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# The future of libraries in the mobile world

Modern cell phones are full of applications wanting to communicate with library systems. Currently there are over 100.000 apps and thousands of them have something to do with books. What are the implications for libraries and library technology development?

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Are libraries obsolete artifacts, archaic reminiscences of a past glory or dinosaurs in the information world? These days we often discuss the future of libraries and the role of the librarian. Most discussions imply that libraries are going downhill. There is, though, a clear possibility of establishing libraries for a long time to come if libraries can change their image from shelf-ridden book storage centers to being a part of an active community, physical and virtual. As long as they focus on their core values libraries do not have any real competitors. In other words, they have a secure future as long as they provide us with equal access to information, support of personal development and lifelong learning.

## The LMS

Traditionally libraries have had a strong focus on their Library Management Systems but are they obsolete artifacts, archaic reminiscences of a past glory or dinosaurs in the IT world? Every day around the world, millions of books and other media are issued by library clerks and self issue machines. There are millions of internet based library transactions every day. New library portal software like Axiell Arena, Ex Libris Primo, III Encore will force a strong growth of catalogue access.

There is a current phase shift from physical to digital (especially in research libraries). A revived trend is the e-books with e-book readers like Kindle, Bookeen, Sony, the nook, smart phone applications and now the iPad. As long as the usage of digital media involves the handling of metadata, some form of library media management systems will be around.

## Open data

The systems should be able to manage different forms of metadata and their different dependencies. These systems have public interpretation tools like web and mobile phones. We need to make the presentation of the metadata as clear as possible for the public, the end user. The user should instantly be aware, for example, that the object she has on the screen is part of a collection of the local museum's current exhibition and that it is shown because she has read a book on the same subject.

To share the data in our systems with others we need clear defined standards. Standards have been a real success story for the library community. Z39.50, Z39.70, ISO 2709, ISO ILL, SIP-2, NCIP etc. A new path in internet communication is Web Services (WS). Through WS the data can be extracted by the library, other parties' applications, gadgets, widgets and so on, with the 2.0 mash up technologies as a dominating concept these days. This is a most important path for library technology vendors; enhancing the openness of the systems for customer flexibility.

## The mobile phone changes the picture

The mobile phone is a strong driving force, a behaviour changer. It is a computerized communication tool for all purposes. It is predicted that mobile devices will trump the desktops by 2013 on internet traffic. A year ago the prediction was the year of 2020. Social media explodes on phones; one interesting example is that social media usage in Japan has gone from 17% to 72% in three years.

Cell phones like iPhones and Androids are full of applications wanting to communicate with library systems.

Cell phones like iPhones and Androids will take care of all your communication with the library.

The apps for the iPhones and for the Google Android platform are also exploding. There are over 100 000 apps. Thousands of apps have something to do with books! These platforms have not been out there for long so this is going fast. We have wind sensitivity apps (blow a kiss!), localizers, lyrics catchers, accelerometer apps, image identifiers, footprints, compass mode, a rumored Librarian (?) voice level checker app. Hopefully we will soon have a flora and mushroom identifier – wouldn't that be something! Having biography.com and Britannica available via the phone is a natural thing today.

## Mobile phones and library services

Staff use of cell phones has normally been restricted to applications for homebound services.

"Has the patron borrowed this book before"-functionality. Issue and return services are also developed for cell phones.

Patron services include:

- SMS services: On hold messages, due time warnings, renewals.
- basic OPAC functionality, including searching, reservation, renewals etc are covered by XHTML and applet applications.

Now there is progress in this field and we will be seeing new services arise

- you use the phone as a GPS tool to find the library
- you are working on an assignment and have found some "good books" and you use the phone as a localization tool in the library
- to find your items
- you get an update on your course list with holdings information from the library
- you would like some inspiration from the library's new additions



Applications will be developed for mobile devices to communicate with libraries around the world.

- you would like to explore the media - you find a book and discover that it is available as a film
- you would like a tip on historical biographies with high ratings
- you are on the train, reading an article, and would like to see whether the library has more information about the topic
- you would like to share your opinions, reviews and interests with others via the library's community service
- you read a RFID chip on friend's library book and get availability status from your local library
- you photograph the cover of a book and get availability status from your local library
- you would like to receive updates on other offers that match your profile
- the news about a theme/program/guest professor's lecture will be accompanied by a literature list
- you pay your fines with the phone

RSS-services can be used for some of the above. RSS services are a powerful, yet very simple way of getting services in a convenient way. The cell phone works extremely well as a RSS-reader.

### The future is always in front of us

The cell phone is tearing down technology barriers. We do not need expensive equipment to film and record an author/professor visiting/giving a lecture at the local library/university. We do not need special competencies to podcast this event on the web. It is easily done by anyone with a cell phone and a couple of lines of instructions.

Among futuristic (yet close enough) cell phone options is the possibility to tag (categorize) anything in your city with the help of a tag server and localization service. Point your cell phone at

the object (restaurant, art museum, university), click and write or record something (clever?). Some of this can already today be done with so-called footprint apps. Next level of development is using a tag server which stores this. The next person who passes, physically or virtually, can read/listen to your comment/evaluation/story. This kind of development could be helped by classic library competencies on different aspects of metadata. The cell phone is a possible tool to document and comment on cultural or everyday life. If we want this to happen, the libraries have the power to accommodate the processes and to present the outcome.

To blend old and new functionality in the library technology systems we need to see that it is an essential part of the systems to store and present different metadata (and sometimes the data). This metadata we can both produce and present with the help of the mobile phone. We cannot know what we in the future exactly want to store and how these things will be connected. What we do know is that the mobile world will be demanding all this as ubiquitous services. There is a vast range of possible different scenarios for storing and presenting data and metadata. The systems need to be very flexible and as open as they can be. It's a challenge but doable with the right foresight and with the right approach.

The future is always in front of us but mobile phones impact on communication technology and people's use thereof is already a matter of fact. Libraries should leave no stone unturned to develop the possibilities of services to their customers using this technology. 