#### **Lindenwood University**

#### Digital Commons@Lindenwood University

Theses Theses & Dissertations

4-2022

The Mindful App: Usability Report

Jocelyn Sands

Follow this and additional works at: https://digitalcommons.lindenwood.edu/theses



The mindful app

# Sustainable Living Application Design

The Better App to Sustainable Living | Usability Report



the mindful app: Prototype

Direct Link To Final Prototype Design: https://xd.adobe.com/view/488b6bd9-6366-4189-9c67-b208e35e2df4-1dd8/?fullscreen&hints=off

## Welcome to The Mindful App

The Better App to Sustainable Living

The Mindful App is an all-in-one application that promotes reducing and reusing materials within your home and community. We prioritize the user experience by showcasing local shops, restaurants, and sustainable options in categories. The Mindful App application promotes ways to live sustainable and mindfully.

#### Usability Report

Summary, Methodology, Literature Review, Scope, Goals, Surveyed User Background, Questionnaires, Tasks Tested, Results, Issues, Disclaimers, and References

### High Fidelity Prototype

On-boarding, App presentation, and clickable functions.

#### Methodology

The primary focus of this research is looking at the effects of qualitative & quantitative methodologies during the creation of a user-centered designed application. Through this process, I conducted product research on applications currently on the market. I also conducted user interviews and surveys to understand user needs.

Quantitative: User Surveys

Qualitative:
User Interviews

#### Research Process

Throughout this process, I have used qualitative and quantitative information to gain knowledge of what users may need while using this app. I used qualitative and quantitative methodology to screen participants by conducting testing in a variety of ways. This ensures users are able to effectively discuss their thoughts on the products, but also, give them the freedom to explore and understand the necessary tools to be successful.

#### Literature Review

During the UX design process, researchers and designers create a usability report to understand the desires of users. By conducting a usability report, researchers gain insight into how a typical user would navigate an application.

The article Mobile Health for Smoking... states that "...the usability evaluation by end users and experts revealed unique usability problems for this population."

"Our app refinement used the HCD (Human Centered Design) process of research, ideation, design, evaluation, and implementation, including 6 cycles of design and evaluation" (Sonney, 2022).

The Mindful App usability report and prototyped application will showcase correspondence with the research analysis of creating a user-centered application. The main objective of this research and prototyped application is to see if the use of creating an app that promotes sustainability in an educational and functional way can benefit app users. The benefit of conducting UX research, as stated in the scholarly article Making Order in User Experience Research to Support Its Application in Design and Beyond, is ...

"UX is a dynamic concept since users can perceive a product before, during and after its use." (Berni, 2021).

The information provided in this usability report is also about the initial research analysis conducted and reflects a branding guide app breakdown that has allowed me to conduct successful user testing.

#### Goals

Testing

Conducting this study allows me as a designer to understand the user's needs and intentions with using the application itself.

Feedback

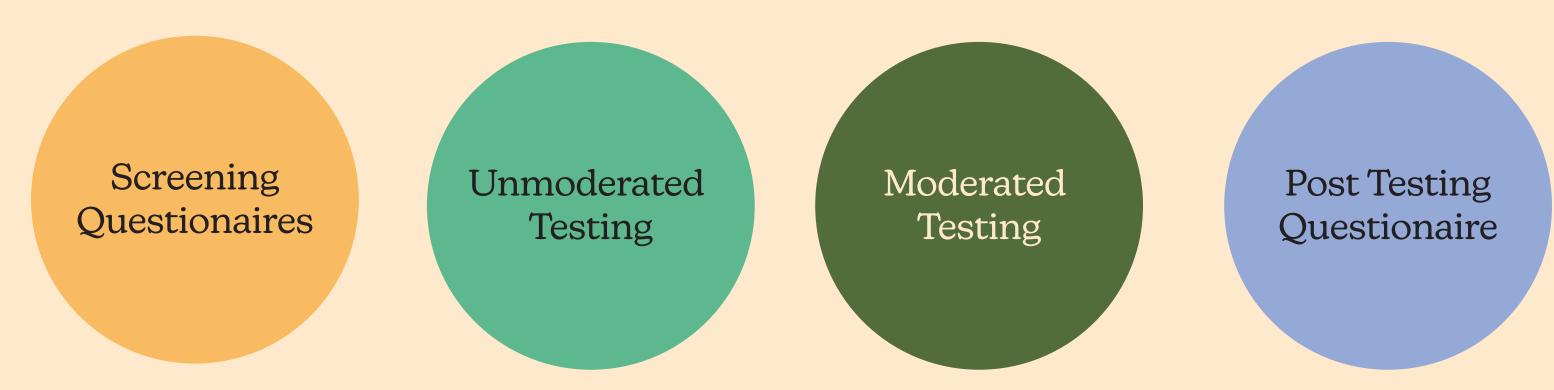
Gaining adequate feedback from user testing participants, fellow designers, and committee members throughout the design process to learn and reflect on UX app design process.

3
Action

Building an app design that promotes sustainable actions within a home and community, by using testing results and feedback given to craft a well-funtioning final app design.

#### Questionaires & Testing

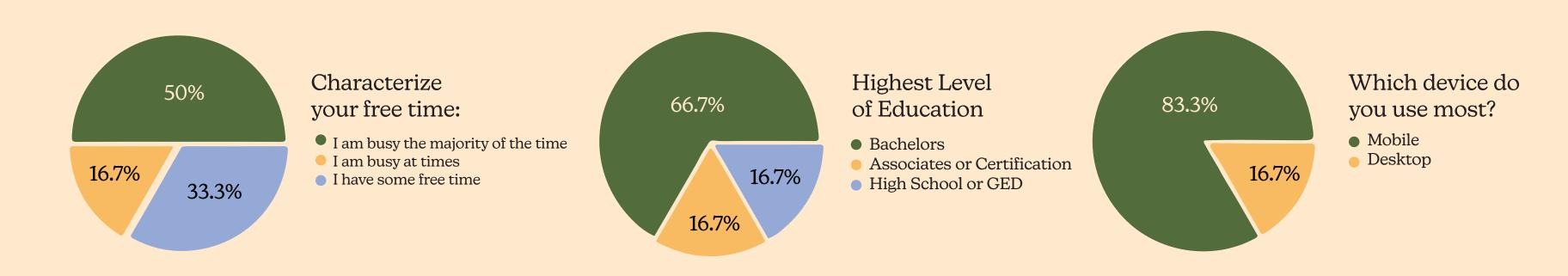
For user testing, five users participated in user testing. During this process, users were intially given a screening questionaire (stage 1), a prototyped applications with a guided form (stage 2: unmoderated testing) and a set scenario questions to answer while conducting the test. Participating users were also given a facilitated testing scenario (stage 3: moderated testing). Finally, users wer given a post testing questiaire to answer (stage 4). Before, during, and after this process, I was able to gain a bit insight into which features of the application worked well and which features of the application needed improvement. Throughout this process, additional features have been made for better ease of the site. This four step process of understanding the users background and intentions with the foll-woing application steps aligns with other UX designers and researchers model.



### Screening Questionaire

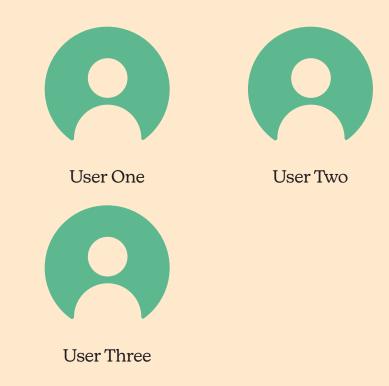
During the process of creating or updating an app or website, UX (User Experience) researchers and designers use testing as a way to understand the users needs. The screening process helps me understand both the demographics and experience candidates have while a variety of digital products. Although not all participants who screened for the testing participated in the unmoderated and moderated testing, the information provided an understading of who the key demographics could be for an application like this.



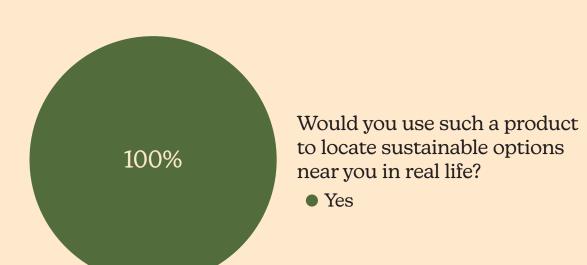


#### Unmoderated Testing

Conducting Unmoderated user testing is used to discover important insights about user behavior when they interact with the application product unguided. In this phase, users of different backgrounds were asked to participate. Three user were asked to interact with The Mindful App, observe their own interactions (without the guidance of a moderator), and answer a few questions. The information gained from this form of testing offered insight to which parts of the app people saw themseves using and which part they could see themselfs wating to learn more from.









#### Moderated Testing

Conducting Moderated user testing is a way for researchers and UX designers to discover important insights about user behavior when they are being guided through an application product. In this phase, users were guided through a multi-step script and scenario while using The Mindful App product. The interviewer (myself) observed their interactions, asked them to talk through each step, and provide feedback on what worked well for them. This process focused on understanding ways the app design could be improved. This session focused on the ways Jakob Nielsen discusses how to have a successful moderated testing session and by doing, I was able to gain insight and feedback from users that participated.

"The best results come from testing no more than 5 users and running as many small tests as you can afford." (World Leaders in Research-Based User Experience)



Example Scenario: Recently, you decided that it is time to do some major spring cleaning. You have totally uphauled everything in your closet, pantry, and garage and realized you have plenty of things that need to be recycled, donated, or gifted. Once you sort everything you realizes you have over 50 batteries that you need to get rid but know you shouldn't simply throw them away. Where would you go to figure out how to remove of them.

#### Post Test Questions

After the moderated testing occured, users were asked follow up questions. During the follow up portion of the questionaire. I was able to gain a more "personal" understanding of how each person felt during the testing process. The most important insights I was able to gain was about how each participant felt about the design of the app itself. By asking these questions, it helped me understand which design atributions to keep. This was a great way to engage in conversation with participants in a casual way.

The following questions were asked:

Question 1: Would you personally download an app like this. If so, which part of the application would you use most frequently?

Question 2: What are your thoughts about the design of this app?

Question 3: Are there any attributions of this design you would change? If so, what would that be?

Question 4: Did anything surprise or frustrate you during this process?

Questing 5: How frequently would you use this product?

#### Tasks Tested

While conducting testing, users are asked to test and give feedback on how certain functions operate. During each process of testing, the feedback given was used to elevate the functionality of the app and mitigate any issues that could arise in the future.

#### Unmoderated Testing

During unmoderated testing, users were asked to go through the application as if it was an actual application. They were told that the application itself may have limited features and would not be able to access many parts. Each participant was guided by a Google Form to each section of the application and asked whether each section was functional, how they would access it, and which features they believe worked best.

#### Moderated Testing

During moderated testing, users were prompted to join a Zoom call and conduct testing. They were emailed a consent form to record, prior to testing, and they were given scenarios to conduct testing. During this testing phase, users were guided through the application and were able to learn more about how the application functioned during this process.

#### Results

During the Moderated Testing portion of this study that was conducted, I found it to be most beneficial for creating a well-design application. The main reason is because I was able to have users further explain why certain portions of the application worked well (or did not work well). I also learned that one of the questions I asked allowed users to self-determine how a question could be interpreted. In some cases, this meant the user not taking the specific direction I had desired. Throughout this learning experience, I realized that the more specific a question is, the narrower path. Overall, the usability testing process was an essential way for me to gain adequate feedback to create a user centered design.

#### Issues & Disclaimers

As with most user conducted testing, I did find minor issues with moderated testing along the way. The main issue was from a personal perspective of giving biased responses or wanting to tell the participants the "correct" way to navigating the app. I also found that there were times where I realized that I was not telling the participant how to accurately navigate the app. In those cases it was apprent the user stuggled based on my explanation. Due to the nature of conducting testing with an application I have designed, I believe that it can, in some cases, bias the type of results given from users. The feedback given is still lucrative and was very substantive.

"Human-product interaction involves concepts that have affective, hedonic and aesthetic variables, which are often difficult to measure in an objective way..." (Berni, 2021).

#### References:

20 Best examples of social media ad design - plus, the top social media marketing companies, according to Best Designs.co... (2020). PR Newswire https://www.proquest.com/wire-feeds/20-best-examples-social-media-ad-design-plus-top/docview/2432352102/se-2?accountid=12104 3 design tips to increase app stickiness, according to app design experts [DesignRush QuickSights]... (2021). PR Newswire https://www.proquest.com/wire-feeds/3-design-tips-increase-app-stickiness-according/docview/2550585785/se-2?accountid=12104

Asif, A., AlFrraj, D., & Alshamari, M. A. (2022). A comprehensive approach of exploring usability problems in enterprise resource planning systems. Applied Sciences, 12(5), 2293. http://dx.doi.org/10.3390/app12052293

Brann, K. L., Daniels, B., Chafouleas, S. M., & DiOrio, C. A. (2022). Usability of social, emotional, and behavioral assessments in schools: A systematic review from 2009 to 2019. School Psychology Review, 51(1), 6-24. http://dx.doi.org/10.1080/2372966X.2020.1836518

Berni, A. (2021). Making order in user experience research to support its application in design and beyond. Applied Sciences, 11(15), 6981. http://dx.-doi.org/10.3390/appl1156981

Broekhuis, M., & Lex, v. V. (2022). Improving usability benchmarking for the eHealth domain: The development of the eHealth UsaBility benchmarking instrument (HUBBI). PLoS One, 17(2) http://dx.doi.org/10.1371/journal.pone.0262036

Derksen, M. E., Jaspers, M. W. M., Sander, v. S., & Fransen, M. P. (2021). Mobile health for smoking cessation among disadvantaged young women during and after pregnancy: User-centered design and usability study. JMIR Formative Research, 5(8)http://dx.doi.org/10.2196/24112

Domingos, C., Costa, P., Nadine, C. S., & José Miguel Pêgo. (2022). Usability, acceptability, and satisfaction of a wearable activity tracker in older adults:

Observational study in a real-life context in northern portugal. Journal of Medical Internet Research, http://dx.doi.org/10.2196/26652 Freshii revamps mobile order-ahead app with tacit as a restaurant technology integrator... (2020). PR Newswire https://www.pro-

quest.com/wire-feeds/freshii-revamps-mobile-order-ahead-app-with-tacit/docview/2463900312/se-2?accountid=12104

Haustein, E., Lorson, P. C., Oulasvirta, L. O., & Lotta-Maria Sinervo. (2021). Perceived usability of local government (LG) financial statements by local councillors: Comparative study of finland and germany. The International Journal of Public Sector Management, 34(4), 441-458. http://dx.-doi.org/10.1108/IJPSM-09-2020-0227

Hidayat, A., & Utomo, V. G. (2021). User experience measurement of adaptive online module system using user experience questionnaire. Journal of Physics: Conference Series, 1918(4)http://dx.doi.org/10.1088/1742-6596/1918/4/042146

Hill, J. R., Brown, J. C., Campbell, N. L., & Holden, R. J. (2021). Usability-in-Place—Remote usability testing methods for homebound older adults: Rapid literature review. JMIR Formative Research, 5(11)http://dx.doi.org/10.2196/26181

Indigo. Design Expands Its Design-To-Code System For Designers And Developers... (2021). NASDAQ OMX's News Release Distribution Channel

https://www.proquest.com/wire-feeds/indigo-design-expands-code-system-designers/docview/2478761264/se-2?accountid=12104 Laborde, C. R., Cenko, E., Mardini, M. T., Nerella, S., Kheirkhahan, M., Ranka, S., Fillingim, R. B., Corbett, D. B., Weber, E., Rashidi, P., & Manini, T. (2021). Satisfaction, usability, and compliance with the use of smartwatches for ecological momentary assessment of knee osteoarthritis symptoms in older adults: Usability study. JMIR Aging, 4(3)http://dx.doi.org/10.2196/24553

Reichold, M., Heß, M., Kolominsky-Rabas, P., Gräßel, E., & Hans-Ulrich Prokosch. (2021). Usability evaluation of an offline electronic data capture app in a prospective multicenter dementia registry (digiDEM bayern): Mixed method study. JMIR Formative Research, 5(11) http://dx.-doi.org/10.2196/31649

Sonney, J., Cho, E. E., Zheng, Q., & Kientz, J. A. (2022). Refinement of a Parent–Child shared asthma management mobile health app: Human-centered design study. JMIR Pediatrics and Parenting, 5(1) http://dx.doi.org/10.2196/34117

The 5 best examples of app landing pages - plus, the top 6 web & app design companies, according to web design agency rating platform... (2020). PR Newswire https://www.proquest.com/wire-feeds/5-best-examples-app-land-

ing-pages-plus-top-6-web/docview/2439594078/se-2?accountid=12104

The key elements and top examples of mobile-first design - plus, top web design companies, according to web design agency rating platform... (2020). PR Newswire https://www.proquest.com/wire-feeds/key-elements-top-exam-

ples-mobile-first-design/docview/2412788576/se-2?accountid=12104

The top mobile app design companies in 2020, according to DesignRush... (2020). PR Newswire https://www.proquest.com/wire-feeds/top-mobile-app-design-companies-2020-according/docview/2474127494/se-2?accountid=12104

User experience vs. user interface design. (2021). News Bites - Private Companies https://www.proquest.com/wire-feeds/user-experience-vs-interface-design/docview/2580814653/se-2?accountid=12104

Wang, R., Zhang, X., & Yang, D. (2020). Research on user experience design consistency of internet products based on user experience. Journal of Physics: Conference Series, 1549(3)http://dx.doi.org/10.1088/1742-6596/1549/3/032059

General Web References

Babich, N. (2020, June 15). What makes a good user experience?: Adobe XD ideas. Adobe XD Ideas. Retrieved March 17, 2022, from https://xd.adobe.com/ideas/principles/web-design/what-makes-good-ux/

femke.design. (2019, August 2). How to create a UX research report – free template included! YouTube. Retrieved March 17, 2022, from https://www.youtube.com/watch?v=esg5iUALAJM&t=3s

UXBoost. (2021, May 4). How to write a usability testing report. YouTube. Retrieved March 17, 2022, from https://www.youtube.com/watch?v=u5RYuIU5jq8&t=80s

World Leaders in Research-Based User Experience. (n.d.). Why you only need to test with 5 users. Nielsen Norman Group. Retrieved April 19, 2022, from https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/

# Signed PDF of MA Project Report

The Mindful App | Usability Report

by

Jocelyn Sands

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of

Arts in

Art & Design with an Emphasis in User & Wel

at

Lindenwood University

C April 2022 Jocelyn Brianna Sands

The author hereby grants Lindenwood University permission to reproduce and to distribute publicly paper and electronic thesis copies of document in whole or in part in any medium now known or hereafter created.

Jocelyn Sands 4/28/22

Author's Name Date

Jocelyn B. Sands

Author's Signature

Committee Chair

Date 4/28/22

Committee Chair Signature

Committee Member Date
Erica Blum 4/28/22

Committee Member Signature

Committee Member Date

Justin Kussmann

Committee Member Signature 4/29/22