UX Recommendation

DTC 497 | Usability, Testing, and Feedback | Spr. 2018

Summary

There are many options for Usability work that may include a few or many different methods being done. In our case, I would recommend that the Web Dev team sit down with Dene (if possible), Connor, Randi, and all the team leaders to discuss the goals and concerns that seem most important for the success of the Historic Trust projects, which will then be analyzed and broken into tasks. After that, I would suggest Yunzoo and I conduct an informal, back of the envelope evaluation of the game and websites based on early, non-functional mockups and wireframes depicting those tasks. As these are tested, feedback is provided, and changes are made, we should be able to iterate more effectively throughout the course of development. We will carry out the empirical portion of this research, which involves user testing, and provide a final report by the dates shown below.

Timeline

The following list is subject to change. Please be sure to check back often if you need to know this information.

- User and game tests ready for DTC 478 class participation by **4/4**
- Results compiled, interpreted, and ready for submission by **4/11**

Scope

The more I research Usability, the more and more clearly it appears that there is a lot we could do to help improve the Usability of these projects. I think the first step is to determine what forms or methodologies of Usability will provide the most benefit with such a limited amount of time. Next, it would be to prioritize which features and aspects of the projects most need evaluation and then work on deciding which resources or methodologies to utilize. Narrowing and solidifying the scope of Usability work to be done is very important.

As far as I understand right now, the minimum Dene wants to be done is User Testing for both projects (the game and website). She did not specify if that should involve a large classroom setting or a small, one on one testing session.

Overview of Process and Resources

The following are listed in order of when they would typically be done in the product lifecycle and include pros and cons, so that we can quickly determine their usefulness in the projects.

Why Do UX Research?

- Pros:
    - Helps everyone stay focused on the right goals and concerns
    - Avoids obvious problems that tend to get overlooked and are harder to fix later in the development process
- Cons:
    - Time consuming due to requirement of highly detailed work
    - Poor planning and coordination can lead to misguided results

Developing Research Goals

The first and essential step to help inform the rest of the study, which will help determine what else should be done. This process is basically 7 steps and should be quick and painless, which we have already begun with this document.

Determine Format and Setting of the Study

Some things to think about when determining what is best for our individual cases:

- Lab vs. Field
    - A lab setting is more convenient for a small number of people
    - Field tests are best when the user's natural environment for use is crucial to testing
    - There are also concerns about UX team time requirements, finding willing test subjects with no/low budget, and reducing bias (sometimes people might give overly positive feedback because they think it's cool to work with real professionals lol)
- Moderated vs. Unmoderated
    - A moderated study will typically produce better results because the moderators can observe little unintentional cues and behaviors that would be missed by a survey form
    - Again, unmoderated tests are cheaper, easier, and allow for more people to be tested
- In-person vs. Remote
    - Working in person is better for getting more qualitative feedback because it allows us to get a better idea of what the problem or concern is with less need for interpretation and clarifying
    - If clarification needs to happen, it is immediate and easier
    - Remote is cheaper and easier

Usability Inspection

Non-empirical, mostly qualitative research that usually consists of experts and developers. Once Problem Statements have been written and appropriate tasks identified, then some, all, or none of the following may be done:

Cognitive Walkthrough

A usability evaluation method in which one or more evaluators practice using a mockup or wireframe of an interface by thinking their way through a series of tasks and asking a set of questions from the perspective of the user. Originally designed for kiosks and ATMs to test ease of learnability for new or infrequent users. Process can be applied to more complex systems at a cost of time.

- User Experience Professionals' Association or UXPA's Cognitive Walkthrough
- Nielsen's brief mention of CWT along with other methods
- Can be done with paper mockups, semi-functional prototypes, or working builds/beta versions, but is best for earlier in the development process
- Pros
    - Doesn't require real users
    - Makes process of user tasks explicit
    - May improve system learnability
    - Iterative, repeatable at any development stage
    - Low time cost if done right
- Cons
    - Data is subjective
    - Researchers tend to focus on visuals
    - Problem frequency or severity unidentified
    - Can be a lot of work for complex systems

Heuristic Evaluation

This method involves expert evaluators looking for specific problems within a working system based on general principles or best practices.

- Jakob Nielsen's instructions and 10 Heuristics
- Shneiderman's Eight Golden Rules
- Gerhardt-Powals' Cognitive Principles
- Kamper's Lead, Follow, and Get Out of the Way anti-heuristics
- Can be done any time in the design process, but works best if evaluators have a working build or beta version
- Pros

    - Can be very quick and inexpensive
    - Helps find obvious problems
    - Can be done with as few as one or as many as four evaluators
- Cons
    - There are many different heuristics to choose from which sometimes disagree with each other
    - Results are subjective rather than empirical
    - Sometimes it is good for a system to break the rules a little (Simplicity vs. Complexity)

Pluralistic Walkthrough

Much like a cognitive walkthrough, but this method involves users and perhaps third parties like parents (if typical users are children, for instance) to help developers and stakeholders to gain valuable empathy for common user frustrations and concerns.

- Could take place with DTC 478 class after they try testing the game or site
- Pros
    - Helps connect producers and the users directly
- Cons
    - Direct feedback can be uncomfortable to receive
    - Users aren't testing a live simulation or prototype, but rather fixed mockups
    - Users can't muddle through and explore as much as they would in real life

Usability Testing

Empirical, qualitative and/or quantitative research that usually involves users. At least one method among the following list should be done as a minimum quality assurance effort.

User Testing

This is the process of observing real users try to perform steps of a given task while sharing their thoughts aloud. Early in the development process, User Testing may be done to help form a better design or at any later point to test and evaluate an existing design.

- UserTesting's Complete Guide to User Testing
- UserTesting's tip sheet on Minimizing Bias in User Testing
- UXPA's detailed description of Usability Testing with Users
- Can and probably should be done at every phase of the development process, with mockups, prototypes, and beta versions
- Pros

    - Provides the most relevant results
    - Most reliable form of Usability research
    - Can be done at any phase of development
    - If the dev team is present during testing, maybe in another room and viewing the test by means of screen-casting software, they can develop empathy for common user frustrations and concerns
- Cons
    - Time can be wasted if the right goals aren't chosen to begin with
    - If sessions go too long, users can become fatigued
    - If too many users are testing the same feature, you will most likely get the same answers over and over again—try splitting up tasks for a large group

Remote User Testing

This process is just like in-person testing, but is implemented through such tools as follows:

- Usabilla
- UserTesting
- Chalkmark by Optimal Workshop

User-less Test

This process involves getting data from analytics and other tools and provides various forms of metrics from different sources. It usually requires a working product, although not necessarily finalized.

- Google
    - Mobile-friendly Test tool
    - Dev tools audit for Progressive Web Apps
- World Wide Web Consortium
    - HTML Validator
    - CSS Validator
- Accessibility
    - Vischeck color blindness image filter
    - Toptal color blindness web filter
- Pros
    - Quick and easy
    - Verifiable and authoritative
- Cons
    - Not always easy to find a tool that provides relevant metrics

UX for Games

The following resources are specifically related to the iOS game:

Game Testing

This process is pretty much an essential part of game design, although it would normally come very late in the traditional manufacturing process/product lifecycle.

- UserTesting's helpful game testing checklist
- Om Tanden's somewhat dated but helpful game UX testing article that has useful info on how to avoid bias in testing
- Jakob Nielsen's somewhat recent article on how game testing differs from traditional UX
- Tom Sloper's somewhat dated but detailed and helpful FAQ article on bug reports
- A couple of NNg researchers' assessment of the effects of AR on UX

Apple Requirements

- Apple's App Review guidelines
- Apple's Human Interface guidelines