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Mobile Applications: Blend of ICT and Mobile technology for Modern Libraries and services

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Abstract:

This paper covers a brief introduction about mobile technology and its implementation in libraries. It describes how mobile technology can be used in different areas of library and its services to provide excellent services to its users. Further the paper describes mobile applications available for libraries and its users and some national and internationally renowned useful mobile based library applications, websites for creating mobile applications, mobile applications for users/learners etc.

Keywords: Mobile Application, Mobile Technology, Mobile Application in Libraries, ICT and Libraries.

1. Introduction

Digital population of India in Jan 2019 was around 560 million. In it there were active internet users around 515 million, active mobile internet users around 310 million, active social media users around 290 million and off course it is increasing continuously. With over 460 million internet users, India is the second largest online market, ranked only behind China. By 2021, there will be about 635.8 million internet users in India. Furthermore, men dominated internet usage in India with 71 percent to women's 29 percent. Indians often turn to mobile internet, as the large majority of the digital population in India were mobile internet users in 2016. About 323 million people in India accessed the internet through their mobile phones in 2016, which corresponds to about 24.3 percent of the country's population. Both figures are forecast to increase in the coming years, with projections to amount to 524.5 million and around 37.4 percent respectively in 2021. Mobile internet usage in India varies

according to people's living areas. As of 2016, India had an estimate of 262 million mobile internet users living in urban communities, and 109 million living in rural areas. One aspect whereby India shares the characteristics of other global internet users is its passion for social media. In 2021, it is estimated that there will be around 358.2 million social networks users in India, a significant increase from 2016, when this figure stood at about 216.5 million. This means that the share of the Indian population that access social networks is expected to jump from around 16.3 percent in 2016 to just over 25 percent.

The above data is enough to reveal and prove that the use of mobile technology with internet facility opens lots of prospects not only for businessmen, students, teachers, scholars, data analytics, and computer professionals but also for library and librarians to integrate mobile technology in libraries and to provide mobile technology based systems and services. It will not cover wide range and variety of users in library service perimeter but

also help to give quick, real time, advanced 24x7x365 services. If libraries blends its services with mobile technologies they are able to catch teen readers, rural readers, differently abled readers along with their regular users. Libraries of all kind must respond to the accessing, disseminating information and knowledge on mobile technology and Mobile applications is a wonderful way for this.

Librarians must keep pace with this trend and integrate themselves into the mobile world if they wish to deliver enhanced user services. Mobile Technology and its applications is a practical, easy-to-follow new resource that will help library and librarians to show their presence in mobile world. The use of mobile technology and its mobile applications in libraries seem very relevant in an increasingly mobile centric society where each hand and pocket is having mobile.

2. Mobile Technology and Mobile Applications

Taking advantage of new technologies to enhance the effectiveness of library systems and services. library and librarians now understand that mobile application has wonderful capacity, capability and potential to provide excellent, advanced, 24x7, user friendly library and related services. But before going further let's have a brief look on what mobile application is, its type and use in library with other applications.

Definition - What does Mobile Application (Mobile App) mean?

A mobile application, most commonly referred to as an app, is a type of application software designed to run on a mobile device, such as a smart phone or tablet computer. Mobile applications frequently serve to provide users with similar services to those accessed on PCs. Apps are generally small, individual software units with limited function. This use of app software was originally popularized by Apple Inc. and its app store,

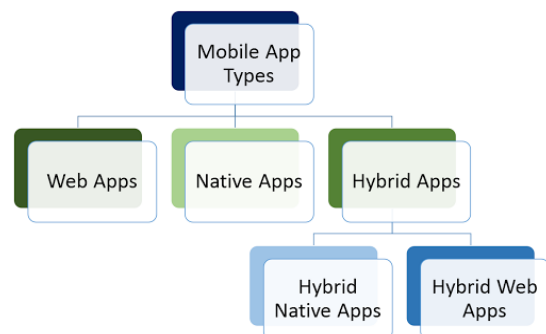
which offers thousands of applications for the iPhone, iPad and iPod Touch.

A mobile application also may be known as an app, web app, online app, iPhone app or smartphone app.

1. Types of Mobile Applications:

There are three basic types of mobile apps if we categorize them by the technology used to code them:

- **Native apps** are created for one specific platform or operating system.
- **Web apps** are responsive versions of websites that can work on any mobile device or OS because they're delivered using a mobile browser.
- **Hybrid apps** are combinations of both native and web apps, but wrapped within a native app, giving it the ability to have its own icon or be downloaded from an app store.



2. Library mobile applications (apps)

can allow users to search, bookmark, read details through QR Code, annotate, link, and highlight content from scripture, general conference talks, lesson manuals, and other curriculum on mobile devices. Recently, many large public and academic libraries in India and world have also developed their own apps and library users are tremendously getting benefited with such mobile application by keeping their libraries in their pockets.

3. Scope of Mobile applications in Modern library system and services

Using a mobile app users can check due dates, place a hold, renew a book, and even get alerts when books are due or hold become available. SMS/Email notification services: Give alerts on latest news, events, and notices via SMS or MMS to users wherever they might be going View and access library account: Using a mobile app they can check due dates, place a hold, renew a book, and even get alerts when books are due or holds become available.

Database Searching and browsing: Provide access to a variety of library resources and database. So, a user can enter search terms and see results that are designed specifically for mobile viewing. This service includes online public access catalog, integrated search, and original document search.

Catalogue Search/OPAC: They can search the catalog by author, title, subject, barcode, or keyword. They can also view the book summaries, cover images, number of copies and more location searching: They can locate and find branch location, availability, and phone numbers.

Quick Online reference service: If your library receives a high volume of inquiries that require brief responses, such as dictionary definitions, facts or service information then you can provide instant answers, and links to articles/references in real time.

Retention of Users on Library apps: In a mobile centric society where everybody from students, researchers, scientists, teachers, professionals, business men etc. irrespective of gender are mobile friendly and knows to operate applications. Libraries and information and library professionals must grab this opportunity to provide them relevant links of articles, new arrivals, library videos link, reminders of issue and return, events organize by/in libraries and engage them more and more to turn their interest and time towards library and for refined information, knowledge, relevant videos, images, music,

papers etc. because now libraries are not about books only the scope become much wide from paper to digital, pictures to images and videos and shelves to cloud. Everything is available and accessible on mobiles and libraries must not become exception. Easy, authentic and anytime availability of user data for study: Mobile applications of libraries can help a great way to collect, analyze and study the results of user data directly from mobile applications. It will help to improve, develop and facilitate new and better services to users. Libraries not on desktop but in pocket: The days gone when one have to wait till he/she reaches their home or office to access internet of any information on desktop for use. Everything is now available in the mobile and precisely accessible via mobile apps developed for particular purpose. Library applications of universities, colleges, schools, public libraries, R&D libraries are becoming available in the pockets of users. They can renew, reserve, ask for information or article, get access to consortiums, check availability and know when they have to visit library or knowledge resource centers to access required piece of information.

Extended reach towards users: Mobile applications open the gate for new type of library users' i.e. differently abled users. The applications may be incorporated in library mobile app for *differently abled users* they can also enjoy the features of mobile libraries like other users by using such apps without depending on anybody like:

TapTapSee: It Identify Objects through photos, color ID free, discovers the names of the colors around you,

Be My Eyes: The one everyone's been talking about- People helping people in real-time,

KNFB Reader App: Reads virtually any text aloud,

BARD Mobile is a service of the National Library Service for the Blind and Print Disabled (NLS), Library of Congress. NLS provides free audio and braille reading

materials to residents of the United States and American citizens living abroad who cannot read regular print books,

Seeing AI : A second excellent app is Microsoft's Seeing AI, and unfortunately, it's currently iOS only. This is an amazing app, offered absolutely free. Seeing AI can recognize and speak text detected by the smart phone camera, either in tiny snatches or full pages at a time. It can read bar codes on grocery and other product labels, offer up the product name, and usually additional information, such as nutrition labeling, cooking and other instructions.

Sirian : Intelligent user assistant, is a great feature of iOS to learn how to spell words correctly. Speak selection highlights words for you to follow and read along, and Voice Over works as a screen reader but is also a great tool for converting text-to-speech that in turn allows you to speak and pronounce better. There is also a font called Open Dyslexic that improves readability issues.

Mobile Applications for Libraries and their users

There are many mobile applications are developed for libraries and library users due to wide reach, demand and extension of library services. The hand to hand availability of mobiles and use of ICT in every field of knowledge has left no option in front of libraries and knowledge centers to use and implement this wonderful and smart featured technology. The following applications of libraries are among few wonderful applications which had made its presence in library and information centers to serve its patrons.

LibAnywhere:LibAnywhere

(www.libanywhere.com) is another app that allows patrons to access library information such as catalogs, hours, branches, and events, and to contact reference librarians. It is available for mobile devices that run on the Apple iOS and devices that run on the Android platform. There is also a version compatible with any device that can access the internet

[20]. The app itself is available for download free of charge.

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Trello: Trello (<https://trello.com>) is a great collaboration tool. It allows users to create cards with different tasks on them and organize the cards into various lists on their boards. The cards can include due dates and notes, and users can attach documents, photos, and videos to them. Users can add collaborators who can add notes to cards and work together in real time. Tasks can be assigned to different collaborators and users can set up email notifications and reminders.

EverNote:EverNote (<http://evernote.com>) is similar to Catch in that it allows users to save notes and sync them across multiple mobile devices and personal computers. However, EverNote allows users to save more than just notes; they can also save full webpages or portions of pages by clipping them. Users can take photos with their mobile devices' built-in cameras or record with their mobiles' microphones and save those files in their EverNote app. EverNote allows users to collaborate with others by sharing their notes.

The app is available free for both Android and Apple iOS devices. Users can upgrade to a premium account for about US\$5 (£3) per month or \$45 (£29) per year. The premium version allows users to upload more documents each month, view past versions of notes, and collaborate more effectively by allowing multiple users to edit notes

Catch: Catch (<https://catch.com>) offers free and paid apps for Apple iOS and Android mobile devices. The apps allow users to create notes (via text, voice, or video) and save them to 'spaces'. The basic free plan offers users three spaces, which can be private or shared with other users, and 70MB of content per month.

AccessMyLibrary: AccessMyLibrary (www.gale.cengage.com/apps/aml/CollegeLibrary/) is a free mobile app, available to both Android and Apple iOS users, that works in conjunction with a college or university library's Gale databases. Students and faculty log in with their university email addresses to access the online resources available to them from Gale. This allows students to find full-text articles from electronic journals and other scholarly publications and read them on their mobile devices.

Inspiration Maps: Inspiration Maps (<https://itunes.apple.com/us/app/inspiration-maps/id510173686?mt=8>) is available for Apple iOS mobile devices and is designed specifically as an educational tool for the iPad. It is a great application for creating mind maps and other diagrams. The application roughly US\$9.99 (£6.60), so it may be too expensive for each student to buy individually. However, discounts are available through Apple's volume purchase plan for educational endeavors [23]. There is also a 'lite' version that users can try for free prior to purchasing the full app.

EasyBib: EasyBib (www.easybib.com), a free mobile app available for Apple iOS and Android mobile devices, allows users to create bibliographies using MLA (Modern Language Association), APA (American Psychological Association),

and Chicago style citation formats. Users can simply scan a book's barcode with their mobile device's built-in camera to add the book's citation information to their work-cited list.

ArticleSearch: ArticleSearch (<https://itunes.apple.com/us/app/articlesearch/id401914624?mt=8>) is a free mobile app designed for Apple iOS devices. It allows users to search for scholarly articles and other academic publications. Users can perform basic or advanced searches, read abstracts, and even get the full text of articles. They have the option of saving articles or sharing them with others via email or text message

Mendeley: Mendeley (mendeley.com): is a tool that enables you to manage citations and PDFs securely access Mendeley on any computer through the desktop client, web browser, or using your mobile app. Your library is backed up in the cloud and always available to you.

Redcube: ReadCube (<https://www.readcube.com>) is the recent program on the scene. ReadCube users can search PubMed and Google Scholar from within the program itself. Users can take notes on their PDFs as they read, and can later search within their own annotations. Users can download the app from <https://play.google.com/store/apps/details?id=com.readcube.mobile&hl=en>

Endnote: EndNote (<http://endnote.com>) is a subscription based reference management tool of Thomson Reuters. End note provide web based and desktop program to manage the citations. The iPad app EndNote for iPad recent version (updated on June 2017) is available on <https://itunes.apple.com/in/app/endnote-for-ipad/id593994211?mt=>

E-Resource Publisher or Aggregators App: The application of mobile based app provide easy solutions for easy and 24/7 access to e-resources. In technological era or information era, the use of e-resources in the academic world has become fashion of the day. Users can easily interact and download the full-text

information in the electronic format. For easy access and also for easy updation many publishers and aggregators developed the mobile application.

ACS Journals: The American Chemical Society launched the mobile based app called “ACS Mobile”. ACS Mobile used Apple; Android platform, the app provide full-text access when connected using internet. The app available on <http://pubs.acs.org/page/tools/acsmobile/index.html> Patron can access to new ACS ASAP Articles, personalized across the entire portfolio of 40 peer-reviewed ACS Journals, feed of the “Latest News” from Chemical & Engineering News Online, Filter and Search, Offline Reading, Personalization.

SC Journals: The Royal Society of Chemistry facilitate with app called RSC Mobile. RSC Mobile used Apple; Android platform, the app provide full-text access when user connected with internet facility. The app available on <http://www.rsc.org/Publishing/>

[Platform/RSCMobile.asp](http://www.rsc.org/Publishing/Platform/RSCMobile.asp)

ScienceDirect: The Elsevier is the world leading publisher of Physical Sciences and Engineering, Life Sciences, Health Sciences, and Social Sciences and Humanities. content. ScienceDirect Mobile application SciVerse, ScienceDirect provide Apple; Android mobile application, registered users can use this app. It's a subscription based app. The app available on <http://www.info.sciverse.com/sciverse-mobile-applications/overview> Some other publisher like: Springer (Mobile app; Springerlink), Aggregator Ebsco (Mobile app; EbscoHost) provide the mobile based application to easy sharing the universe of knowledge

Mobile applications of libraries at national and international level

Few examples of internationally renowned mobile based library applications

- **Adelphi University Libraries Mobile (AU2GO).** Offers library hours, library staff contact information, a link to the library's blog

“biBLIOgraphy,” and more. *Access:* <http://m.adelphi.edu/library/>.

- **Albertsons Library, Boise State University.** Simple text navigation offers various ways to find the library and its contents. An interesting feature is the inclusion of a “Find in Our Building” category, which lists call number locations and popular locations such as study rooms and computers, each linked to an animated floor map. *Access:* <http://library.boisestate.edu/m>.
- **North Carolina State University (NCSU) Libraries.** Elegant interface with icons representing categories such as room reservations, group finder, and Webcams. Another interesting feature is the ability to view the number of available library computers. *Access:* <http://www.lib.ncsu.edu/m/home/?browse=iphone>.
- **PENNLibraries, University of Pennsylvania.** A multitude of information at your fingertips, such as mobile versions of databases, image search, library video clips, and more. *Access:* <http://www.library.upenn.edu/m/>.
- **University of California Riverside Libraries.** Glossy icons designate many useful categories, including research guides, library workshops, and links to the library's social media profiles. *Access:* <http://m.library.ucr.edu>.
- **Virginia Tech University Libraries.** A simple but effective layout offers important information, such as library hours, contact information, catalog search, and library maps. *Access:* <http://m.lib.vt.edu/>.

Few Library mobile applications at national level

The use of Mobile applications for libraries in India has started taking pace, many libraries of India has started developing its own library apps to provide 24x7 services to its users. The institutions and organizations like UGC, CBSE, NCERT, NIC, National Digital library has taken great initiatives in this direction. The

following few good mobile applications of Libraries and institutions among library and related mobile applications available in India provides excellent access of learning and other reading resources to their users.

National Digital Library of India mobile application

(https://play.google.com/store/apps/details?id=com.mhrd.ndl&hl=en_IN&gl=US)

Ministry of Human Resource Development under its National Mission on Education through Information and Communication Technology has initiated the National Digital Library of India (NDL India) pilot project to develop a framework of virtual repository of learning resources with a single-window search facility. NDL India is designed to hold content of any language and provides interface support for leading vernacular languages. It is being arranged to provide support for all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently-abled learners. **ePathshala**(https://play.google.com/store/apps/details?id=in.gov.epathshala&hl=en_IN&gl=US) : The digital India campaign has promoted extensive use of ICTs in the teaching learning process. The ePathshala, a joint initiative of Ministry of Human Resource Development (MHRD), Govt. of India and National Council of Educational Research and Training (NCERT) has been developed for showcasing and disseminating all educational e-resources including textbooks, audio, video, periodicals, and a variety of other digital resources. The ePathshala Mobile app is designed to achieve the SDG Goal no. 4 as well i.e. equitable, quality, inclusive education and lifelong learning for all and bridging the digital divide.

State Central Library (Kolkata)(<https://play.google.com/store/apps/details?id=com.vvs.app&hl=en>) The Official Mobile App for State Central Library - Kolkata, facilitates many things like Access to the Covers, Abstract and Content of

book in State Central Library and option for Like and Dislike any book with Rating and Comment facility, Access to the Rare Books collection of the SCL hosted in DSpace Server of West Bengal Public Library Networ, Access to the web version of Children's Section (section

division) of State Central Library, W.B., Access to the Online Public Access Catalogue (OPAC) of the library hosted at West Bengal Public Library Network, Provision for users to provide feed-backs related to library service and facilities, Circulate any message or notice among its use, Information about all library sections and facilities available across all floors of the State Central Library in 'Our Service' section, Detailed information about State Central Library, W.B. in 'About Us' section, Facility to Add / Update user personal information, Facility to scan QRcode of the Aadhaar Card (UID) to auto-retrieve of personal information of users.

eSarvajanika Granthalaya(https://play.google.com/store/apps/details?id=com.staging.mintbook&hl=en_IN&gl=US) Sarvajanika Granthalaya is has the following types of curated contents in Kannada and English Language:. eBooks - Digital Books,. Videos - Videos on different subjects, Simulations - Interactive experiments. **Digital library in Karnataka** has become a reality. Keeping in mind the changing reading pattern among the readers, the state library department now gave digital touch to its collections. As part of this initiative, the department launched an App, **e-Sarvajanika Granthalaya**, and digitized over 1 lakh books.

Ncert Books & Solutions(https://play.google.com/store/apps/details?id=com.solutions.ncertbooks&hl=en_AU) Ncert Books & Solutions is a free app where you can download and read offline any Ncert Books and its solutions, Notes, previous year papers with solutions & watch best youtube video tutorials.

IGNOUeContentApp(https://play.google.com/store/apps/details?id=ac.in.ignou.Viewer&hl=en_IN&gl=US) is a one stop solution for all the IGNOU learners to access their course material through their hand held devices such as Mobile Phones and Tablets. This app will cater around 30 million IGNOU learners to access the course material at any time anywhere at their finger tips.

Mobile Applications for Users

Mobile applications for learning

- **Classics—23,469 Books to Go.** Large collection of free classic literature packaged in an elegant and intuitive interface. Authors include Aristotle, Charles Dickens, Plato, and Oscar Wilde. By Spreadson, Inc., Classics works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://spreadsong.com>.
- **Dropbox.** Store, sync, and share files online and across computers. Access your Dropbox, download files for offline viewing, and sync photos and videos to your Dropbox from your mobile device. Dropbox works with iPhone, iPad, Android, and BlackBerry. Access: <https://www.dropbox.com/anywhere>.
- **Evernote.** Create text, video, and audio memos. All content within Evernote is searchable, including text within snapshots. Notes can be synchronized to Mac, PC, and Web. Evernote works with iPhone, iPod touch, iPad, Android, BlackBerry, Palm, and Windows Mobile. Price: Free. Access: <http://www.evernote.com/about/download/>.
- **History: Maps of the World.** This app by Seung-Bin Cho showcases high-resolution historical maps of the world from the 4th to the 20th centuries. Features include category/era views and keyword search. History: Maps of the World works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://itunes.apple.com/us/app/history-maps-of-world/id303282377>.
- **iSSRN.** Created by the Social Science Research Network (SSRN), iSSRN provides access to more than 260,000 research papers in the social sciences and humanities from scholars worldwide. Articles can be e-mailed or viewed on the device. iSSRN works with iPhone and iPod touch. Price: Free. Access: <http://ssrnblog.com/2009/11/19/ssrn-iphone-app-issrn-is-available/>.
- **Library of Congress (LOC).** Official app for LOC offers a virtual tour of the Main Reading Room, Great Hall, and Thomas Jefferson's Library, as well as exhibition highlights. Includes photos, video, and audio. Access: <http://itunes.apple.com/us/app/library-of-congress-virtual/id380309745>.
- **Meebo Mobile.** Chat with friends or even monitor your library's chat service while on-the-go. Meebo aggregates multiple chat accounts into a single, easy-to-use interface. Meebo Mobile works with iPhone, Android, and BlackBerry. Access: <http://www.meebo.com/meebomobile/>.
- **OECD Factbook 2010.** Created by the Organization for Economic Co-operation and Development, this app presents current economic, social, and environmental statistics. The data is organized into 12 categories, such as Population and Migration, Production and Income, Labour, Science and Technology, and more. Each category offers a range of specific sub-topics with data organized into tables. OECD Factbook 2010 works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://www.oecd.org/publications/factbook>.
- **Periodic Table Explorer.** By Paul Alan Freshney, this app contains in-depth information about all of the elements in the periodic table, including their compounds, physical properties, isotopes, spectra, and reactions. Also includes images of each element. Periodic Table Explorer works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://freshney.org/apps/pte.htm>.
- **Planets.** This app by Q Continuum uses current location to display detailed view of the sky. Provides location of the sun, moon, and

planets; star and constellation maps; and future and current moon phases. Viewing options such as the sky in 2D, 3D, and planet visibility are available. Planets works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://www.qcontinuum.org/planets/>.

- **Shakespeare.** This application by Readdle offers the full-text of 40 Shakespeare plays, 6 poems, and 154 sonnets. Includes a searchable concordance. Shakespeare works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://readdle.com/shakespeare>.
- **TED.** This app by TED Conferences contains the entire TEDTalks library of more than 700 video presentations. Ability to sort by recency, popularity, tags, or themes. Save talks for offline viewing. TED works with the iPad. Price: Free. Access: <http://itunes.apple.com/us/app/ted/id376183339>.
- **USA Factbook Free.** Features facts about all 50 U.S. states, maps with state names, U.S. Anthem with lyrics, U.S. Documents (including the Declaration of Independence), and more. By ADS Software Group, Inc. USA Factbook Free works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://itunes.apple.com/us/app/us-a-factbook-free/id305888083>.
- **WordWeb Dictionary.** Extensive English dictionary and thesaurus that includes more than 285,000 words, phrases, and derived forms. A separate audio version is also available for \$1.99. By WordWeb Software, WordWeb Dictionary works with iPhone, iPod touch, and iPad. Price: Free. Access: <http://www.wordwebsoftware.com/WordWebiPhone.html>.

Libraries and information professionals integrate library catalogue called Web OPAC, patron accounts, library hours, rules and regulation, bulletin board, newsletters, upcoming workshop lecture and more to mobile users. Designing a library mobile Website is a great opportunity for

libraries and professionals to transform user services with recent technological trends. Mobile applications can help to access Library electronic resources. Use of mobile apps in library sector as a means to connect libraries with their users, libraries may be able to reach out to more customers, resulting in stronger and better online communities for students Libraries and information professionals integrate library catalogue called Web OPAC, patron accounts, library hours, rules and regulation, bulletin board, newsletters, upcoming workshop lecture and more to mobile users. Designing a library mobile Website is a great opportunity for libraries and professionals to transform user services with recent technological trends. Mobile applications can help to access Library electronic resources. Use of mobile apps in library sector as a means to connect libraries with their users, libraries may be able to reach out to more customers, resulting in stronger and better online communities for students Libraries and information professionals integrate library catalogue called Web OPAC, patron accounts, library hours, rules and regulation, bulletin board, newsletters, upcoming workshop lecture and more to mobile users. Designing a library mobile Website is a great opportunity for libraries and professionals to transform user services with recent technological trends. Mobile

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Creating mobile Web sites, OPACs, and applications

The following websites provides a web based tools, and description to develop a mobile based library applications for their users. It includes developers' guides, tutorials, customization features, and templates to design applications. The applications helps to develop are mobile-optimized Web sites which are compatibility with current Web standards. Interesting thing is that there is no technical or programming knowledge required with websites like **MobiSiteGalore** etc.

- **Android Developers.** Resources for creating Android applications. Includes developer's guide, tutorials, and videos. *Access:* <http://developer.android.com>
- **AirPac (Innovative Interfaces).** Offers a mobile version of the Innovative Interfaces (III) library catalog. Includes features such as cover images, integrated library locations with Google Maps software, request and renew items, and more. Contact Innovative Interfaces for

pricing. *Access:* <http://www.iii.com/products/a/irpac.shtml>.

- **Boopsie.** Specializing in public and academic libraries and universities, Boopsie can deliver mobile applications that are compatible with all Web-enabled phones. Contact the site for a price quote. *Access:* <http://www.boopsie2.com/>.
- **Create an iPhone Optimised Website using JQTouch.** Freelance Web Designer and Developer Matthew Leak outlines one way to create an iPhone-friendly version of a Web site. Coding examples are included in this tutorial. *Access:* <http://www.tuttoaster.com/create-an-iphone-optimised-website-using-jqtouch/>.
- **Library Anywhere.** Created and sold through LibraryThing, Library Anywhere is a mobile catalog for any library. Includes mobile Web and apps for iPhone, Blackberry, and Android. Prices range from \$150 annually for schools to \$1,000 annually for universities (additional fees may apply). *Access:* <http://www.librarything.com/orlibraries>.
- **MobileTuts+.** Tutorials for all mobile developers, regardless of platform. Topics include techniques for building mobile apps and mobile Web sites. *Access:* <http://mobile.tutsplus.com/>.
- **MobiSiteGalore.** Build a mobile Web site in less than 60 minutes. No technical or programming knowledge required. Packages range from basic (cost: free) to unlimited (cost: \$24.99 per month). *Access:* <http://www.mobisitegalore.com>.
- **MoFuse.** Build a mobile version of an existing Web site or blog with the MoFuse (short for Mobile Fusion) content management platform. Plans range from \$7.95 per month to \$199 per month. All accounts come with a 14-day risk-free trial. *Access:* <http://mofuse.com/>.
- **Mobile Web Best Practices 1.0: Basic Guidelines.** Created by the World Wide Web Consortium (W3C), this document specifies guidelines for developing Web-based content

for mobile devices. *Access:* <http://www.w3.org/TR/mobile-bp/>.

- **W3C MobileOK Checker.** Validate mobile-optimized Web sites for compatibility with current Web standards. Results include severity, category, and description of the error along with best practices for fixing issues. *Access:* <http://validator.w3.org>.

Conclusion

The use of Mobile technology and ICT undoubtedly changed the way of providing services and access of libraries to the users. Mobile phones are inevitable tools of ICT. Application of mobile phones to provide library and information services will open new pathway towards this trend. With use of Mobile technology in all type of libraries the

library became “Smart Library and Users became Smart User” this technology has given advanced and user friendly access of knowledge, information and services to users at anytime and anywhere. The Collection of libraries are now available in the pocket of users, there is no time, place and manpower is required to access, reserve, request for the document or information required. The task of libraries is to exploit new technology in a more effective way to promote and integrate them into the design of future library services in a cost efficient manner. More and more changes are expected in coming years in the field of mobile technology and its application to libraries especially in India. Librarians must take advantage of this technology to provide information in hand and library in pocket to mobile centric society.

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