Reorganizing the relationship of digital library resources and library-as-place through mobile devices and QR-codes – preliminary examination of user experience latitude through an user experience framework

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Background

There is a lot of potential in the variables of physical space and location for the purpose of enhancing the user experience of digital library resources.

New studies in customer perceived value are stressing that as technology allows multiple interactions on both multiple locations and times, perceived value also depends on bringing together right resources and users at the right time and place (Heinonen, 2004).

As the library patrons are more accustomed of using smart phones and tablets, more library services can be designed using the approach of ‘bring your own device’.

With the possibilities brought by increased mobile device usage, libraries are now able to rethink and reorganize the relationship of digital library resources and physical library space.
A way of integrating library’s e-resources into spatial design

QR codes in learning spaces + Which open designed content to students mobile devices (e.g. a Confluence CMS or a LibGuides software)

Remote access to resources is granted Through the Libproxy technique

Students can run the searches on their mobile devices

Students can download the found e.g. articles to their devices for later offline use
But how to systematically examine the possibilities of this technique?

Can e.g. user experience be studied at the level of an learning environment?

Or are they "just QR codes"?
An attempt to study the user experience of these applications through Garrison’s (2003) framework
The evaluation was done for two existing QR code portals, one used in the Aalto University Library, one in the Purdue University Libraries.
## A summary of results

<table>
<thead>
<tr>
<th>Surface plane</th>
<th>QR code portal I – A single database, Figure 4 (Aalto Univ. Lib.)</th>
<th>QR code portal – “Big 6”, Figure 5 (Purdue Univ. Lib.)</th>
<th>Variation within learning environment level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Design</td>
<td>Poster draws from a single user need.</td>
<td>Poster utilizes a simple, block-style layout.</td>
<td>Differentiated visual designs presenting resources utilizing associations.</td>
</tr>
<tr>
<td>Interface design</td>
<td>Navigating through clicking links of the landing page (CMS).</td>
<td>Navigating through choosing link from poster, then selecting links of the landing page (LibGuide).</td>
<td>Allows the streamlining of interface design to providing selected digital resources.</td>
</tr>
<tr>
<td>Navigation design</td>
<td>Prominently a two-step design of navigating into a database resource.</td>
<td>Consists of navigating in the mobile LibGuide and in the databases provided by it.</td>
<td>Increasingly database resource oriented navigation.</td>
</tr>
<tr>
<td>Information design</td>
<td>Domain and resource specific. Mobile use oriented.</td>
<td>Resource focused, covering engineering domain.</td>
<td>Brings forth domain and resource specific information designs and mobile workflows.</td>
</tr>
<tr>
<td>Interaction design</td>
<td>Arranged around the mobile use of a single databases interaction design.</td>
<td>Arranged around the use of a mobile Libguide and from the interaction with the databases.</td>
<td>Selected user interaction designs may be brought forth (e.g. by presenting instructions on the landing page)</td>
</tr>
<tr>
<td>Information architecture</td>
<td>Arranged around the target database and its mobile use.</td>
<td>Arranged around a domains most significant databases.</td>
<td>Allows information architecture be arranged around selected domain specific resources. Mobile use may be supported.</td>
</tr>
<tr>
<td>Functional specifications</td>
<td>Easing both the physical and intellectual accessibility of a database resource.</td>
<td>Easing both the physical and intellectual accessibility of a set of database resources.</td>
<td>Allows the streamlining of functional specifications to providing mere digital resources.</td>
</tr>
<tr>
<td>Content requirements</td>
<td>Same as above.</td>
<td>Same as above.</td>
<td>Allows the streamlining of content requirements to providing mere digital resources.</td>
</tr>
<tr>
<td>User needs</td>
<td>Location specific.</td>
<td>Location specific.</td>
<td>Allows to focus on the user needs present in an individual space.</td>
</tr>
<tr>
<td>Site objectives</td>
<td>Responding to the user needs present in a single physical location.</td>
<td>Respond to the user needs present in a single physical location.</td>
<td>Allows the creation of varied site objectives that take into account varied physical sites.</td>
</tr>
</tbody>
</table>
Discussion

• By taking a single physical location as the starting point of service design, all of the elements of user experience may be adjusted to respond to the user needs inherited within it.
• With all content, not just journals, becoming increasingly electronic in format, it can be challenging to identify and remind students in the library of how to get to all that content. The QR codes enable students to identify relevant content and to access it quickly, without having to click through layers of the library web site.
• Communicating about the time dimensions of library services and different mobile workflows should be also investigated further. When ubiquitous technology functions as the mediator of services, the expectations about the delivery time may be blurred.
• This study also illuminates the hardships of examining user experience at the learning environment level.
• The applying of QR codes also extends into more that is possible to discuss here. This technique also allows incorporating service products of international collaborations to be visually present in any physical library environment.
We hope to see ventures within the library field utilizing the full potential of this technique in the near future.

Thank you!

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References
