Design and testing of mobile library websites: Best practices in creating mobile library applications
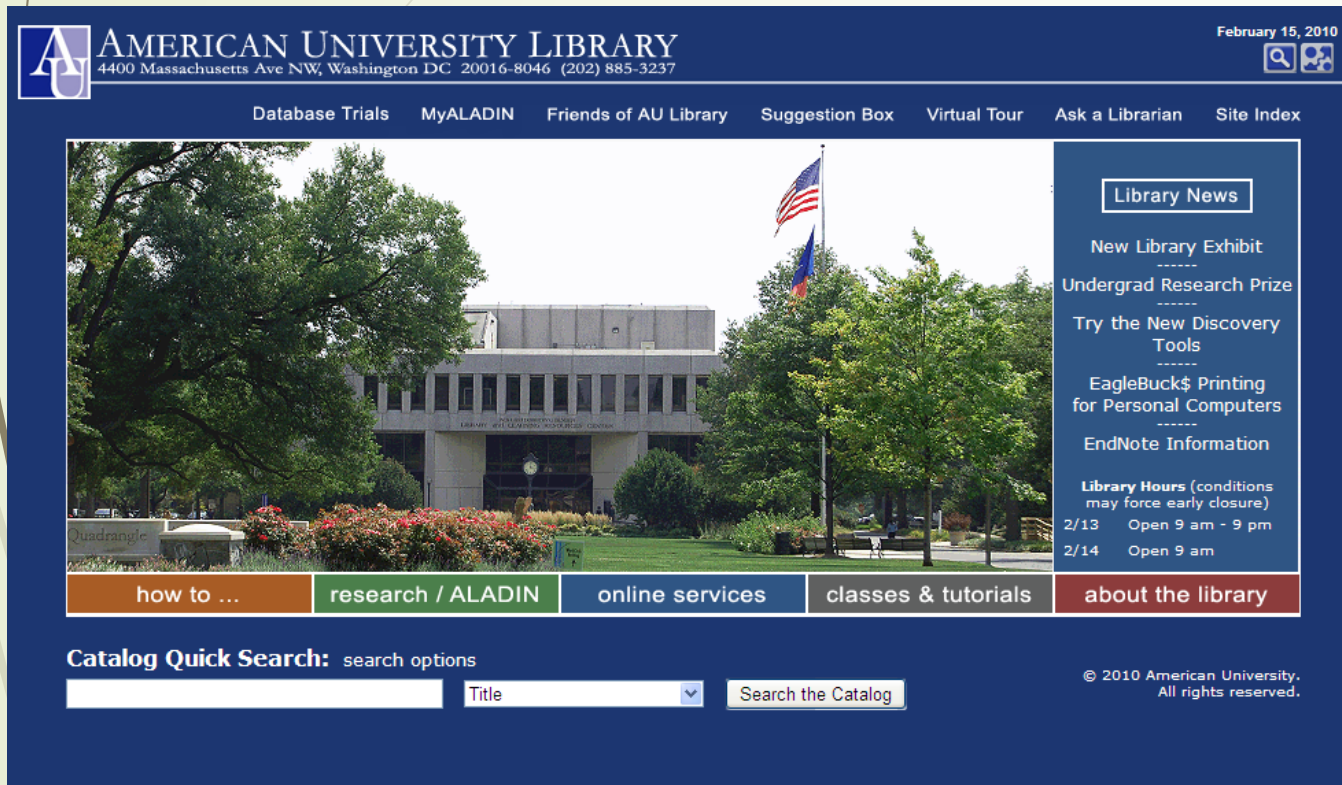
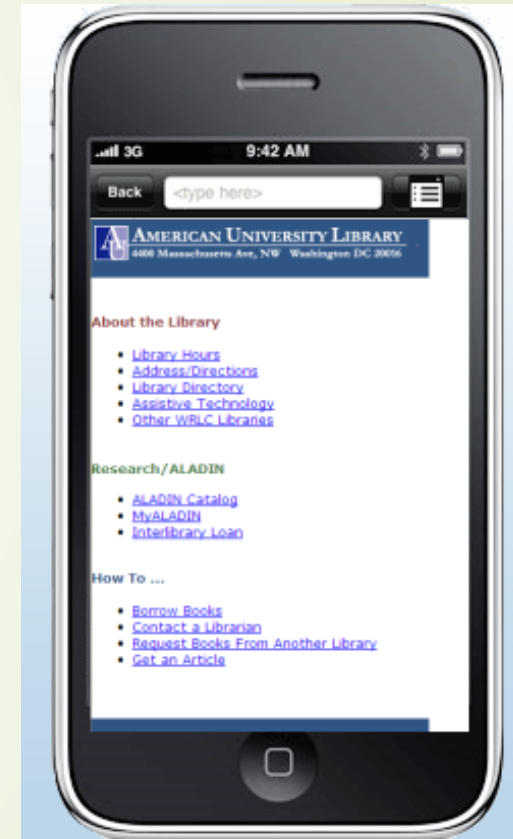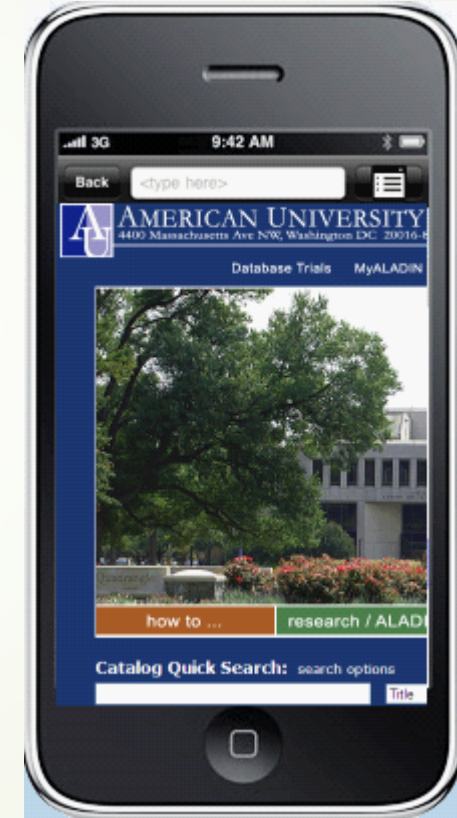John Paul Anbu K. and Sanjay Kataria

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
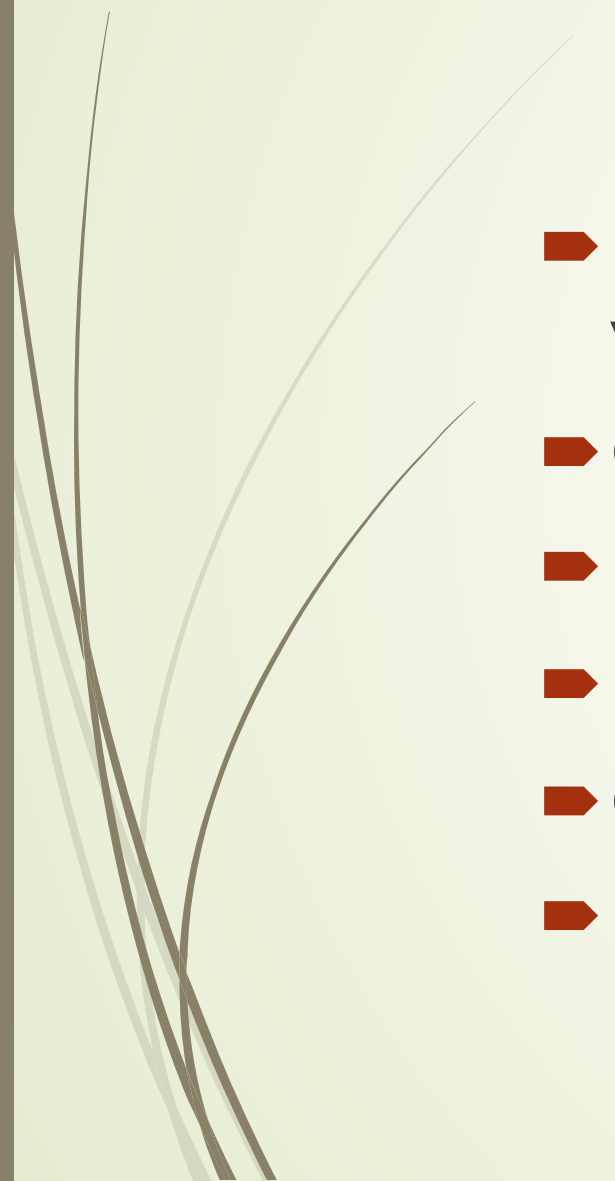
www.library.american.edu

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

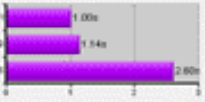# Useful mobile website testing tools : Gomez

Dotmobi emulator

CrossBrowser Testing

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**
  - JIIT 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 then 14000, e-journals

The survey - Population

Survey Population   229   100%

- Faculty   **22**   **9**%
- Other Staff   **4**   2%
- Students   **205**   89%

Survey distribution

9% 2%

89%

Faculty
Staff
Student
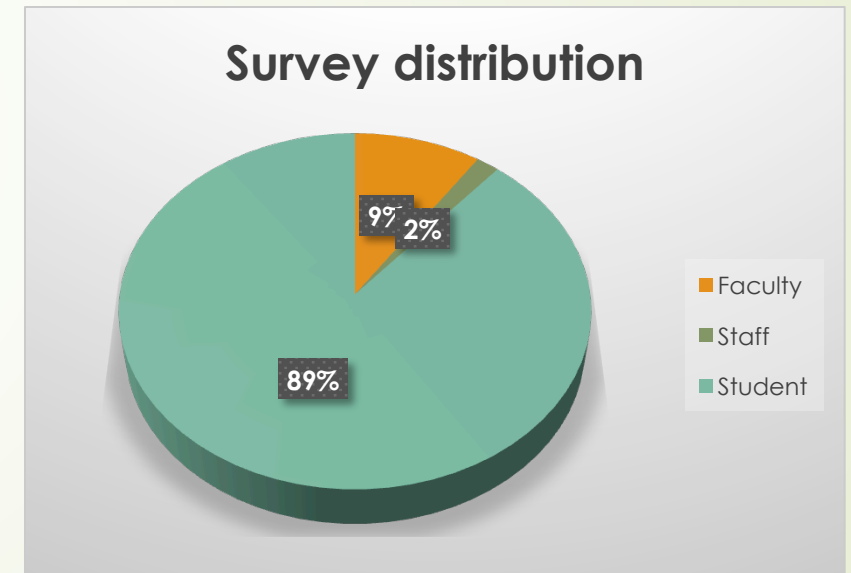
Resource on mobile phone

- Yes 218   95%
- No   11   5%

Need for Mobile library

6%

94%

Yes •No
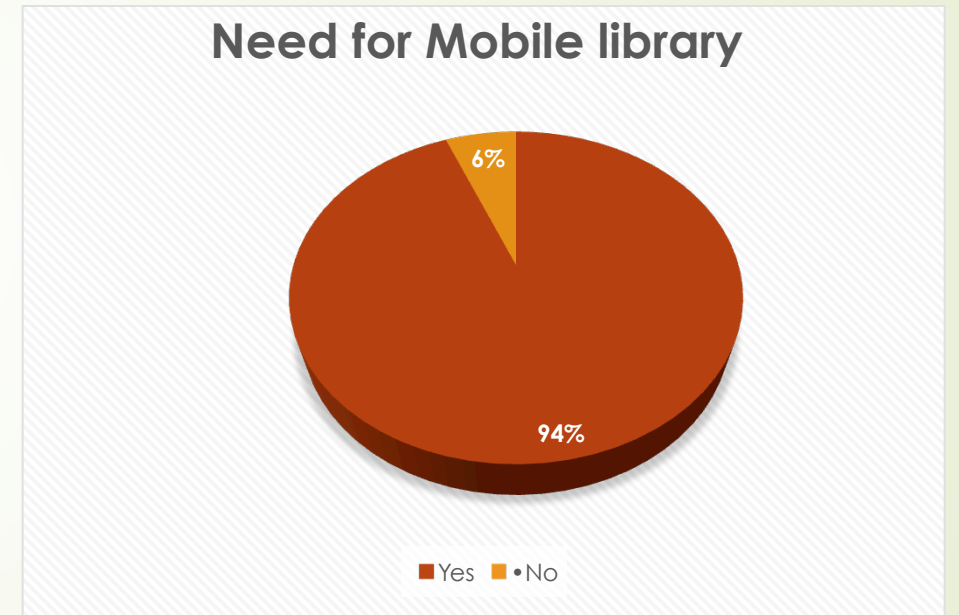
Separate mobile library website for MobilePhones

Yes   **216**   94%

No   **14**   6%

Seperate Mobile website
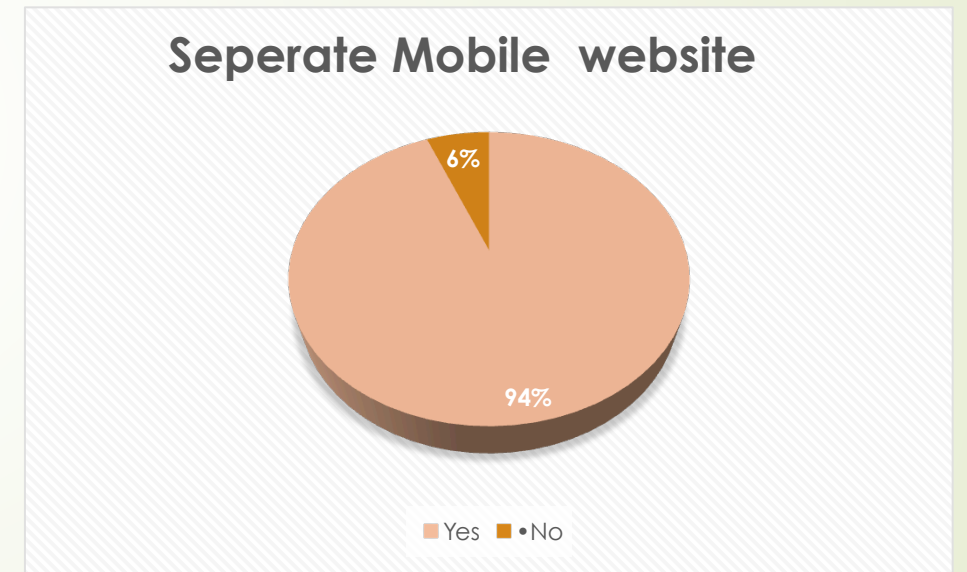
Type of Mobile phone ownership

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

Type of Mobile phone ownership

- •iOS (Iphones)
- •Android Phone
- •Windows mobile phones
- •Other internet enabled mobile phones
- •Mobile phone without internet facility

65%
13%
9%
5%
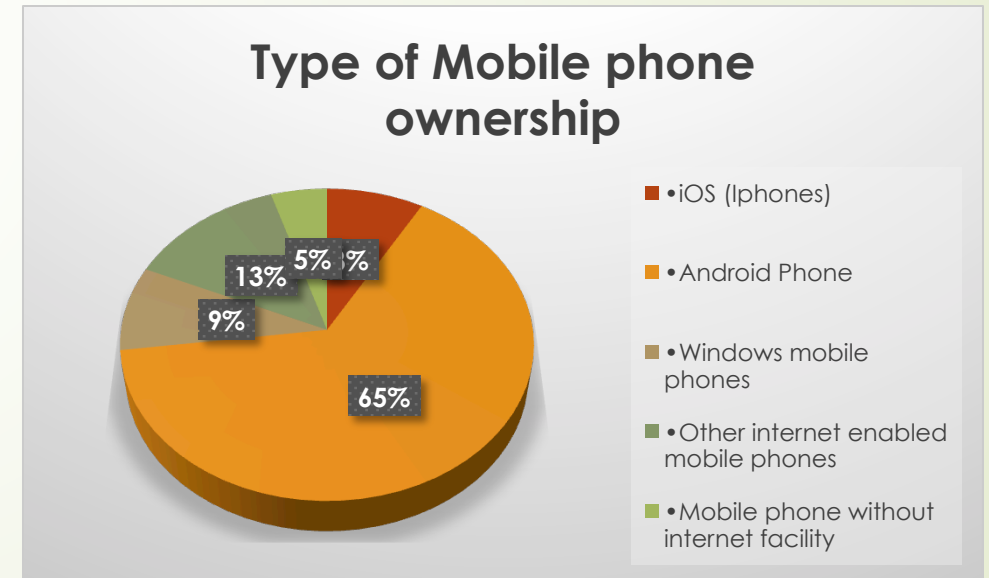
Frequency of internet access through mobile phones

- Frequently **188** 83%
- Rarely **30** 13%
- Never **9** 4%

Using internet through mobile

4%

13%

83%

■ Frequently ■ Rarely ■ Never
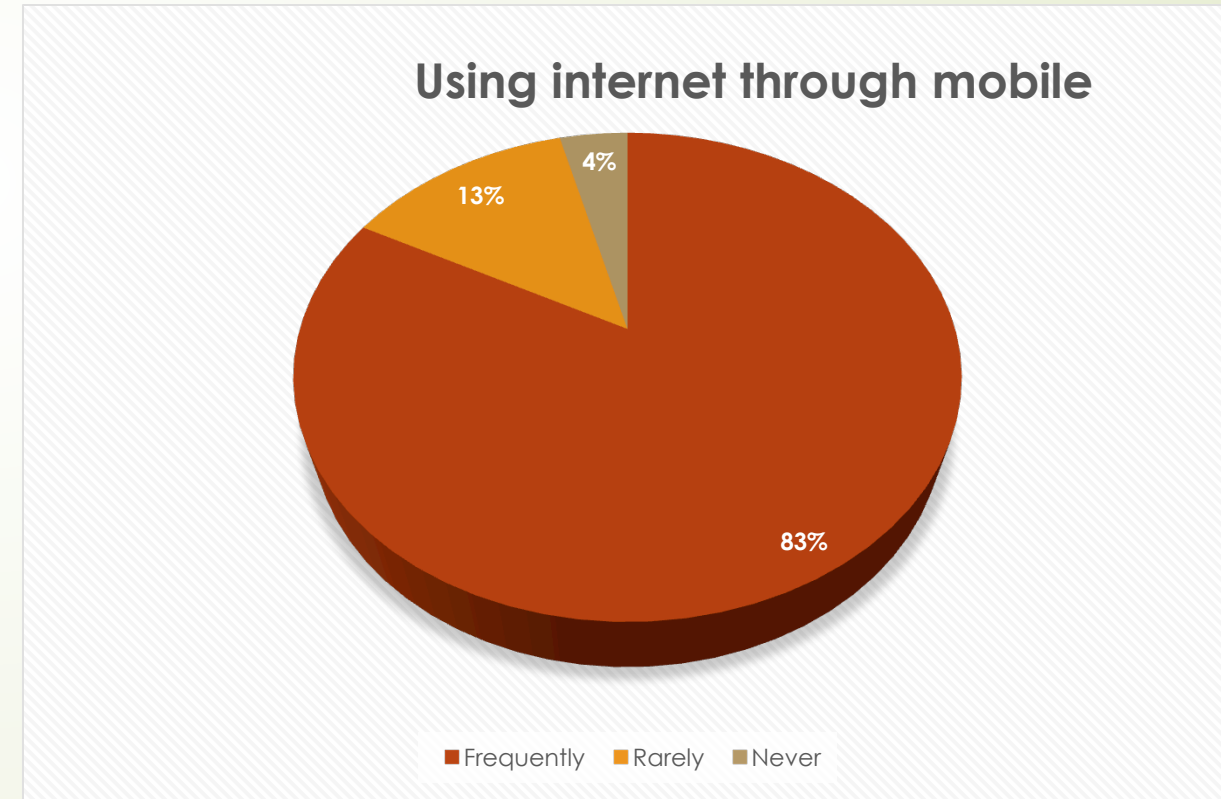
Internet access of mobile phones

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

Internet Access

■ Campus wi-fi   ■ Wi-fi hotspots   ■ 2G/3G datapacks
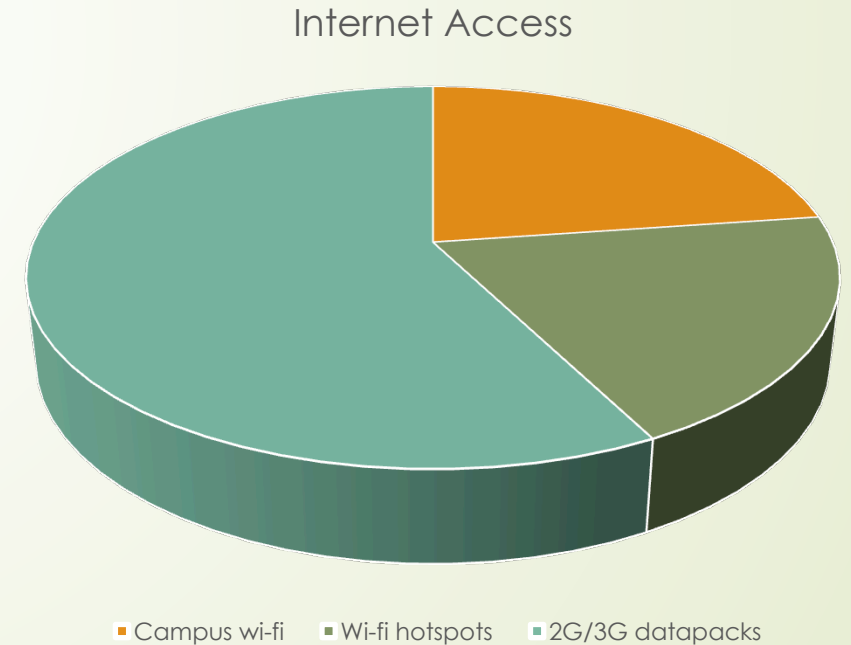
Mobile website preferences

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

Mobile content

15%

12%

73%

■ More text and links   ■ More Graphics and texts   ■ Balanced
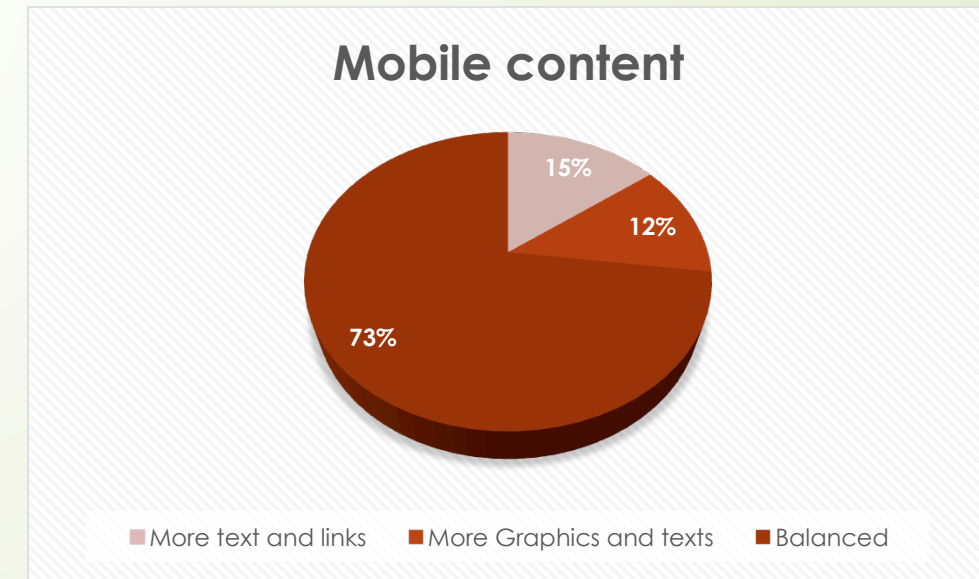
links preferred in the mobile library website

- 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