Feb 10th, 1:15 PM - 2:00 PM

Usability Testing Library Mobile Websites in a Fragmented Smartphone Market

Kimberly D. Pendell  
*Portland State University, kpendell@pdx.edu*

Michael S. Bowman  
*Portland State University, bowman@pdx.edu*

Let us know how access to this document benefits you.  
Follow this and additional works at: https://pdxscholar.library.pdx.edu/onlinenorthwest

https://pdxscholar.library.pdx.edu/onlinenorthwest/2012/Presentations/5

This Presentation is brought to you for free and open access. It has been accepted for inclusion in Online Northwest by an authorized administrator of PDXScholar. For more information, please contact pdxscholar@pdx.edu.
Usability Testing Library Mobile Websites in a Fragmented Smartphone World

Kimberly Pendell & Michael Bowman
Outline

a Smartphone ownership and use
a Smartphone market and trends
a Usability test and results
a Mobile site suggestions and trends
Internet Use by U.S. Smartphone Owners

Pew Internet & American Life Project, April–May 2011

- 35% of Americans owned a smartphone in April, 43% by December (Nielsen)
- 69% typically go online daily using their smartphone: 81% of 18–29 yo, 71% of 30–49 yo, 44% of 50+ yo
- 25% go online *mostly* using their smartphone, particularly: 42% of 18–29 yo, 38% of African-Americans and Latinos, 40% of < $30,000 annual income, 33% of high school graduates with no college
The Smartphone Landscape

- iOS
  - Apple
- Android
  - Google
    - Acer
    - Aucatel
    - Archos
    - ASUS
    - Casio
    - Dell
    - HTC
    - Huawei
    - KTF
    - Kyocera
    - Lenovo
    - LG
    - Microsoft
    - Motorola
    - Msi
    - Panasonic
    - Samsung
    - Sharp
    - Sony
    - Toshiba
    - Vizio
    - Zte
- Windows Phone
  - Microsoft
    - HTC
    - Huawei
    - LG
    - Motorola
    - Nokia
    - Samsung
- Oracle
U.S. Smartphone Market Share, 2010–11

Sales per quarter

Source: NPD Group Mobile Phone Tracker
Android OS Version Market Share
January 2012

Source: developer.android.com
Trends

a Android’s future
a Monopoly, duopoly or triopoly?
a The future of feature phones
a The effect of tablets
Field Testing vs. Laboratory Testing

- Field testing: difficult to have reliable method for reporting back user experience; high level of participant cooperation required
- Laboratory testing: important usability problems with mobile website can be easily missed
Our Version of Hybrid Usability Testing

- Recruit participants to test site with their own phones
- Controlled environment with recording capability
- Predetermined tasks
- Time for user to explore site independently
- Post-test survey
Recruiting Participants

- Facebook post on library account
- Announcement in library news blog, appearing on library homepage
- Flyers in the library and campus bulletin boards
Document Camera as Recording Device
Results

- Participants slow to connect the task of searching for a book with label “Search PSU-only Catalog”
- Multiple problems with chat reference
- Lack of mobile-friendly proxy authentication, error messages and linked forms
- Slow page loading
- Problems unique to different devices
Website Display Comparison
Smartphone vs. Feature Phone

<table>
<thead>
<tr>
<th>Portland State University Library</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hours:</strong> 8:00 am-6:00 pm (Today)</td>
</tr>
<tr>
<td><strong>My Library Account</strong></td>
</tr>
<tr>
<td><strong>Search PSU-Only Catalog</strong></td>
</tr>
<tr>
<td><strong>Databases &amp; Articles</strong></td>
</tr>
<tr>
<td><strong>Find a Computer</strong></td>
</tr>
<tr>
<td><strong>Ask Us!</strong></td>
</tr>
<tr>
<td><strong>Directions</strong></td>
</tr>
</tbody>
</table>

PSU Library Full Site | 503.725.5874 | Site Feedback
## Connectivity & Authentication

<table>
<thead>
<tr>
<th>Internet Connection</th>
<th>Library Mobile Website</th>
<th>Chat Reference</th>
<th>EBSCOhost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSU unsecure wi-fi</td>
<td>No authentication</td>
<td>Authentication required</td>
<td>Authentication required</td>
</tr>
<tr>
<td>PSU secure wi-fi</td>
<td>No authentication</td>
<td>No authentication</td>
<td>No authentication</td>
</tr>
<tr>
<td>Cell network</td>
<td>No authentication</td>
<td>No authentication</td>
<td>Authentication required</td>
</tr>
<tr>
<td>Off campus</td>
<td>No authentication</td>
<td>No authentication</td>
<td>Authentication required</td>
</tr>
</tbody>
</table>
Notable Post-Test Survey Results

- High ratings for appearance and ease of use
- Search for articles on mobile website
  - 9 of 12 participants selected weekly or more than weekly
- Use “Find A Computer”
  - 8 of 12 participants selected weekly or more than weekly
  - “Everyday” and “Very important”
Usability Tips for Mobile Sites

- Essential, user oriented content
- Consider the user’s mobile context
- Navigation as simple as possible
- Design for screen rotation
Learn From Our Mistakes

- Consider the variety of ways users connect to your mobile site and how that might impact their use of site features
- Don’t make your usability tasks so simple that you waste the opportunity to get more in-depth information
- Expect the unexpected
## Portland State Smartphone Share

Usability study (May) & mobile website analytics (Sept.–Jan.)

<table>
<thead>
<tr>
<th></th>
<th>Study Volunteers</th>
<th>Website Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Android</td>
<td>31%</td>
<td>23%</td>
</tr>
<tr>
<td>iOS</td>
<td>52%</td>
<td>70%</td>
</tr>
<tr>
<td>BlackBerry</td>
<td>4%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Windows Phone</td>
<td>4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>webOS</td>
<td>4%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Possible Futures of Mobile Web Design

- Progressive enhancement
- Responsive design
- Mobile first

Questions?