

Rapid use study of the iPad on a campus bus

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Introduction

Mobile computing technology offers the promise to make possible a range of service innovations. Truly innovative services move beyond the mobile friendly website and can include location specific information access such as augmented reality overlays of context-specific information. Augmented reality approaches work to create a dynamic, interactive, multimedia experience with the phone's graphics and camera hardware, making possible a tighter melding between the digital and physical realms, and library services that have no analog with previous desktop computing experience (Azuma, 1997). To be truly useful a mobile application will leverage the attributes of mobile computing contexts. The open problem for library and information science practice is to make real these transformative innovations. A crucial, and extremely significant missing element in the literature of mobile computing for libraries is research on the context of use and users. Specifically: what do users do on their mobile devices when they search for information; to what extent does their changing environment impact this search for information?

Aim

This research investigates the use and user context of mobile computing through an ethnographic lens. This lens reports a slice of the phenomena of information access in mobile settings, reporting tentative findings that tell librarians and campus administrators:

1. What users like about mobile devices
2. The use of mobile devices in urban settings
3. What works in the urban information seeking context

Rapid Ethnography

This is a rapid ethnographic use study (Millen, 2000): data sought are qualitative user preferences of the iPad in the field, taking a probing approach in order to gather use data quickly. Ten total participants are recruited for this study.

The rapid ethnographic approach does not necessarily produce a representative sample of all undergraduate students riding the bus. Rather, this probing technique allows librarians to begin to understand what the role of the university library might be with technologies like the iPad in special environments such as the campus bus. The value of this method is essentially to quickly form ideas for pilot library or campus services.

Avoiding the problem of sampling by convenience I boarded the bus far from the campus library and at the most remote dorm location on campus. I am not a regular on such a bus line and do not regularly make use of any campus bus. As an underlying stressor to the study large groups gathered in compact areas tend to make me extremely uncomfortable. The study commenced once I was on the bus, I asked potential participants if they wanted to take part in a study on the iPad, and then began explaining the study, if they were interested in participating.

Use Questions

1. Where are you going?
2. Please use this iPad to search for any information you need before you get there.
3. What do you think about using the iPad on a bus?

(Prompt about: information desired, searched for, information found, comments about the device, the iPad interface) :
4. Is there anything special about this journey? Is this a routine trip, or is there something not very routine about where you are going?

Results

Failing Fast

In previous rapid use research my colleagues and I worked from the premise that in order to understand how to get to usable mobile access tools, we needed to uncover what does not work for mobile use (Hahn, et al., 2011) We call these "fail points," and in mobile computing research we are successful if we can quickly identify those fail points. We conceptualize the rapid prototyping research process as one that would induce us to discover the fail points of mobile computing quickly so that we would be able to build something that does work for students.

I observed students unsuccessfully attempting to log into the compass course management system. I had initially considered the cause of this to be the keyboard interface of the iPad, which is not well suited for password entry. Neilson found the same type of usability issue in reviewing mobile apps: writing that mobile apps require low barriers to use, and a sign on mechanism is a detriment to this (Nielsen, 2010). However, I came to understand that the course management site does not support access for the mobile Safari browser. The iPad will not login even with the correct password by students, since the iPad is not loaded with a browser that is supported by the course management system.

While many users considered the iPad to be useful on the bus a few students believed the iPad to be too large for bus use; it weighed too much to be brought on the bus. Another thought that while the iPad is useful, they would not bring it on the bus since they would be concerned with the iPad getting stolen.

Mobile search successes

The number of students that reported the iPad as being useful where in the majority, with seven out of the ten students saying that they thought having an iPad on the bus was useful. This students notes what she liked about the iPad on the bus:

"...the bus was bumpy but the iPad was fun and easy to use. I love the size of the screen, much better than a laptop especially for a bus."

Another student compared the interface to their iPhone:

"Its pretty big so I probably wouldn't use it on a bus although it was easier to type on than an iPhone (internet was not functioning)."

Unexpected results

Students performed searches for the menu of the dining hall as well as hours of operation. Food figured into nearly half of all the student responses. One student mentioned that they were not on a routine journey because they had "decided to eat breakfast today," and were therefore running late and on a different bus than usual. I did not expect the dining hall menu questions, and wondered about the library tie-in. There may not be a library service to design an app here. About half of the students interviewed were on their way to class, but not all students going to class had class related searches. Two students going to class searched for the weather. If a student had a test she wasn't quite sure what to search for. Her focus was not so much on searching for information. She wondered aloud: "I just don't know what to expect for the exam." On her way to the exam does not seem to be the time for the student to search for information on the iPad. This may indicate that while students may have access to information in increasingly ubiquitous ways, they do not necessarily require such ubiquitous access, since there are times when the search for information is simply not desired. It appeared that students would search for course information after class more so than on the journey to classes.

Search Context

I was interested in knowing how the users journey, such as destination and also the reported routineness of the journey may impact the information searched for. The routine journeys were to class or the dining halls. If a student was on her way to class, she sometimes searched the weather, or alternatively wanted to log into their campus class management system. In one case a journey to class meant that the student was interested in searching for information directly related to the course. The students heading to the residence halls were interested in dining hall hours and then also thought that they would like to know what is on the menu for lunch. About half the students who participated were on their way to class and the other half were on their way to the residence halls.

Non-routine journeys were of interest in this study. A student who is late for class offered to participate in the study and reported frustration with the iPad. Another non-routine journey was by a student who had just been to the health clinic on campus. Her search on the iPad was specific to her medical condition that she wanted to know more about.

References

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