Usability assessment of AccessPlace during initial public community launch

Megan S. Sullivan, Sheldon R. Pearson, Caroline T. Ives, Kelly A. McGavock, Roger O. Smith

Rehabilitation Research Design & Disability (R2D2) Center, University of Wisconsin-Milwaukee

ABSTRACT

AccessPlace is a mobile web-based app that allows users to leave ratings and reviews of their experiences related to the accessibility of community buildings as well as search for accessibility information that they may need in order to determine which establishments best fit their needs. AccessPlace is designed to be simple, quick, and easy to use for the average community member. This study was conducted in order to assess the usability of the AccessPlace mobile-web app based on survey responses from participants at our public launch event. Participants attended our community launch event where they received a brief training overview on accessibility and were walked through creating their personal profiles. After spending time in the community testing the web-app and rating local restaurants, participants were verbally administered a three-question survey regarding their experience using the app. Survey responses were analyzed based on whether or not the participant felt the experience using AccessPlace was positive and whether or not they had any specific suggestions for improvement. Through analysis of our survey responses, we were able to conclude that the AccessPlace structure and design is intuitive; however, continued testing is needed as updates are made to the web-app to ensure it remains user-friendly.

INTRODUCTION

People with disabilities consistently face challenges participating in the community due to inaccessible mobile, cognitive, and sensory environments. While the Americans with Disabilities Act (ADA) established set rules and regulations for building accessibility, these are only minimal requirements, and many community buildings still remain largely inaccessible.[1] People with disabilities typically have no way of knowing what barriers they may encounter in the community, and, therefore, have no way of planning alternatives or avoiding these barriers.

AccessPlace is a part of the Access Ratings for Buildings (ARB) project developed by the R_2D_2 Center at the University of Wisconsin-Milwaukee. This mobile web-based app allows users to leave star ratings and subjective reviews of their experiences regarding the accessibility of local restaurants.[2] Users first complete a Personal Accessibility Information Profile which will then filter their search results to people “like me”. [3] AccessPlace is designed to be intuitive and easy to use for the average community member with no specialized training. The purpose of this study was to analyze the usability of the AccessPlace mobile web-app based on community feedback following its initial public launch.

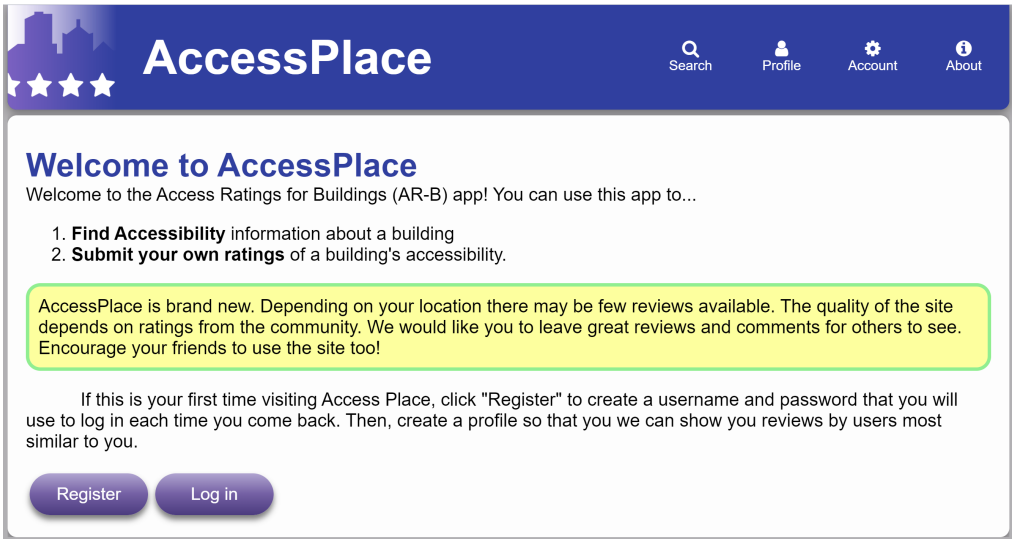

Figure 1. Screenshot of AccessPlace home page.

METHODS

Community Event Design

The AccessPlace community launch event was developed to begin populating the AccessPlace database as well as raise community awareness and interest of the ARB project. Participants received a brief training on accessibility and were walked through creating their personal profiles. They then went out into the community in teams to test the web-app by leaving ratings and reviews of local restaurants.

Participants

Sixteen individuals were recruited for our survey out of twenty-five attendees. This sample was mainly comprised of Occupational Therapy students, people with disabilities, and local disability advocates. Participants were surveyed after spending time in the community rating local restaurants using the AccessPlace web-app.

Survey Instrumentation

After having time in the community to use the AccessPlace web-app, participants were asked three free-response questions pertaining to their experience using the web-app, any problems they experienced, and any suggestions they may have had for future improvements. This survey was created in order to obtain general information and feedback on the users' overall perception of the functionality and ease of use of the web-app. We based our analysis on two main categories: 1) whether or not the participant felt the experience using the web-app was positive, 2) whether or not they had any specific suggestions for improvement.

Table 1. Survey Questions
1. How was your experience with the event and using the AccessPlace web-app?
2. What worked well and what did not?
3. What type of problems, if any, did you run into?

RESULTS

Of the 16 participants surveyed, 14 (87.5%) reported that they had an overall positive experience at the event and using the web-app, and 7 (43.75%) gave specific suggestions for improvement. Furthermore, half of participants mentioned that the structure of the web-app was intuitive, and several expressed desire to return to future community events.

Table 2. Results	**Total**	
	%	**Count**
Reported positive experience	87.5%	14
Provided suggestions for improvement	43.75%	7

DISCUSSION

Limitations

There were two notable limitations present in this study. First, our small sample size made it difficult to emulate our target population of potential stakeholders. Secondly, due to the open-ended nature of our survey questions, it was difficult to establish trends in responses beyond this preliminary analysis and investigation. Third, because the interviews were administered by several different surveyors, analysis of responses were reliant on the notes and transcriptions of the surveyor.

Future Implications

AccessPlace is designed to be a simple and portable evaluation tool that allows users to quickly find the information that they need or input their own experiences and ratings [4]; however, this is not possible if users are not able to

easily and intuitively navigate the current web-app still under revision and final development. While many participants gave suggestions for improvement, the majority were immensely enthusiastic about the implications of the web-app and deemed the design to be easy to use and understand. With the Center for Disease Control (CDC) reporting 61 million Americans living with a disability [5], the need for readily available accessibility information is more apparent than ever. Future testing and analysis is needed as updates are made to AccessPlace to ensure the structure remains intuitive and user-friendly for all potential users.

CONCLUSIONS

The wide-spread implementation of AccessPlace will help make communities more accessible by providing the public with the information they need to participate in their community. With the responses gathered from our survey, we are able to conclude that while further updates and developments are needed, the overall structure and design of AccessPlace community training and data collection events are intuitive and user-friendly for the average community member.

ACKNOWLEDGEMENTS

This work was developed in part under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90IFDV0006). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The content of this work does not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government

REFERENCES

[1] Access-Board. (2010). Americans with Disabilities Act Accessibility Guidelines (ADAAG) Checklist for Buildings and Facilities. Retrieved from http://www.access-board.gov/adaag/checklist/a16.html

[2] K. Edyburn, J. Schwartz, and R. O. Smith, "A case study: Development of Access Ratings for Buildings "Consumer" mobile app," in RESNA 36th International Conference on Technology and Disability: Research, Design, Practice, & Policy, Bellevue, Washington, USA, 2013.

[3] Tomashek, D., Spaeth, N., Latzig, N., Pelkey, N., & Smith, R. O. (2018). Validation of the AccessPlace Personal Accessibility Information Review Sorting.Paper presented at the Rehabilitation Engineering Assistive Technology Society of North America Conference (RESNA), Arlington, VA.

[4] Williams, D., et al. (2015). ACCESS TOOLS: Developing A Usable Smartphone-Based Tool For Determining Building Accessibility. Proceedings of the RESNA 38th Annual Conference on Technology and Disability. Retrieved 29 Feb. 2020, from http://www.resna.org/sites/default/files/conference/201 5/cac/williams.html

[5] CDC: 1 in 4 US adults live with a disability. (2018, August 16). Retrieved from https://www.cdc.gov/media/releases/2018/p0816-disability.html

Alternative Text Descriptions

Figure 1. is a screenshot of the AccessPlace home page. The page contains a disclaimer stating that the web-app is new and may not have many reviews available and brief instructions on how to create an account.

Table 1 is a 1 (column) by 4 (row) table. The heading says, “Table 1. Survey Questions, and rows 2 through 4 contain survey questions.

Table 2. 4 (column) by 3 (row) table. The heading says, “Table 2. Results. The subheadings are “%” and “count”. Rows 3 through 4 contain results.