Responsive Web Design: Single Design for multiple devices - A case with UNISWA Library website

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Introduction

- Proliferation of different devices to access internet
  - Desktops
  - Tablets
  - Smart mobile phones

- Growth of portable and handheld devices

- Mobile acceptability the choice of younger generation

- Challenges with the availability of limited desktop devices

- Mobile based learning landscape in academic institutions
Library Home Page desktop vs Mobile

www.library.american.edu
Available options

- Separate websites for desktop and mobile devices
  - Running parallel websites for both users
  - Strip-down separate website for mobile users
  - Mobile only version of existing website

- Single design for all the devices
  - Compromise on content
  - Compromise on layout and designs
  - Compromise on input options

- Website for desktop users and an application for mobile devices
  - Multitude platform and development issues
How to decide on the need

- User inputs
- Interviews
- Page statistics of desktop website visits
- Mobile using habits of the users
  - Familiarity of using mobile devices for browsing
  - Access points of mobile devices
  - Content preference while browsing mobile devices
- Mobile application vs. mobile website
The survey - Population

Survey Population 221 100%

- Faculty 22 9%
- Other Staff 4 2%
- Students 195 89%
Results and Decision making

- Majority of users use smartphones (95%)
- Willingness to accept mobile solution
- Most users are familiar with using internet through mobile phones (97%)
- Most users use datapack and pay for using internet (68%)
- Balance content but preference is text
- OPAC as the important link followed by E-Resources and Circulation (85%) & (68%)
Single design for multiple devices

- Problems of running parallel websites
  - Updating
  - Developing
  - Maintaining two different websites
- Responsive web design
- Single design which can accommodate variety of devices
Responsive web design

- A single design for multiple devices
- A flexible grid and layout and intelligent use of CSS media queries to automatically switch and accommodate different resolutions
  - Adjusting screen resolution
  - Flexible images
  - Maximum width 100%
- Wireframe design structure with flexible column grids to readjust the content and fluid design process
- CSS3 media queries
  - Min width, max width, orientation, colour
- Responsive layout
  - Showing or hiding content with flexible layouts
- Automatic zooming and easy navigation
  - Touch screen vs. cursors
Responsive web design – The content

- Basic design recommendations of the mobile web best practices report
- Platform & device independent website design
- Easy menu button selection
- Single column design for mobile websites (to avoid automatic zooming all the way to fit the screen)
- Minimal navigation
- Avoid flashy and Unsupported file types (flash, java scripts, applets, frames, pop-ups, scrolling)
The Result
Challenges

- Outdated browsers > IE 7.0 problem with media query transfers
  - Conditional css with an option to identify the browser
- External links with non responsive content
  - Electronic databases
  - Separate windows as target windows
- Online Public Access Catalogue dynamic html on the fly
  - Object windows as option
- Unable to exploit mobile specific applications
  - location, push, barcode scanning, QRcode, camera etc.,
Testing and validation

- Desktop website – straightforward testing methods
- Mobile simulation – cumbersome process
  - Mobile Okchecker (http://www.w3.org/TR/mobileOK/#check)
- Testing and Validation as an ongoing process
Useful mobile website testing tools: MobiReady

The mobiReady testing tool evaluates **mobile-readiness** using industry **best practices** & standards.

The free report provides both a score (from 1 to 5) and in-depth analysis of pages to determine how well your site performs on a mobile device.

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**Page Test**
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- Enter the URL of the page you want to check

**Site Test**
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- Opera mini simulator
- Adobe Device Central CS5
- iPad peek
- Iphoney
- W3C mobileOK Checker
- GoMoMeter
Conclusion

- Close to 1100 mobile devices registered in our device registration system which share the access point
- With minimum graphics and using most of the recommendations of minimum design recommendations a good library website is possible
- Provide OPAC, E-Resources and Circulation as main links
- As a future project create a separate app for OPAC