Mobile User Experience Research Project Plan

Details to set up a successful mobile usability test

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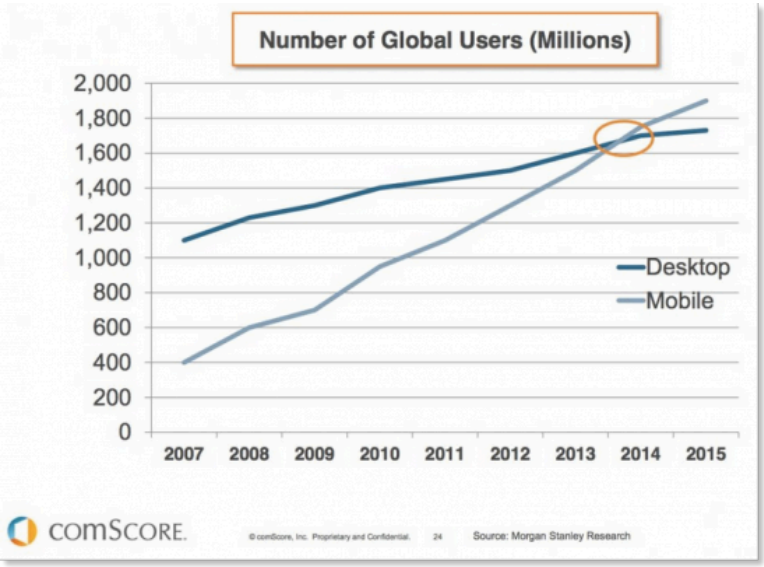
Executive Summary

The purpose of this document is to outline a plan for setting up a mobile user experience research practice. As more people purchase and use mobile phones and tablets, traffic for websites on these devices will increase exponentially year after year. When users want information fast or need to use a site away from their main computer, they will use their mobile device and expect to be able to do most (if not all) of the same activities they have done before. For that matter, research has shown that some people are moving away from traditional laptops and desktops to use phones and tablets as their main source of computing. To that end, not optimizing for mobile will damage brand perception and increase customer satisfaction; allowing your website to just display as it normally does will not account for different screen sizes and resolutions, and will certainly be difficult for touch input as opposed to using the traditional mouse set up. In order to figure out what users expect to do on these mobile devices, and how they interact with them in general, user research can be conducted throughout the product lifecycle. Even though the rise of mobile devices is fairly recent, testing methods have already been developed to accurately observe and test sites and apps for designing a better user experience. There are many different ways to conduct this research, but the one provided in this report will allow for the most flexibility for both the user and stakeholders. By using the subsequent plan and following standard user research best practices, stakeholders will be able to watch users interact with their site or app, understand what a user's goals are, and determine usability weak spots to focus on for further development and fixes.



The circled area is described as the "mobile tipping point," showing that mobile usage is increasing rapidly as desktop usage is slowing. Data from ComScore's "The U.S. Mobile App Report" in 2014.

Set Up Details

Hardware and Software

- 1 laptop or desktop computer for the testing room. For general reference, any current generation MacBook Pro or high level PC should have the appropriate hardware.
    - Must have a high capacity, fast hard drive to handle recording and storing of all sessions for a given study. These files can be 2-4GB each. Drive should be no smaller than 500GB and at least 5400rpm. Solid State Drive preferred.
    - Current generation Intel Quad Core Processor with at least 2 GHz of power. Up to date video and sound cards.
    - Ethernet to make sure there is a fast Internet connection to share device video.

Figure 1 - Mr. Tappy mobile device camera sled

- 1 HD resolution webcam with internal microphone to connect to the above mentioned computer for recording activity on the mobile device, as well as participant feedback. Logitech and Microsoft make appropriate options. A document camera, like one made by Elmo or Ipevo, can also be used. It is better if the cord is longer than not so that the user will be able to move around with the device and camera at their will.
- 1 mobile device camera sled
    - These can be purchased from retailers making them from high quality material, such as the Mr. Tappy (Figure 1).
    - However, homemade solutions are just as feasible and look/behave just as well. A homemade version requires a piece of hard plastic to be heated and bent at specific points to provide for appropriate angles. A drill may also need to be used to make sure mounting materials can be added for the webcam. Further improvements can be made so the sled adjusts in height to record tablets. An example of this kind of device is seen in Figure 2.

Figure 2 - A homemade mobile sled

    - The mobile device attaches to the sled using a case with Velcro so a participant can pick up the whole rig and use the device as they normally would. Having multiple device cases prepared allows a participant to use their own phone for the session.

- 1 Polycom-style office speakerphone, for transmitting audio to the web conferencing/screen-sharing tool.
- 1 copy of TechSmith Camtasia –OR– Morae for recording the usability sessions; video of device and audio will be captured from the webcam.
- 1 license/access to web conferencing and screen sharing tool such as Webex or GoToMeeting for remote viewing.
- An up-to-date external computer and monitor set up for observation of device screen. As long as the device can connect to the Internet and render video properly, most of the other specs do not matter.

Physical Space Requirements and Placement

Ideally, the participant and moderator will sit in a "lab" type setting with one-way glass attached to an observation room. The moderator will sit off to the side to officiate the session, and will be able to look at the monitor of the computer attached to the mobile sled to view what the participant is doing on the device. This prevents the need for the moderator to be constantly hovering over the participant's shoulders to capture behavior. The participant will sit diagonally across from the moderator and will be presented the mobile sled. At that point, the participant will be instructed that they can pick up the device and hold it any way they please, as the sled with the camera is attached to the phone or tablet. Some participants may leave the device on the table, but others will pick it up, rotate it, rest it on their legs, or some combination of more natural use behavior. The camera pointing at the device will be shared via the screen-sharing tool, and recorded using one of the TechSmith products. The observation room will be able to watch the participant through the window, and an external screen in the room will be tuned into the screencast so observers can view activity on the device. If no such lab is available for testing, one room will be designated the testing room and have the same set up as previously mentioned. The observers will be sitting in a different room and will connect to the screen-sharing tool to watch how the user interacts with the device while hearing their feedback and the conversation they will be having with the moderator. To that end, remote observers can connect to the same screencast to watch the session from any location. This allows for any and all team members (even those from other offices) to get involved in the research process; once people are observing user behavior they will be more "bought-in" to the idea of creating user centric designs and functionality moving forward.

Final Thoughts

This is only one of the many ways that one may conduct a usability study with a mobile device. The major downside to this methodology is that users must travel to the lab facility to participate in the sessions with the sled device that records their experience. This can be frustrating if people in the geographic area where the testing happens are not truly representative of the full user base. Some companies have found success in sending sled devices along with instructions to users in different parts of the country to get more feedback from people of diverse demographics (UserTesting.com did this in the beginning to start their mobile device testing service). However, this set up has fewer downsides compared to other research methods such as "laptop hugging" (where a user wraps their arms around a laptop with a camera, and their device interaction is recorded that way; it can be used in a pinch but is far from reasonable for the user) or apps that record the screen of the device as the participants use it (this will not capture finger positioning and movements for understanding gesture use, and won't allow for testing of other applications). Once all of this equipment is purchased it can be used for all sorts of mobile testing going forward, as well as for recording tests with paper prototypes since the sled basically acts like a document camera.

Photos & Plan View of Physical Set Up and Device Configuration