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Mobile Technology and Academic Library: An Conceptual Study

Dr. Manisha

Assistant Professor, MERI Professional and Law Institute, Rohtak Road, Delhi NCR (India)

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ABSTRACT

Today mobile phones are becoming an integral part of everyday life and are changing the way one connects and interacts with the world. Libraries have always set an example in experimenting with new technology developments, whether it is automation or adopting other information and communication technologies to improve their services. In this changing scenario, Mobile Technology will be of great help to libraries towards strengthening their relationship and providing enhanced user oriented services to existing users. The purpose of this paper is to describe the use of mobile technologies to develop new ways of Libraries and Information Centre. Mobile devices help to connect with patrons. Creating a library application ("app") or mobile Web site that allows patrons to access library hours, view their library account or even search databases is easier than most people think. Libraries may well reach out to the remote users who were considered unlikely to connect because of absence of a medium. The paper discusses on the need, advantages, drawbacks, barriers and solutions for propitious implementation of the mobile technology in libraries.

1. Introduction

What is Mobile Technology?

Mobile technology is exactly what the name implies - technology that is portable. Examples of mobile IT devices include:

- laptop, tablets and netbook computers
- 'smart phones'
- global positioning system (GPS) devices
- wireless debit/credit card payment terminal

A standard mobile device has gone from being no more than a simple two-way pager to being a cellular phone, a GPS navigation system, a web browser, and instant messenger system, a video gaming system, and much more. It includes the use of a variety of transmission media such as: radio wave, microwave, infra-red, GPS and Bluetooth to allow for the transfer of data via voice, text, video, 2-dimensional barcodes and more.

Mobile technology was a mystery two decades ago but now, it has become something of necessity to both the rural and the urban areas. The mobile technology started as a remarkable achievement in the world of technology but now, it is transforming into user comfort technology due to its present diverse functionality. When the mobile was first introduced, it used to be basically for SMS, Calls and games. But it has presently transformed into a digital world and has made life and business much easier; marketers now have the ability to sell their products with ease through mobiles technology. The mobile has made it possible for users to transfer files and other files through Bluetooth and wifi. The mobile is also equipped with internet connectivity, making it easy for the user to gain information and also to download files from the internet. Video call conferencing is another achievement that has come to reality through mobile technology. Business men and clients now have the channel to communicate even without seeing in person. With the use of mobile technology, it is now easy to catch up with every form of entertainment from the comfort of your home. It has also made it possible for one to easily locate places on the globe using the Global positioning system (GPS). Especially in the business world, the importance of mobile technology cannot be overemphasized; bankers depend solely on mobile technology on managing finances and stocks. Many business firms uses the mobile technology to increase their earnings through providing customers easiness to patronize their product through apps and websites. For example, the Cinema may create an app for ticket booking; railway travel tickets can be purchased from the internet without having to queue up to purchase it.

Since 2008 the operating system customized their platforms, allowing the user to download any app he wishes to download like the gaming app, the utility apps, the GPS and other tools. Any user that have the knowledge to create an app and also wishes to create one can legally do so. The WebOS basically has the ability to support internet programming languages some of which are HTML, JavaScript & CSS.

The internet is now equipped with a 4G network. This network enables a high speed data transmission in the channels, making surfing the internet to be easier. In the future, smart phones will be aware of their environment, they are going to be able to utilize the availability of physical inbuilt sensors and the ease with which data are exchanged. One of the ways to achieve these trends is that the mobile phones will begin to keep track of the user's personal data, but also, they will be able to predict almost correctly the user intentions on what he wants to use or the information he is interested in getting. This will be accomplished by keeping track of the user earlier tasks. In the next generation of mobile technology, smart phones will be equipped with X-Ray tool that will be able to detect detail information about the location the phone is pointing to at that particular time. Various companies are presently developing apps that will be able to accurately sense the exact location or present position of the phone or the user. Along with the future of mobile technology comes another device called Omnitouch this is a device that makes it possible for application to be used on the hand, arm, desk, wall and every other plain surface. The device has a sensor touch

interface which makes it possible for the user to access functions through the use of the finger touch.To cap it up, mobile technology is here to stay and holds a lot more features in the future to meet even the most of our basic needs and to make life a lot easier.

2. Advantages and disadvantages of mobile technology

Mobile devices can be enabled to use a variety of communications technologies, including:

- wireless fidelity (Wi-Fi) - a type of wireless local area network technology
- Bluetooth - connects mobile devices wirelessly
- 'third generation' (3G), 'fourth generation' (4G), global system for mobile communications (GSM) and general packet radio service (GPRS) data services - data networking services for mobile phones
- dial-up services - data networking services using modems and telephone lines
- virtual private networks - secure access to a private network

It is therefore possible to network the mobile device to a home office or the internet while travelling.

Advantages of mobile technologies

Mobile computing can improve the service you offer your customers. For example:

- when meeting with customers, you could access your customer relationship management system - over the internet - allowing you to update customer details whilst away from the office
- you can enable customers to pay for services or goods without having to go to the till, e.g. by using a wireless payment terminal diners can pay for their meal without leaving their table

Powerful solutions can link you directly into the office network while working off site. For example, you could remotely:

- set up a new customer's account
- check prices and stock availability
- place an order online

The growth of cloud computing has also impacted positively on the use of mobile devices, supporting more flexible working practices by providing services over the internet.

Disadvantages of mobile technologies

There are costs involved in setting up the equipment and training required to make use of mobile devices. Mobile IT devices can expose valuable data to unauthorized people if the proper precautions are not taken to ensure that the devices, and the data they can access, are kept safe.

DRAWBACKS OF MOBILE TECHNOLOGY

- compared to wired Internet service, has relatively slow transmission speed
- limited computational power
- inconvenient input and output interface
- insufficient contents
- high price

3. How Mobile Technology Changes the Library Experience

Today's students and professionals live in a 24/7/365 digital world. They conduct their lives in an integrated, mobile, just-in-time, and point-of-need fashion. School, work, and home lives are no longer distinct and segregated facets of daily living. Libraries around the country are responding to the call for accessing information on mobile technology. The second volume in “The Tech Set” series arrives at a time when libraries are optimizing their websites and services to be displayed on smaller devices.

This is a how-to book for all librarians just setting out on the mobile access adventure or for those trying to improve an established mobile technology. The chapters cover mobile technology basics, planning, implementation, marketing, best practices, and measures of success. Each chapter provides a simple overview with ways to implement staff buy-in, use mobile cascading style sheets (CSS) code, track services, and plan for the future.

In the chapter on planning and implementation, the author suggests that readers use the “Five Stages of Grief” as a change model for staff buy-in. This may seem to be an unusual thing for the author to suggest, but the stages blended with explanations, questions, and examples work to help readers achieve their potential goals. The author also includes a chapter about quick response (QR) codes. QR code is another kind of barcode that is gaining popularity in the library world and social media culture. The author explains QR code and gives the reader insight on how it works and its potential use in libraries.

The second volume in the “Tech Set” will interest all librarians, regardless of their technical skill levels. It could easily be used as a supplemental text in teaching library website creation, content management, and Web 2.0 technologies.

The library experience of today is greatly different from that of even 15 years ago, and mobile technology is the leading contributor to these changes. In response, public and college libraries are using mobile technology to increasingly enhance the user experience. By embracing the many growing capabilities of mobile technologies, libraries provide better service to their users in many different ways.

4. Using Mobile Technologies in the Academic Library

Mobile technology has become a ubiquitous presence in the lives of today’s students and faculty. The maturing of this technology has led to our becoming more and more comfortable in a world where digital information flows seamlessly from screen to screen as we move about our daily lives. This evolution presents both risks and opportunities for academic librarians, operating in a field that is both uniquely tied to a static sense of “place” in the public imagination and at

the same time passionately devoted to the freedom, spread, and accessibility of information for the public at large.

In seventeen chapters ranging from A Mobile-First Library Site Redesign to Mobile Technology Support for Field Research to Virtual Reality Library Environments, *Mobile Technology and Academic Libraries* explores how librarians around the world are working to adapt their spaces, collections, teaching, and services to the new possibilities presented by mobile technology. This is a detailed and thorough examination of technology that's emerging now and how to incorporate it into your library to help the students and researchers of both today and tomorrow.

The 2009 "Horizon Report" called mobile technologies "an opportunity for higher education to reach its constituents in new and compelling ways." The report implied that academic libraries would find them to be the ideal tools for bringing reluctant researchers to the library, mainly for their convenience. It's not hard to see why—in 2008, mobile phones were in the hands of more than 4 billion users, a 61% penetration rate worldwide. That same year, mobile users sent and received 2.3 million text messages. By 2012, the mobile phone is expected to outsell the personal computer. The leaders in mobile communication are, not surprisingly, adults in the 18 to 29 age group, the traditional college-age student. Academic libraries are not blind to this—a 2009 *Library Journal* survey found that 65% of academic libraries either already offer or plan to offer mobile services. If your library is in that 35% with no plans for mobile outreach, keep reading—you'll find ideas to make your library a true 21st-century information hub.

5. All the Knowledge of the World in My Hand: Mobile Technologies

Mobile phones: When one thinks of mobile technologies, the first device that comes to mind has to be the cell phone or the Smartphone. Beginners to the Smartphone in the library may want to consider a mobile-based website, a stripped-down design that reads well on small screens. These sites do not require too much web design knowledge (remember that well-designed mobile sites do not have complicated code or scripting languages) and can be designed in-house. Librarians can also consider the Smartphone app, either as a stand-alone app (University of Notre Dame's Hesburgh Libraries) or as part of a university app (Duke University). Companies such as Boopsie, the designer of the American Library Association's conference apps, stand ready to make an app that can do anything for your users—from searching the catalog to patron account information to basic library information. Many library resource providers, such as Westlaw, EBSCO, Science Direct, and RefWorks, have mobile apps or mobile sites that you can offer to your more wired students.

The Smartphone is not the only phone portal to mobile outreach. Librarians who notice more traditional cell phones on campus should consider text reference for their mobile outreach programs. With Google Voice, AIM Hack services (five- or six-digit numbers popular for mobile phone donations), and library-based options such as MyInfoQuest and Mosio's Text a Librarian, you can set up a text reference service that can help you handle ready reference questions (or even more complicated questions) quickly and easily.

MP3 players: Mobile devices should not be limited to phones. Are you seeing library users with distinctive white wires extending from their ears? Chances are they are using an iPod or other MP3 player—mobile devices you can use in your library for audio and/or video tours. With them, students can explore the library at their convenience, concentrating on the parts of the collection most relevant to their needs.

E-readers: Despite being available for decades, the general public has only become aware of e-readers in the last 5 years, primarily due to the popularity of Amazon's Kindle and Barnes & Noble's Nook. The latest generation takes content delivery to new levels, allowing for wireless browsing, purchasing, and delivery of content to these devices. There are still limitations, such as monochrome screens, difficulty with various file formats, and restrictive content licensing, but despite these drawbacks, users will bring e-readers to the library and will want to use them for their studies.

One area of digital content that academic libraries have already had a major presence in has been electronic reserves. This can be an easy place to start supporting e-readers on campus. Offering electronic reserves in a variety of formats improves the usability of the reserves system. The primary challenge that exists in this area is that unless the electronic reserve content is in a layout that can easily be converted to an e-reader format, it can be difficult to make it clearly readable. As conversion software improves and more content is born digitally, more libraries will support e-readers for reserves.

Tablets: Tablets such as the iPad are still primarily a consumer item today and are outside the price range many feel is acceptable for a gadget. As more enter the market, prices will drop, and they will become more commonplace. Tablet PCs will be used to consume media as more of it is digitized and made available online for download and streaming. This means that activities such as searching databases, downloading articles, and perusing the catalog will likely be done through tablets, either through apps or tablet-formatted websites. The overall utility of tablets also makes them an ideal device for accessing a variety of documents, including eBooks. Their ability to play audiovisual materials and their web connectivity could signal a new form of academic text that is both immersive and interactive. As many tablets currently on the market are based on revised versions of Smartphone operating systems, they will have the same capabilities as Smartphone's and will run many of the same apps.

Tablets can also provide on-the-spot reference services. Pilot programs in various libraries have shown that the tablet provides convenience in accessing the library's resources while away from the reference desk and is a novelty that draws students' attention. The design of the recent generation of tablets—lighter weights, slimmer profiles, and multitouch interfaces that eliminate the need for peripherals—makes roving reference even easier. However, the lack of Flash web technology on many tablets does provide a barrier to accessing some websites, especially video sites.

Electronic textbooks: One of the next great digital frontiers being tackled is that of academic texts. Earlier attempts at electronic textbooks generally had mixed results, often due to lack of content in electronic format or discomfort with reading from a screen. Changes are on the horizon that suggests that these issues may have been corrected. E-readers and tablets have new features that allow students to highlight and add annotations to the text, just as they would with paper texts. They give students the capability to link to additional information.

6. Mobile apps for library services

Language learning

Mango Languages

65 language courses for English speakers and 18 ESL courses for non-English speakers.

Sign in with your library card and create a profile on the Mango Languages website before getting started with the app.

- Mango Languages for iPhone/iPad
- Mango Languages for Android

Cloud Library

Cloud Library allows you to borrow and read eBooks and eAudiobooks from the Public Library. App includes all new navigation and personalization, making it easier than ever to use. Bookmark and save your position across devices. Includes an audio player, which allows user to download, play and listen to audio books offline.

hoopla

Bringing you nearly 11 million items including movies, full music albums, and audiobooks, hoopla is an all in one digital service made available to you through the Public Library. Simple to access and use, without the hassle of having to return the items you've borrowed, all you need is your library card, a web browser, smart phone or tablet to get started.

OneClickDigital is now RBdigital

Search for, checkout, download, and read/listen to your favorite books for free from your library. No need for an Adobe ID. Add highlights, notes, and bookmarks to your downloaded eBooks, and search within your downloaded eBooks. Themes include night mode and various font sizes.

OverDrive

Old versions of Overdrive app are available through iTunes and Google Play.

Borrow eBooks, audio books, and streaming video, available 24/7. Titles are automatically returned. Place holds, create wish lists, and return titles easily. Sync bookmarks between devices.

Zinio is now RBdigital

In June 2017 Zinio became part of the RBdigital platform and both books and other media such as audio books are now available through the same mobile app!

Full digital copies of your favorite magazines with unlimited checkout! You see the exact same material you get in print, plus some issues include features like video, audio and live links.

Ebook Central

Ebook Central is designed with mobile in mind. Access the site from your tablet or phone, and download eBooks for offline reading.

7. Conclusion

While many worry or believe that libraries will become obsolete due to mobile technology, libraries and librarians are using technology to improve the college and public library experience. As mobile technology continues to grow and change, so do our libraries.

There is a growing influence of mobile technology in Libraries, especially as network accessbecomes more affordable and reliable, and mobile applications have seen mainstream acceptancein teaching, learning, and research. Libraries should make conscious choices about what they want

to offer in thisarena and act accordingly and only time will tell if a completely mobile-accessible library, interms of its services and collections, will become common place.

There is no “one size fits all” mobile program, and what works in one university might not work for the community college down the street. As long as you remember the focal point of mobile services—convenience—and take a long look at which devices your library users seem almostwelded to, your mobile program will get students to look up from their gadgets to see the library in a new light—and then look back down to try out all the new services they’ve discovered there.

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