

Access ratings for buildings: Utilization of community engagement events to populate the database with accessible information

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ABSTRACT

Introduction: People with disabilities (PWD) still encounter accessibility issues and currently, there isn't a comprehensive source of accessibility information for the buildings in the community. AccessPlace, is a web-based mobile app that is a rating system for restaurants based on their accessibility. Even with a working app though, due to an empty database, the app is not functional. To address this issue, a pilot community engagement event was designed and run. **Methods:** At the event, presentation/training sessions were administered and included an explanation of the itinerary, registration and a video explaining the need for AccessPlace by the NIDILRR project officer. An overview of AccessPlace and a live training demonstration was presented and included the layout and rating system of the app. Afterwards, individuals were split into groups and went out into the community to collect data. Participants returned in the afternoon, where a post-survey was verbally administered, and teams reflected on their experiences. **Results:** Twenty-five participants attended the event and combine they completed 54 evaluations. It was reported 87.5% of participants had a positive experience during the event. **Discussion:** The event brought in participants that were able to contribute in compiling accessibility evaluations for the AccessPlace database so PWD may use the information. **Conclusion:** The community engagement event appears to be an effective method in gathering individuals to assist in populating a database with accessibility information. However, future events will provide more information to compare and establish norm values.

INTRODUCTION

In 1990, the United States government implemented the Americans With Disabilities Act (ADA) to eliminate the discrimination people with disabilities (PWD) faced (DOJ, 1991). The 1991 ADA Standards for Accessible Design were created and revised in 2010 to better regulate and promote the construction of buildings in order to increase the accessibility for PWD (Access-Board, 2005), although, PWD still encounter accessibility issues despite the revision (Tomashek, Wilson & Smith, 2019). While these regulations have improved accessibility, the standards are primarily focused on meeting specific measurements, rather than functional aspects. Furthermore, buildings constructed prior to January 26th, 1992, don't need to adhere to the standards. This can leave PWD with an inability to access the public structure, which prevents them from participating in necessary occupations and social/community engagement, specifically in restaurants. What is thought to be an enjoyable, routine experience for able bodied individuals, can be a challenging ordeal for PWD due to inaccessibility of the restaurant. Often, PWD waste time because they attend a restaurant, only to find they cannot eat or engage socially there. Although, according to Tomashek, Wilson and Smith, PWD stated that if information regarding a restaurant's accessibility was available, they would find it beneficial and be interested in utilizing it (Tomashek, Wilson & Smith, 2019). Having prior knowledge regarding an establishment's accessibility features could save PWD the frustration and time loss they frequently experience. The proposed solution is AccessPlace, a web-based mobile app that is part of the Access Ratings for Buildings (ARB) project being developed at the Rehabilitation Research Design & Disability (R₂D₂) Center at UW-Milwaukee. AccessPlace is a user-friendly rating system where individuals can create their own profile, view restaurants that are most accessible to them and rate restaurants based on their perceived accessibility.

ARB

The Access Ratings for Buildings (ARB) is a set of apps, comprised of AccessPlace and AccessTools, that rates and displays the accessibility of public building to promote equitable community participation for all. The app applies a Person-Environment-Occupation (PEO) model and is functionally based, rather than centralized solely on ADA Accessibility Guidelines (ADAAG). The database in the app combines trained rater evaluations from AccessTools and consumer/user ratings from AccessPlace. The evaluations from AccessTools are comprehensive assessments performed by trained raters that utilize the sensor-based measurement systems inside of the iPad they are using to score the building. AccessPlace provides unique perspectives from individuals with disabilities that can rate restaurants first-hand and share that information.

AccessTools

AccessTools is a comprehensive building assessment tool comprised of ten accessibility elements, that are evaluated by trained raters for reliable accessibility information (Schwartz et al., 2013). This app uses a Trichotomous Tailored Sub-branching Scoring (TTSS) system consisting of Accessible, Somewhat Accessible, Not Accessible and N/A, and allows raters to go in-depth with the aspects being scored by adding comments, pictures and videos. In addition, the app utilizes measurement systems inside the iPad through the MiniTools apps, AccessSlope, AccessSound and AccessRuler. These enable the user to add quantifiable data that can be compared to ADAAG standards and rated with a level of accessibility. Furthermore, AccessTools includes ADAAG standard measurements and text descriptions to describe what raters should specifically be scoring for a particular aspect (Smith et al., 2014).

AccessPlace

The first part of ARB is AccessPlace, a user-friendly rating system where individuals can create their own profile and view restaurants that are most accessible to them. When first logging into the app, individuals create a individualized profile by inputting their personalized accessibility information (PAI), so they only see accessibility information that is relevant to their needs. The second part of that app, users rate six aspects, displayed in Table 1, and view completed reviews of restaurants that are geographically close using a 5-star system and adding comments regarding particular features.

AccessPlace Accessibility Aspects	
Aspect	Specific Criteria
Arriving & Leaving	<ul style="list-style-type: none">• Parking• Using main entrance• Using exit
Wayfinding	<ul style="list-style-type: none">• Using signage• Asking (finding assistance)
Moving Around	<ul style="list-style-type: none">• Moving within rooms• Moving between levels• Moving to specific destinations
Communicating	<ul style="list-style-type: none">• Providing wants and needs• Using kiosks• Conversing with others
Using Areas	<ul style="list-style-type: none">• Seeing• Hearing• Sitting• Using table surface• Font size and clarity
Toileting	<ul style="list-style-type: none">• Moving around restroom• Using toilet• Washing

Table 1: Accessibility Aspects of AccessPlace

While the concept of developing a functioning prototype is straightforward, ultimately the idea to provide accessibility information on restaurants for PWD would fail. Due to an empty database that doesn't currently have a foundation of evaluated restaurants, individuals would download the app to discover there is no information or reviews. To address this problematic issue, the team at the R2D2 Center is developing a community engagement event for the city of Milwaukee where the public can assist in evaluating buildings using the AccessPlace web-based mobile app.

METHODS

Community Engagement Event

The community engagement event was held at local disability organization and lasted approximately 8 hours. Participants were recruited from local disability organizations, Milwaukee-area student occupational therapy associations (SOTA), the Wisconsin Occupational Therapy Association (WOTA), and viewers of a local news

station. Participants arrived to the venue in the morning and were given a packet that contained information about the event and included materials they would need for the event. While participants waited for the training to begin, refreshments were provided in a separate room with collaborators and sponsors displayed, and team members available to introduce the project. Three presentation/training sessions were offered in the morning and each lasted an hour. The presentation started with an explanation of the scheduled itinerary, and then a walkthrough of the registration process individuals could complete on their mobile phone. Following that, a video explaining the need for AccessPlace by the NIDILRR project officer was shown and then an overview of ARB and the breakdown of AccessTools and AccessPlace was provided. After that, a live training demonstration of the AccessPlace app displaying the layout, navigation and rating system was shown to the participants, who could follow along on their own mobile devices. Afterwards, the scoring system for prizes was explained to participants, which was based on quantity and completeness of evaluations. Individuals were split into groups of 2-4 members and created team names that were to be used on their rating profile. After the presentation ended, there was a Q&A session prior to participants going out into the community to rate restaurants. The participants had a minimum of 2 hours to rate venues and were provided a restaurant list that categorized restaurants by geographic location. This resource was provided so participants could rate multiple places in the same area to increase quantity of places rated.

Participants returned in the afternoon, where a post-survey regarding the usability of AccessPlace was verbally administered. Teams then presented reflections of their experiences, and a map exhibiting the before and after results of the ratings was displayed to demonstrate the impact the participants were having on providing accessibility information to the community. Thereafter, the points each team earned for the amount and quality of places rated was calculated and prizes were distributed. Participants were informed of future community engagement dates and were thanked for their contributions.

RESULTS

Twenty-five participants attended the event and combine they completed 54 evaluations. All six sections of the evaluations were completed, and two comments were added to each assessment. The post-survey reported 87.5% of participants had a positive experience during the event although many encountered app user interface issues due to the app's in-progress stage of development.

DISCUSSION

The community engagement event addressed the problem of fulfilling the database with accessibility information. The event seemed successful based on the results, but the level of effectiveness regarding the pilot event on the database has yet to be determined since there is no other event data to compare it to. A limitation in this study occurred when participants were out in the community gathering data. The participants were trained to introduced themselves to the restaurant staff and explain their purpose for being there. A few restaurants declined to have their building evaluated, which has impacted the number of evaluations completed.

CONCLUSION

Information regarding accessibility is important to PWD and the pilot community engagement event was effective in gathering individuals to assist in populating the AccessPlace database. Future community engagement events should be conducted to gather more data to establish norm values for the amount of evaluations completed at a single event.

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.

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EqTDs

Table 1 is a 2 (column) by 6 (rows) table. The table heading is “AccessPlace Accessibility Aspects” with the left column titled “Aspects” and the right column labeled “Specific Criteria”.