

Design and testing of mobile library websites: Best practices in creating mobile library applications

John Paul Anbu K. and Sanjay Kataria

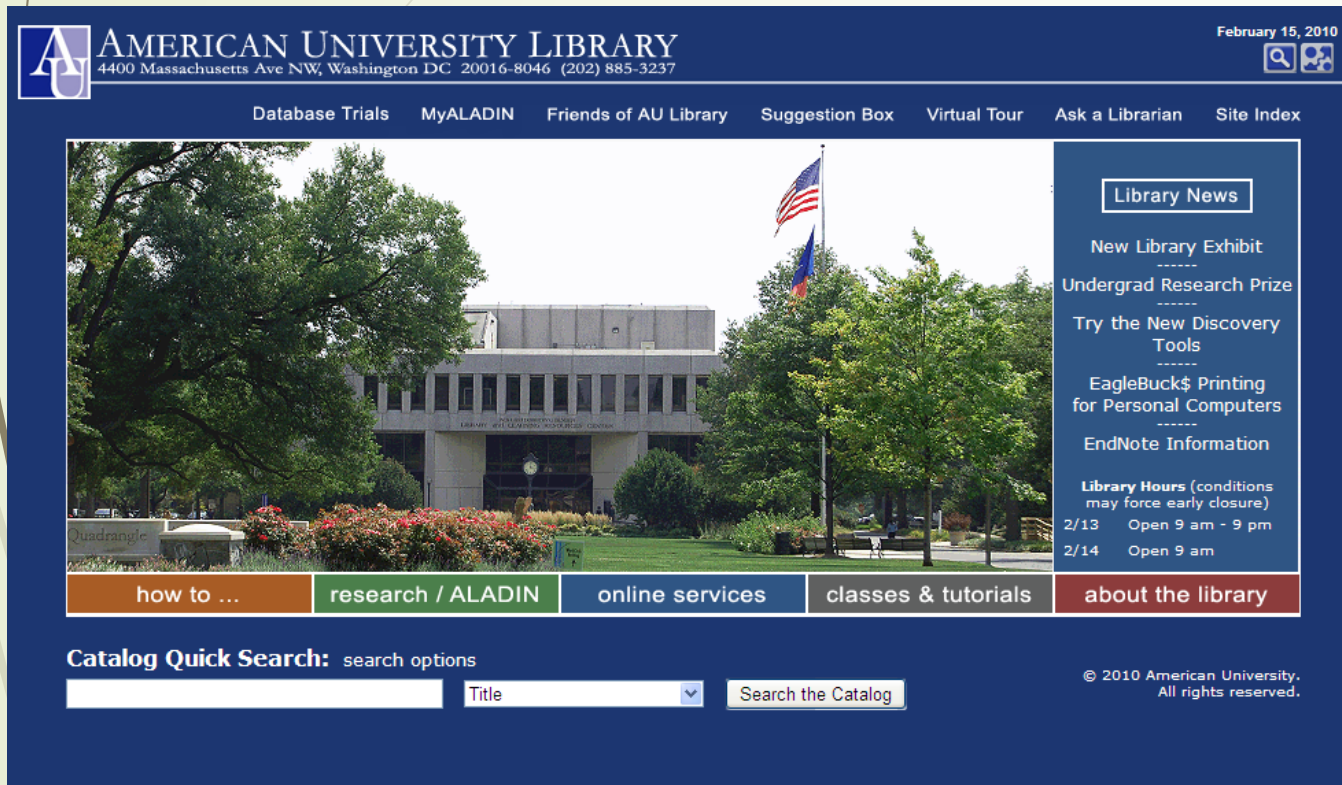


Introduction

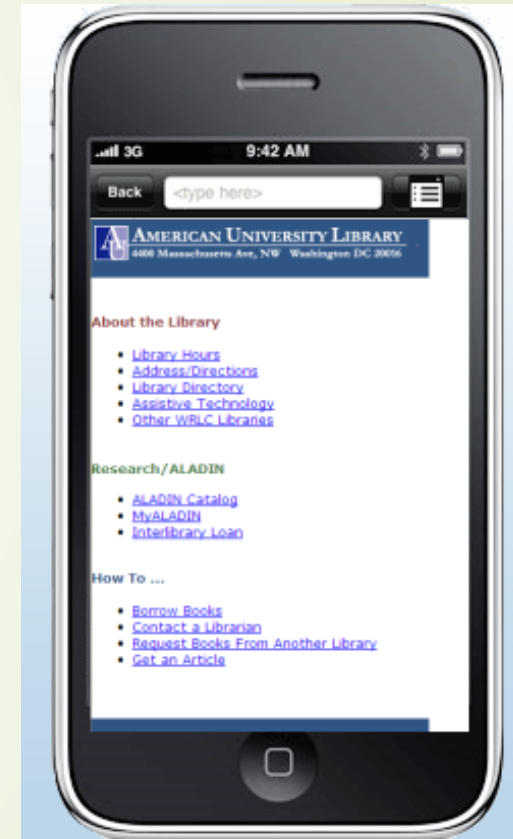
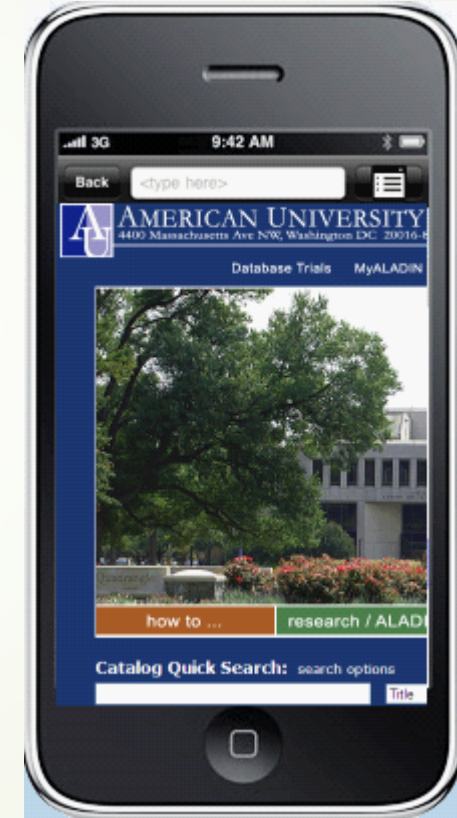


- Desktop websites Vs. Mobile websites
- Web page on a mobile device often results in a poor or unusable experience
- limited screen size
- Subject matter of the page may require considerable scrolling
- Input problems
- Bandwidth and cost

Library Home Page desktop vs Mobile




www.library.american.edu



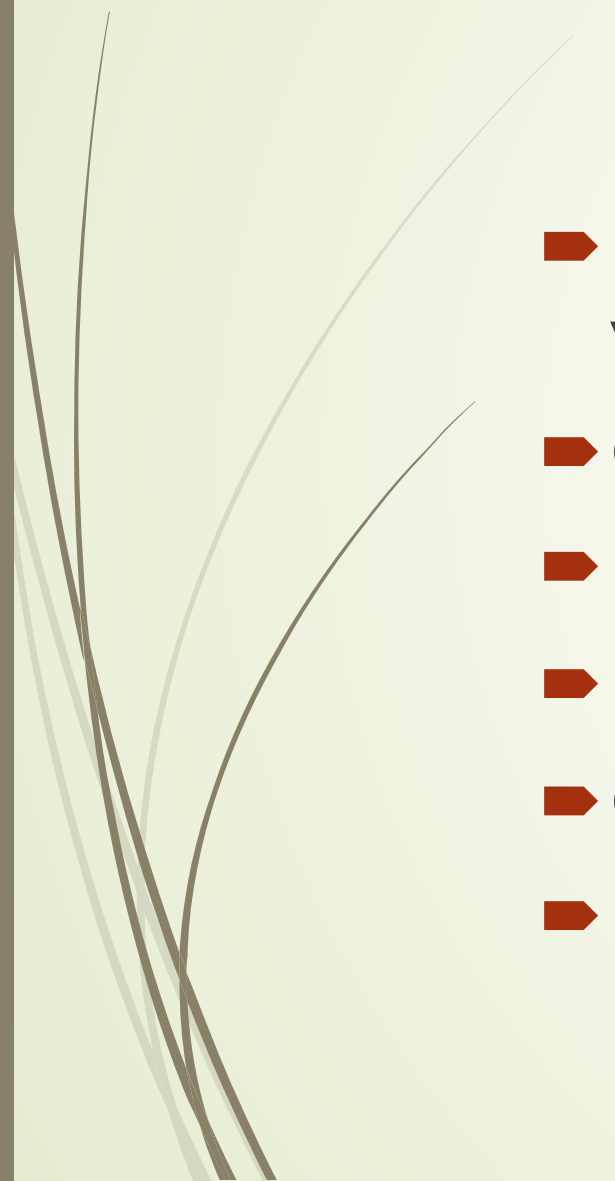


Mobile Library Websites – Where to Start

- User inputs
 - interviews
 - Page statistics of desktop website visits
 - Mobile using habits of the users
 - Mobile application vs. mobile website
- 



Mobile Library Websites – The content

- 
- Basic design recommendations of the mobile web best practices report
 - Optimized output of mobile website design
 - Platform independent website design
 - Device independent website design
 - Optimize the screen size
 - Easy menu button selection



Separate Mobile URL and redirecting the users

- Separate website Vs separate mobile app
- Responsive web design (bend, flex and expand)
- Parallel websites for desktop and mobile users
- Server based PHP to detect device type – “UserAgent string”
- Screen size optimization
- Different navigation menus for desktop and handheld
- Limited graphics
- Separate Cascading Style Sheet (CSS) for specific devices to adjust without compromising the content (Google autoconvert)




Simple Design

- Concern for Data charges
- Single column design for mobile websites (to avoid automatic zooming all the way to fit the screen)
- Minimal navigation
- Input difficulties (Virtual keyboards)
- Absolute sizes instead of percentage sizes
- Avoid Flashy desktop technologies
- Unsupported file types (flash, java scripts, applets, frames, pop-ups, scrolling)
- Avoiding fancy items (to minimum)



Mobile Library Websites – Testing and Validating


- Preview options
 - Standards and best practices
 - mobileOk checker
 - Random testing of checking
 - W3C best practices guidelines
- 

Useful mobile website testing tools : MobiReady

mobiReady

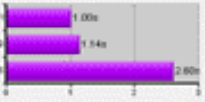

YOU ARE HERE: [home](#)

Username: Password:
Use your mobiForge sign-in - [Sign up@mobiForge](#) - [Lost password](#)



5

Overall
GOOD



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.

[How do you Compare?](#)

Page Test

Markup Test

Site Test



Provides results for a single page

- ✓ dotMobi compliance
- ✓ W3C mobileOK tests
- ✓ Detailed error reports & much more!

Enter the URL of the page you want to check

URL

[More Options](#)

Useful mobile website testing tools : Gomez



The screenshot shows the Compuware APM Mobile Performance Test tool interface. The header includes the Compuware logo and navigation links: Products, Solutions, Learn, Services & Support, Partners, and About. The main content area features a blue background with a world map and images of a laptop, tablet, and smartphone. The text 'MOBILE PERFORMANCE TEST' is prominently displayed. Below this, three bullet points list the tool's benefits: understanding mobile user experience, gaining visibility into mobile carrier performance, and determining the impact of third-party services. On the right, a form titled 'How is your mobile website performing? Find out for FREE!' includes fields for 'Enter URL', 'Test Location', 'First Name', 'Last Name', and 'Business Email'. The 'Test Location' dropdown menu is open, showing options for North America, including CA - Toronto - Rogers, US - Ashburn - AT&T, US - Miami - Sprint, and US - New York - Verizon. A green 'SUBMIT' button is at the bottom right.

Compuware

Products Solutions Learn Services & Support Partners About

Compuware APM

How is your mobile website performing?
Find out for FREE!

Enter URL

Test Location **North America**
CA - Toronto - Rogers
US - Ashburn - AT&T
US - Miami - Sprint
US - New York - Verizon

First Name

Last Name

Business Email

SUBMIT

MOBILE PERFORMANCE TEST

- Understand mobile user experience
- Gain visibility into mobile carrier performance
- Determine the impact of third party services

Dotmobi emulator

dotMobi™

Internet made mobile.
Everywhere, every device.



HOME VISION TECHNOLOGY INSIGHTS ABOUT US NEWS CONTACT US

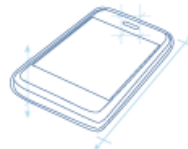
dotMobi's technology is at the core of the best mobile and web experiences

We help companies harness web diversity to provide a competitive advantage in a multi-screen world. [Find out more »](#)

Real-time device Intelligence

Deep device intelligence to detect, adapt, target, analyse. The right experience for the right device in real time, every time.

[DeviceAtlas »](#)



We partner with and deliver mission critical services to industry leaders the world over.

Adobe

VERIO

webtrends

CrossBrowser Testing

[Begin a Test](#)

| Support: 1-888-927-6973

| [Blog](#)

| [Log In](#)



CrossBrowserTesting

PICK AN OS | PICK A BROWSER | TEST A WEBSITE

[Tour](#)

[Plans & Pricing](#)

[Sign Up](#)

Cross browser test your website in
dozens of browsers with instant results

[Watch a Demo](#)



or

[Start a Free Trial](#)




Over 1,000 combinations of browsers, OS, and plugins

[View All](#)



Other useful mobile website testing tools

- Opera mini simulator
 - Adobe Device Central CS5
 - iPad peek
 - Iphoney
 - W3C mobileOK Checker
 - GoMoMeter
- 



The starting point – user survey

➤ Survey location

- IIIT University, Noida, India

➤ Survey Population

- Doctoral
- Post-graduate (M.Tech. and MBA)
- Undergraduate programs (B.Tech.)
- Staff

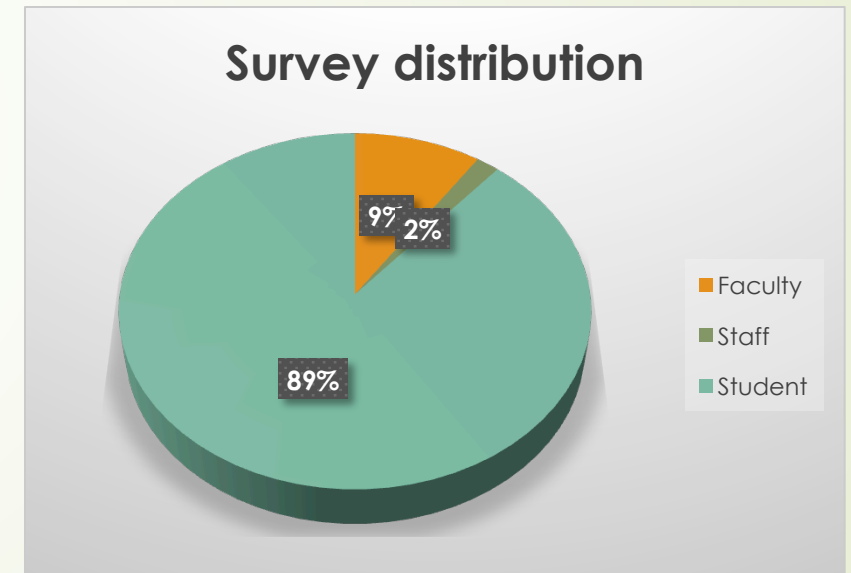
➤ Resources

- Learning Resource Centre (LRC)
- 27000 books and more than 14000, e-journals

The survey - Population

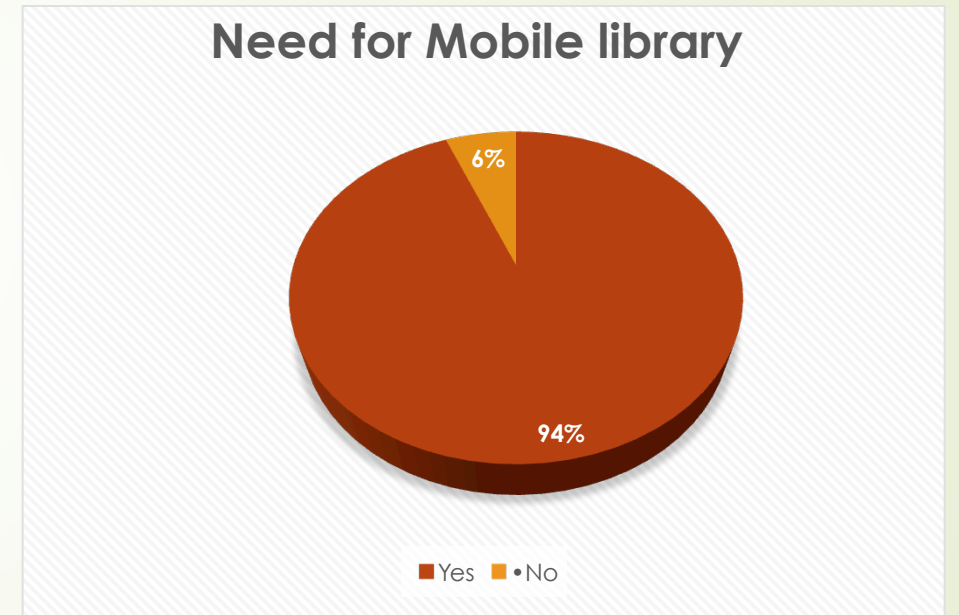
Survey Population 229 100%

➤ Faculty	22	9%
➤ Other Staff	4	2%
➤ Students	205	89%



Resource on mobile phone

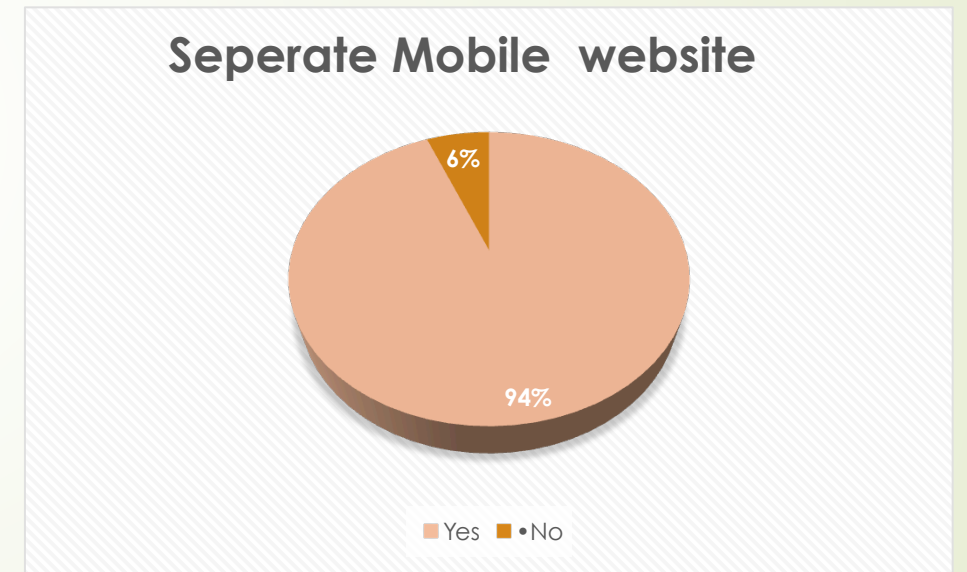
- ➡ Yes 218 95%
- ➡ No 11 5%



Separate mobile library website for MobilePhones

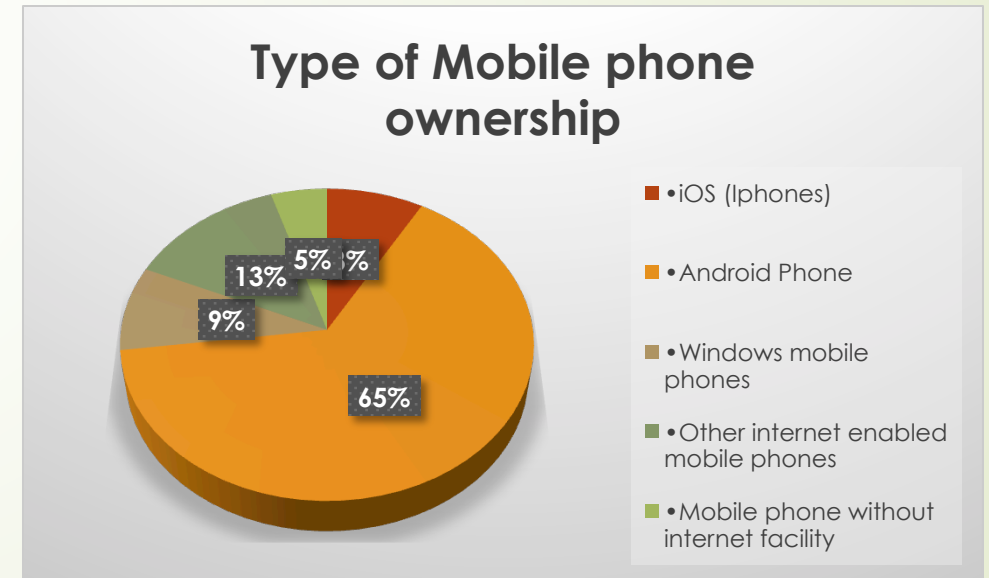
Yes **216** 94%

No **14** 6%



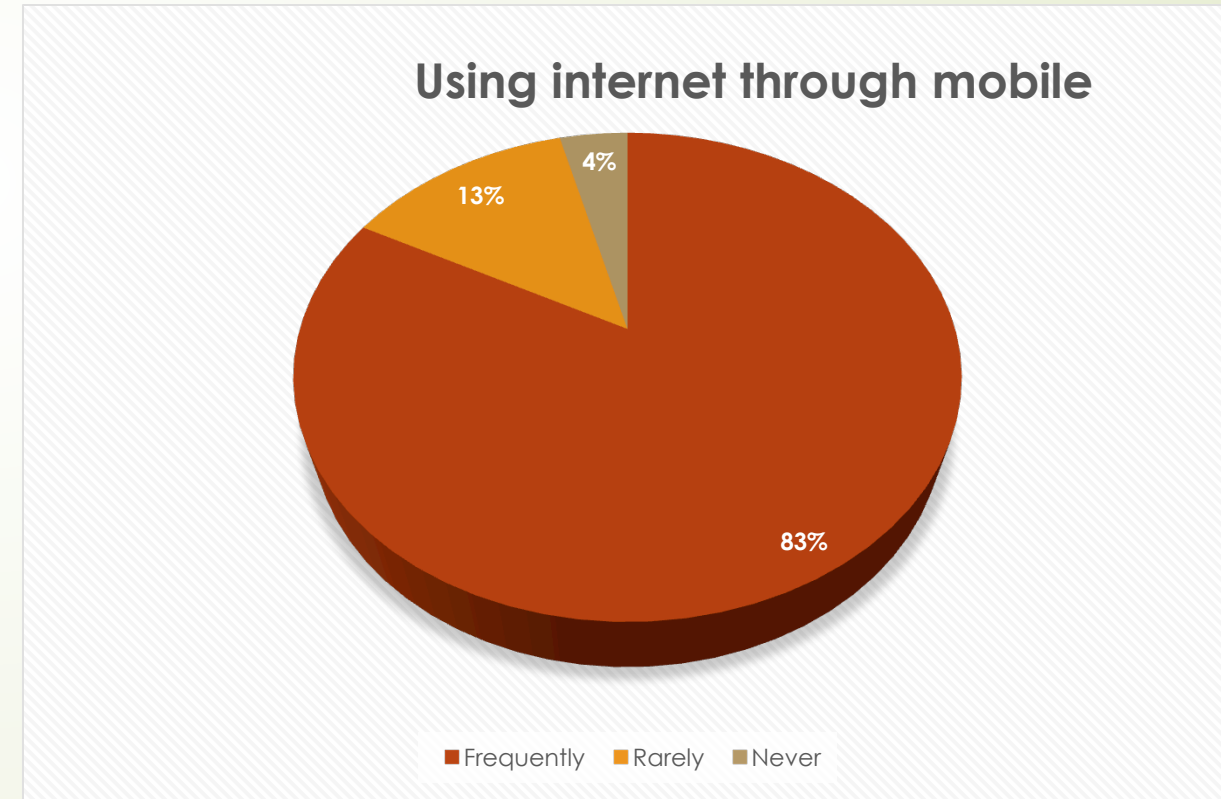
Type of Mobile phone ownership

➤ iOS (Iphones)	19
➤ Android Phone	148
➤ Windows mobile phones	20
➤ Other internet enabled phones	31
➤ Mobile phone without internet	11



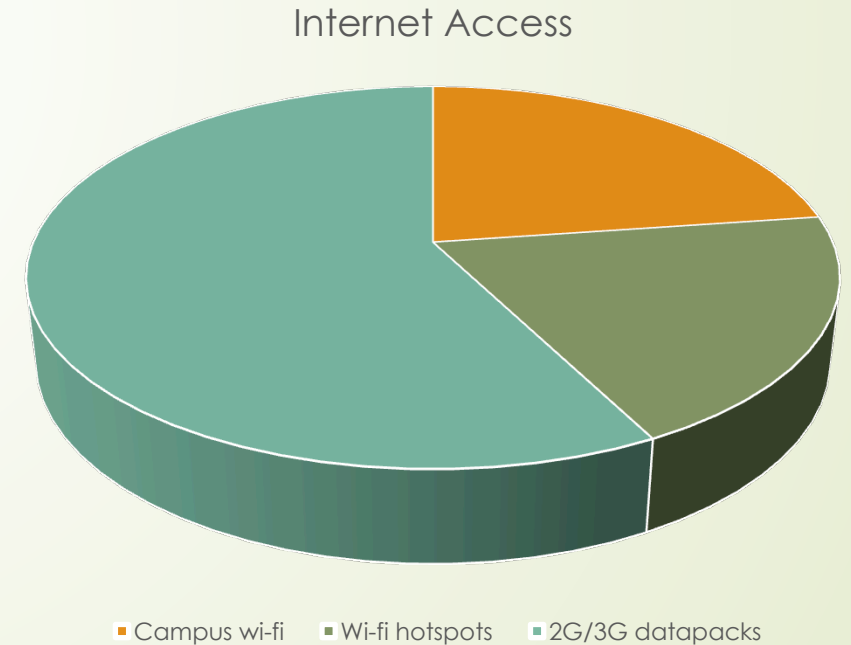
Frequency of internet access through mobile phones

➤ Frequently	188	83%
➤ Rarely	30	13%
➤ Never	9	4%



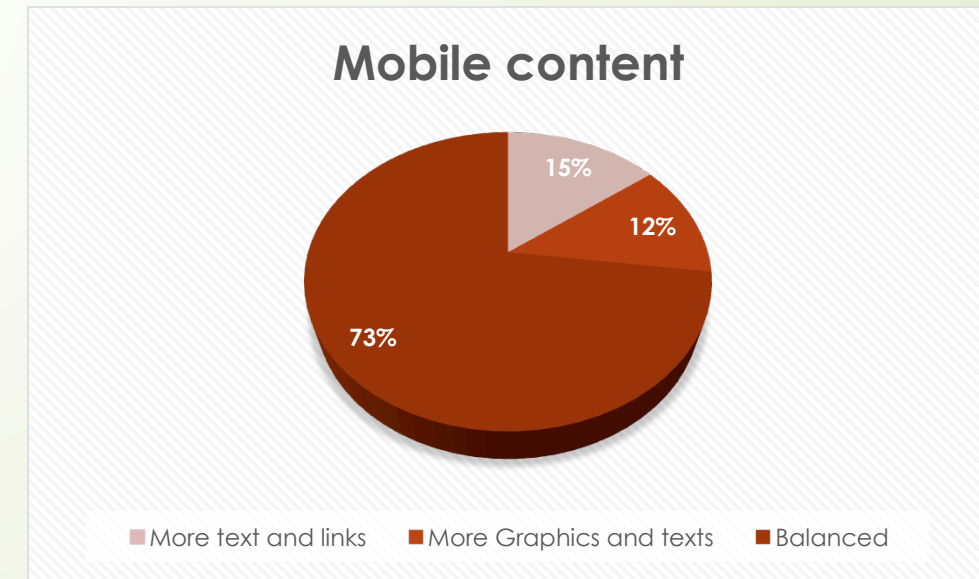
Internet access of mobile phones

➤ Campus wi-fi	51	23%
➤ Wi-fi hotspots	44	20%
➤ 2G/3G datapacks	129	58%



Mobile website preferences

➤ More text and links	33	15%
➤ More Graphics and texts	28	12%
➤ Balanced	164	73%



links preferred in the mobile library website

➤ OPAC (Book search facility)	188 (231)	81%
➤ E-Resource database link	150 (231)	65%
➤ Instructions on how to access databases	84 (231)	36%
➤ Library tours	57 (231)	25%
➤ Circulation related information	145 (231)	63%
➤ Library rules	46 (231)	20%



Results and Discussion

- Type of mobile phones owned
- Willingness to accept mobile solution
- Most users are familiar with using internet through mobile phones
- Separate website for library website
- Most users use datapack and pay for using (content creation)
- Balance content but preference is text
- OPAC as the important link followed by E-Resources and Circulation



Conclusion

- Decision to create a parallel website for mobile users (94% users wanted a new and separate website)
 - With minimum graphics and using most of the recommendations of minimum design recommendations (most users use pay data packs)
 - Provide OPAC, E-Resources and Circulation as main links
 - Create a separate app for OPAC
- 