USABILITY TESTING

The iterative nature of the Agile process requires varied and continual testing practices. Cambria leveraged a multi-faceted and user centered approach with usability testing, real user evaluations, and automatic testing.

USABILITY TESTING

Cambria's usability testing started with actually understanding what our user experience should look like. We began by envisioning the users, their needs and what they value. For this project, we focused on five of the seven Peter Morville's user experience Honeycomb attributes, seen in Figure 1; namely, useful, usable, valuable, findable, and credible.

Figure 1: Peter Morville's User Experience Honeycomb Attributes

In order to build the user experience and define our Usability Testing methods, we utilized the following disciplines:

- **User Research** -We focused on user behaviors, needs, and motivations through individual and focused group interviews, personas and user feedback.
- **Usability Evaluation** –We asked questions and obtained feedback on whether our application met their needs and how satisfied they were during user testing. We asked questions on how easy it was to navigate, and the efficiency of use and memorability (can they remember how to use the application after one try).

- **User Interface Design** - Our business analysis team analyzed and anticipated how users might work with the application and with the use of wire frames ensured the elements were easy to access, understand, and use in order to facilitate those actions. We were able to validate and invalidate during user testing.

- **Visual Design** –We focused on creating an aesthetically pleasing interface that is consistent with Cambria's branding.

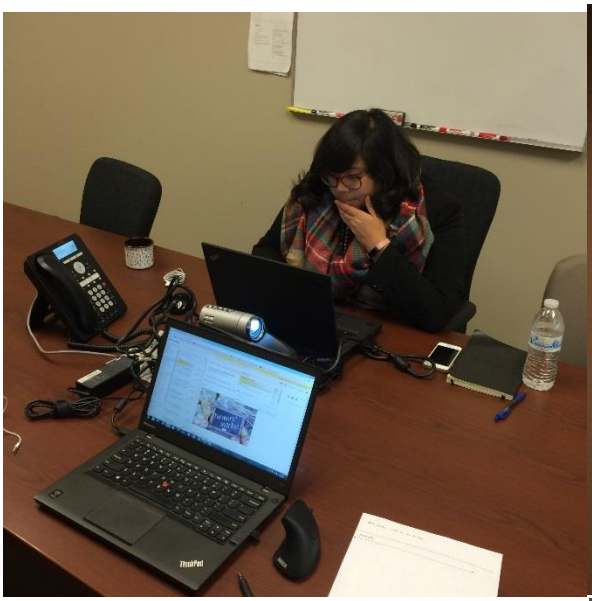
Qualitative usability testing occurred at the conclusion of every sprint in order to identify bugs, enhancements, and general completeness in line with user stories and user input. This usability testing was completed by Business Analysts and accounted for basic functionality and compliance with user stories. Usability Testing occurred through 7 platforms: Internet Explorer, Firefox, Chrome, Safari, Android Phone, iPad, and iPhone. The use of formalized Usability Testing forms were used and a template can be found in Github.

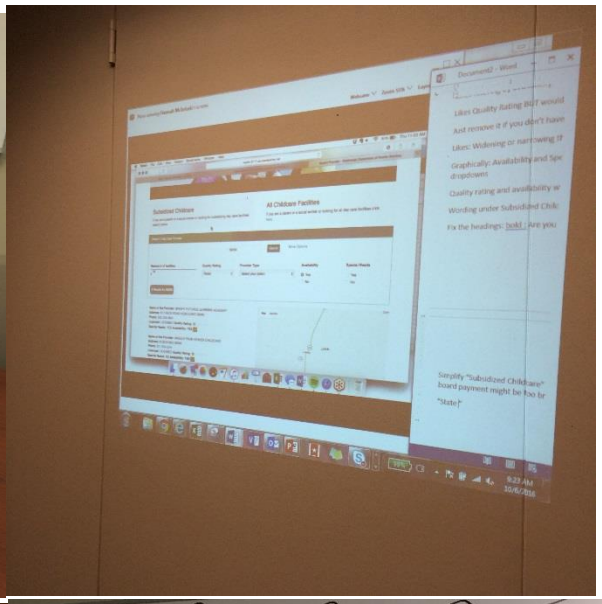
In tandem with Usability test forms, Business Analysts performed continual testing across iterations and all major pushes to production. When a previously identified bug or enhancement was changed, it was retested in order to determine correct usability. Any changes not in compliance with usability standards were identified, backlogged and assigned to later sprints.

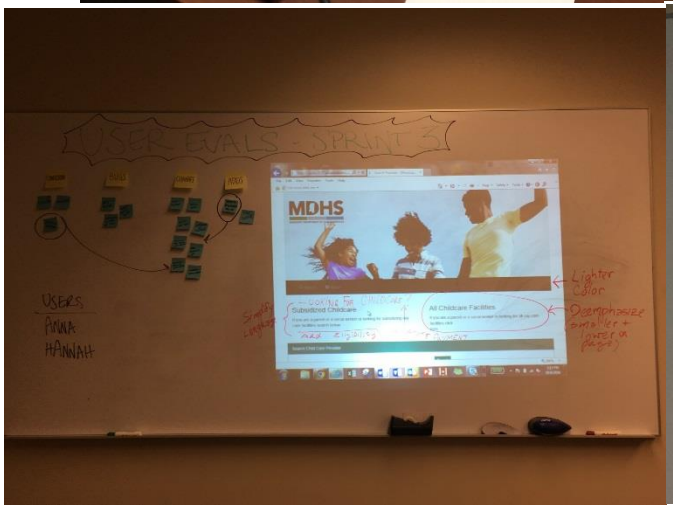
User Evaluations

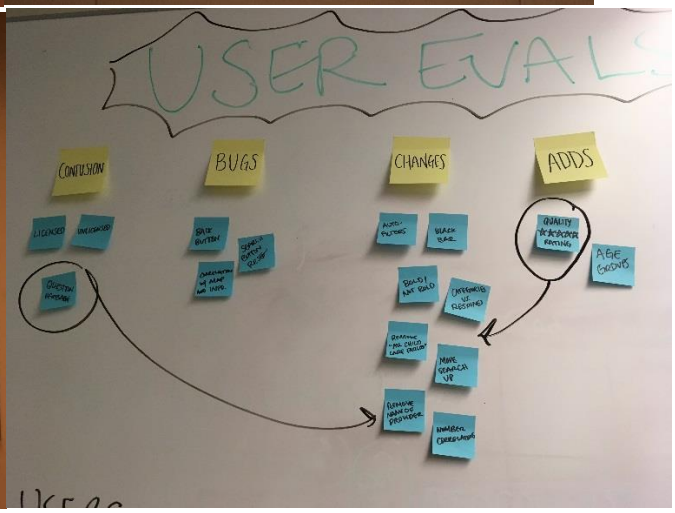
In addition to formal usability testing processes, the use of User Evaluations in Cambria's Human Centered Design process provided testing and feedback from target users through both a Mississippi foster parent and former case worker. These users were part of an initial effort to understand the people who would be using this solution. Two individuals graciously participated in an initial Semi-formal Interview process, and then came back for individual 1-hour sessions to evaluate the prototype in the products' Sprint 4 iteration. These evaluations occurred through screen sharing and conference calls. A debrief was held after each evaluation session to determine changes and next steps for the prototype. Picture from this process can be seen in Figure 2 below.

Figure 2: User Evaluation Sessions









Automatic Testing

Insert Automatic Testing explanation here.

ADA Compliance Testing

Cambria tested its prototype for Americans with Disabilities Act (ADA) compliance utilizing the WAVE Web Accessibility Evaluation Tool. Tests occurred in an iterative process to continually monitor website changes from new development. This tool can be found here http://wave.webaim.org/report#/http://msrfp-3717.azurewebsites.net/. Cambria's prototype is in compliance with ADA standards.