology of Wizard of Oz research testing” and “Using the SUS scale to quantify user satisfaction research”

What Cards Do Users Never Group Together?

The Similarity Matrix also displays cards that never get sorted or grouped together by users. This matrix can be used to help understand what content users do not think is related or content that is dissimilar. The cards "Articles by JUX author Hye-Jin Lee" and "Editorial staff list" were grouped together by 0 participants. The Similarity Matrix identifies how this example appears in the yellow highlighted text above. The card pairs that are considered conceptually different by all participants are indicated in red sections with a score of 0%.



Types of Label Suggestions



The labels chosen by participants show some of the content they expect to see on the site. The dendrogram shows how many of the participants agreed with each card grouping. The cards

are listed down the left side of each dendrogram, and the top axis measures the level of agreement among participants. Clusters closer to the left indicate that more people agreed with this classification. While there are some more obvious pairings like by date, there are also more topical labelling preferences like Research, Accessibility, and Methodology.

Proposed Changes

Our study validates a few possible changes to the JUX site based on the mental mapping of the users. It was found with the completion of the content inventory that the content depth on the "All Issues" tab is significantly weighted in the hierarchy. This makes it much more difficult for users to browse information, as they can only scroll over a long page listing every Volume and Issue ever published. With common users of the JUX site being information seekers, it is important to recognize how they prefer to find information. Nazim (2008), found that out of his participants consisting of 405 students, professors, and academic staff at *AMU*, 325 used search engines. This is primarily due to quick access to informational content, combined with the ability to quickly satiate their information need. The search bar on the JUX site is not robust enough to support users who want to utilise the search bar for browsing or seeking content. Users with scholarly academic needs may enter "Peer-Reviewed" in the search bar. However, the current JUX site uses metadata to only show articles that include the words "Peer" and "Reviewed." The metadata does not provide users with articles classified as "Peer-reviewed Article." Therefore, the metadata should be updated to allow users to browse using the search bar based on article type.

Finding older articles currently requires scrolling, and digging through multiple years of listed content. Because of this, our users most likely rely heavily on the search function to find

what they need without having to spend so much energy digging through the IA. In the card sort, participants did not match all of the cards together that are currently under “All Issues,” showing that the current hierarchy should be challenged. Instead, they opted to categorise content by topic, currency and author. Three participants agreed that the most recent, most downloaded, and date currency of the articles contribute to what they consider to be relevant.

Updating the navigation bar and utilising drop-down menus will be essential in the future to meet different user search needs. Another suggestion by Participant #4 could lead to the development of a more robust footer with categories such as “Policies” and “Call for Papers,” as they would be expected there. Currently, the footer of the site only holds copyright notice information and a contact email. This categorization is important, as it fills out currently lacking areas of the site that can be filled to take weight off of the navigation to make room for the Volume and Issue information seekers. Even if this information were not moved to the footer, it would be beneficial to group it together.

References

Nazim, M. (2008, February 20). *Information searching behavior in the internet age: A users' study of aligarh muslim university*. The International Information & Library Review. Retrieved November 3, 2022, from https://www.sciencedirect.com/science/article/abs/pii/S1057231707000562?fr=RR-2&ref=pdf_download&rr=764954b219e74004