

## Program overview

There is an exciting and eclectic mix of presenters, topics and experience. The pre-conference workshops offer opportunities for hands-on experimentation, sharing experience and expertise and picking up practical and strategic tips from leaders in the field. We have more than 40 presentations and posters from 20 different countries from Australia, Europe, Asia, Africa and North America. The three topic strands will focus on mobile services and their development, mobile users and evidence about their behaviour and requirements and emerging technical developments including new platforms, devices and applications. Delegates will be able to move freely between the strands. The quality and diversity of the papers accepted reflects the extent to which the field of m-libraries has matured and flourished since the very first conference in 2007. Papers include strategy and infrastructure developments at national level, local innovation, reflections and feedback on new service models, user research, professional development and technical perspectives.

This conference, hosted by The University of Southern Queensland in collaboration with Athabasca University, the Open University, Thompson Rivers University and Emerald Group Publishing, aims to explore and share work carried out in libraries around the world to deliver services and resources to users 'on the move' via a growing plethora of mobile or handheld devices.

The conference will bring together researchers, technical developers, managers and library practitioners to exchange experience and expertise and generate ideas for future developments.

## Keynote speakers

**Stephen Abram:** Vice President for Strategic Partnerships and Markets for Gale Cengage

**Dr. Mohamed Ally:** Professor in Distance Education and Director of the Centre for Distance Education at Athabasca University.

**Jessica Colaço:** iHub Manager at iHub - Nairobi's premier innovation hub.

**Prof Gilly Salmon:** Executive Director of the Australian Digital Futures Institute at University of Southern Queensland.

## Note to Speakers

- December 2010 – Authors notified of abstract acceptances
- Post m-libraries conference – Authors will be contacted selectively and invited to contribute full papers for the book of proceedings to be published by Facet. Detailed requirements will be available.

# M-libraries 3

Transforming libraries  
with mobile technology

edited by

**Mohamed Ally** and **Gill Needham**



facet publishing



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Our thanks go to all the authors who have contributed to the book, not only for their inspired content but for their co-operation in meeting deadlines. Above all, our thanks go to Jeannette Stanley for her patience, hard work and support.

**Mohamed Ally  
Gill Needham**

## Contributors

### Keynote speakers

**Stephen Abram**, MLS, is past President 2008 of the Special Libraries Association and the past President of the Canadian Library Association. He is the Vice President for Strategic Partnerships and Markets for Gale Cengage. He was Vice President Innovation for SirsiDynix and Chief Strategist for the SirsiDynix Institute. He was Publisher Electronic Information at Thomson after managing several libraries. Stephen was listed by *Library Journal* as one of the top 50 people influencing the future of libraries. He has received numerous honours and regularly speaks internationally. His columns appear in *Information Outlook* and *Multimedia and Internet@Schools*, *OneSource*, *Felicitier* and *Access*, and he also writes for *Library Journal*. He is the author of ALA Editions' best-selling *Out Front with Stephen Abram*. His blog, Stephen's Lighthouse, is popular in the library sector.

**Dr Mohamed Ally** is Professor in Distance Education and Director of the Centre for Distance Education at Athabasca University, Canada. His current areas of research include the use of mobile technology in learning and libraries and e-learning. Dr Ally is past President of the International Federation of Training and Development Organizations (IFTDO) and is one of the Founding Directors of the International Association of Mobile Learning (IamLearn). He was also on the Board of the Canadian Society for Training and Development.

Dr Ally chaired the Fifth World Conference on Mobile Learning and co-chaired the First International Conference on Mobile Libraries. He

recently edited three books on the use of mobile technology in education and libraries. In addition, Dr Ally has published articles in peer-reviewed journals and chapters in books and encyclopaedias and has served on many journal boards and conference committees. He has presented keynote speeches, workshops, papers and seminars in many countries.

**Gill Needham** is currently Associate Director (Information Management and Innovation) at the Open University Library. Her varied career has encompassed roles as researcher, librarian, project manager and educator. She has more than 25 years' experience in senior roles in the library and information sector, with an emphasis on innovation and skills development. During her 13 years at the Open University she has led strategic and developmental work on information literacy and has authored on a number of Open University courses, including Knowledge, Information and Care, Making Sense of Information in the Connected Age, Beyond Google and, most recently, the Evolving Information Professional. She was awarded a National Teaching Fellowship by the Higher Education Academy in 2006 and holds a Master's degree in Health Information Management and first degree in English and American Literature. She has published and presented widely throughout her career.

### Contributors

**Iris Ambrose** is the Campus Librarian at La Trobe University's Shepparton campus in the Goulburn Valley, Victoria, Australia. The library is shared with the Goulburn Ovens Institute of TAFE (Technical and Further Education). The collection caters for 300 students from Commerce, Arts and Education faculties, while nursing students also use a shared library with Goulburn Valley Health. She has been in this role for ten years and is now also the campus Academic Language and Learning lecturer. She has recently completed a Master's degree in Information Management and Systems degree with Monash University, taking off-campus units. She won the 2009 VALA Student Award for excellent results.

**Parveen Babbar** is Assistant Librarian in the Library and Documentation Division at Indira Gandhi National Open University, New Delhi, India. Prior to this he was associated with the University of Delhi, India. He has

and usability, providing support and guidance to content authors to ensure quality and integrity of library web content. She is also involved in monitoring, evaluating and implementing mobile technology and audio, video and interactive software applications within digital library service innovation. In 2009 Keren undertook a ten-week research fellowship at Cambridge University Library, focusing on finding out how people use their mobile phones to access or use information on the move. The results have informed development of library services to mobile devices at both Cambridge and the Open University libraries. The findings were reported at the Second International M-Libraries conference in June 2009.

**Sam Moffatt** is currently a Systems Co-ordinator in the University of Southern Queensland (USQ) Library, working in areas from open repositories with e-prints to resource collection repositories and library catalogue search using VuFind. In this work he has worked on building alternate access to information to support mobile services. Sam also works on the Joomla! open source content management system and is doing work using Joomla! to provide mobile web services side by side with the desktop equivalent.

Niu Xianyun is the Intermediate Engineer for Information and Network Department, National Library of China.

Dr Máirtín Ó Droma, BE (NUI), PhD (NUI), CEng, FIET, SMIEEE, is Director of the Telecommunications Research Centre and Senior Lecturer, Electronic and Computer Engineering Department, University of Limerick (UL); Member, Governing Authority, UL; Subject Matter Expert, Institute of Electrical and Electronic Engineers (IEEE); Invited Expert, International Telecommunications Union (ITU), Geneva; Chairman, Royal Irish Academy's Communications and Radio Science Committee; President, Official Commission Members Ireland, International Union of Radio Science (URSI); Ireland's delegate to European Science Foundation (ESF) Cooperation in the field of Science and Technology (COST) Research Actions: 'Wireless networking for moving objects' WiNeMO (IC0906) and 'RF/microwave communication subsystems for emerging wireless technologies' RFCSET (IC0803); and UL's delegate to the national PRTLI-5 Telecommunications Graduate Initiative (TGI). His

## **Foreword**

*Stephen Abram*

I had the distinct privilege of being invited to provide the opening keynote for the Third International M-libraries Conference in Brisbane, Australia (11–13 May 2011). The conference theme, 'Mobile Technologies: Information on the Move', explored and shared work carried out in libraries around the world to deliver services and resources to users 'on the move' via a growing plethora of mobile and hand-held devices. Previous M-libraries Conferences (2007 Open University in the UK and in 2009 co-hosted by the University of British Columbia and Athabasca University) laid the foundations for international conversations about the challenge in libraries to meet the needs of the mobile user.

As the Conference acknowledged, we are seeing the emergence of a new user dynamic, as evidenced in the plethora of mobile devices as well as the app, smartphone and mobile culture that has started to pressure traditional and innovative institutional libraries to address and support the mobile user.

These proceedings share some of the presentations and research that was presented at the Third M-libraries Conference. My own keynote is available as a Slideshare and on my blog, Stephen's Lighthouse.

Over the years, we have learned that mobility has the power both to enhance the library experience and to disrupt. At this conference we explored how to tell the difference between an opportunity and a threat. What are the opportunities in learning, research, education, management, etc.? From my point of view there have been a few strategic shifts that

are caused, or at least magnified, by the mobile revolution. And these changes are just in their nascent stages at this point. They include:

- ❑ the shift from desktop/laptop environment to one that is designed for a small screen and sound
- ❑ the shift from potentially shared network devices (desktops and laptops) to truly personal devices
- ❑ the shift to a sharing and collaboration ecosystem from one that is a constrained networked architecture but founded in personal social and professional networks with permeable boundaries
- ❑ the shift from enterprise-controlled architecture and machines to personally controlled and owned devices
- ❑ the shift to an information and communication ecology that is global rather than one that is bounded by institutional or national cultural norms and rules
- ❑ the shift to an end-user device that is fundamentally based on interpersonal and team communication and collaboration and supportive of social networking as its core, and outside the bounds of institutional controls
- ❑ the emergence of a world where discovery and learning is largely dominated by interdisciplinary and cross-disciplinary studies and one in which the collaboration of scientists and researchers goes well beyond the published record, but in advanced virtual communities of practice that transcend enterprise and institutional work teams.

This is an exciting time for libraries and library professionals. The software, applications and devices are finally moving into alignment with library values and mandates. Digital content is growing fast and some disciplines are approaching the ability to practise successfully with digital information the majority of the time, and sometimes with much better transformational ways of discovery and research. Libraries are social institutions on a global scale. Librarians are social animals. Our values support worldwide sharing, freedom of access to information and knowledge, openness, learning, discovery and research, and the curation and preservation of cultural properties. Mobile creates a newer platform that aligns with our goals.

Mobile sits at the confluence of people, content, community, curation, connection and contact. It sits in the centre of the sweet spot for the situations that librarians touch and have a positive impact upon: information, organization, discovery, preservation, culture, learning, research and more. As such, this conference and its predecessors play an important role in learning how to adapt to a new ecology. As I often say, the dinosaurs didn't become extinct because the climate changed. They disappeared because they didn't adapt fast enough to the change. Indeed, they were limited by brains the size of walnuts, so we have an advantage. With our bigger brains and our better communication abilities, we can adapt. Conferences like this help to show the way.

As we move towards discovery, research and learning ecologies that are dominated by electronic content, e-learning and support for multiple learning styles so that everyone can participate in more effective ways, we will see the impact of mobile technologies and applications rise to the forefront. As communication and data costs decline, as devices become increasingly affordable, and as human connectedness increases, we will live through this coming period where we can share and shape the changes as we see them emerging. We will also help to shape and create this new environment. It is now entering a period where the change will be exponential – and not as slow as in the past ten years. With conferences like M-libraries, we see the hard work being done to understand, experiment, innovate and adapt to these changes. As the old saw has it, 'The best way to predict the future is to invent it yourself.' If the quality of the presentations at M-libraries and in these proceedings is any indication, we can do it!

I hope you enjoy these proceedings, as a memory of your time at the conference, or as a record of what happened there in this library age, the Neocene of the mobile revolution. We have only two real choices: create the future or be a victim of it.

Stephen Abram, MLS  
Vice President, Gale Cengage Learning

## **Introduction**

*Gill Needham*

Since the publication of the second book in this series (Ally and Needham, 2010) the field of mobile service delivery has matured considerably and is transforming how libraries operate. Mobile devices have become ubiquitous and libraries around the world have begun to engage with the opportunities they offer – some in experimental mode and some as mainstream services. Advances in technology present both challenges and opportunities. The contents of this latest book reflect the variety of approaches being taken and present a rich panoply of experiences from many corners of the globe – 21 chapters from 11 countries as far apart as Spain and New Zealand, India and Japan, South Africa and the USA.

The book opens with a chapter by Mohamed Ally in which he describes the role of libraries in providing education for all. There are many global initiatives being implemented to provide at least a basic education to citizens around the world regardless of location, background and economic status. This chapter summarizes these education-for-all initiatives and explores how libraries could be transformed to provide education for all.

The remainder of the book is divided into three thematic parts. The first is Developing Mobile Services. It includes seven chapters from six countries, each describing the experience of researching, planning and implementing a diverse range of services for mobile users.

Deakin University in Melbourne, Australia, serves a large proportion of distance learning students as well as students based on campuses in three geographical locations. Colin Bates and Rebecca Carruthers explain in

Chapter 2 that these factors support the increasing use of mobile technologies. In their chapter they describe the development of mobile library services as part of a broader, university-wide mobile strategy. They have a programme of ongoing experimentation with new devices for both staff and students, and they share the feedback they have gathered from various small-scale trials.

The University of South Africa (Unisa) is one of the world's largest universities and, with more than 308,000 students, is the largest distance teaching institution in Africa. In Chapter 3, Jenny Raubenheimer points out that Africa is the fastest-growing mobile phone market in the world and that mobile phones are now regarded as the equivalent of personal computers for the African continent. While the majority of Unisa students have mobile phones, many do not have access to the internet via personal computers. Mobile delivery has therefore provided an ideal opportunity for Unisa Library to extend and enhance access to its services. Developments to date are described, as are plans for future innovation.

Vahideh Zarea Gavvani is an Iranian researcher whose work focuses on the potential of mobile technology for the delivery of consumer health information. In the study described in this chapter, she surveyed hospital patients receiving treatment for a range of conditions, to determine their preferred channels for receiving health information. Her results are presented in Chapter 4 and discussed in terms of their implications for service delivery. She explores different ways in which mobile phones might be used as a delivery channel to improve what she terms 'health literacy' in Iran and other developing countries.

The evolution of e-books and e-book readers is of crucial importance to the development of m-libraries. In Chapter 5 Anna Zuñiga-Ruiz and Cristina López-Pérez describe the implementation and evaluation of an e-reader loan service at the Universitat Oberta de Catalunya (UOC). Since the university's inception in 1995, UOC Library has offered its services online and has demonstrated a strong commitment to the innovative use of technology. The purpose of the e-reader loans service was to extend and enhance the service and support offered to students by providing e-readers on which they could access both their learning materials and library resources. The authors discuss the results of their evaluation, and implications for their future plans.

The University of the South Pacific is a complex institution, owned by the governments of 12 Pacific island countries and with 14 campuses. The

Library faces considerable challenges in supporting its diverse, highly distributed and multi-cultural student population. In Chapter 6, Ela Volatabu Qica discusses the opportunities offered by mobile technologies to strengthen the Library's role in providing services and support. She reviews the services offered by Fiji's major mobile telecommunications providers and the extent to which they will allow the Library to meet the needs of the student body.

While the majority of m-libraries' service developments have focused on text-based information, Margie Wallin, Kate Kelly and Annika McGinley at Southern Cross University (Australia) have taken a different approach. Chapter 7 describes a research project to investigate the potential of providing academic content in audio form, thus addressing different learning preferences and avoiding the problems of reading text on small screens. They report and discuss their findings, and implications for future development.

In Chapter 8 Daniel McDonald and Roger Hawcroft, from Toowoomba Clinical Library (Southern Queensland), describe the inception, development and progress of an innovative service to provide clinically orientated audio presentations to health professionals in their region. Using the opportunities provided by mobile technology (iPods in this case), they built on their experience of the successful use of audio to maximize access to quality medical information for busy (and frequently mobile) clinicians, to build an ambitious and highly successful suite of services.

Part 2 is entitled People and Skills. The six chapters focus on two aspects of skills development: the skills library staff need to develop in order to support mobile users; and mobile delivery of information literacy skills for student users.

Sarah-Jane Saravani and Gaby Haddow carried out an investigation of the preparedness of library staff in the vocational education sector in New Zealand and Australia to implement m-library services for their users. They surveyed librarians in 14 institutions about their competence in using mobile technologies and followed up with in-depth interviews. They discuss their findings in Chapter 9 and make recommendations for ways in which the resulting challenges could be addressed by both library management and professional education. A complementary chapter, Chapter 10 by Kate Davis and Helen Partridge at Queensland University of Technology, describes a research project which set out to identify the skills, knowledge and attitudes required by the m-librarian. The authors

carried out in-depth interviews with librarians providing mobile services and used their analysis to propose ways in which the librarian's traditional skills and attitudes need to be enhanced in order to meet these evolving demands. Both chapters will be of particular interest to those involved in professional curriculum development.

Four chapters provide contrasting but related experience of using mobile technologies to deliver information literacy skills development. In Chapter 11 Sophie McDonald describes a range of innovative activities at the University of Technology, Sydney, all of which aim to use m-technologies to engage students in developing their skills. She and her colleagues have made extensive use of Quick Response (QR) codes for everything from a treasure hunt as part of a Library Fun Day for new students, to providing instructions for the use of a self-service machine. Other initiatives include the provision of mobile searching workshops and low-cost vodcasts uploaded to YouTube.

In a similar space, a group of librarians (Julie Cartwright et al.) at Charles Darwin University chose to focus specifically on QR codes in order to investigate their users' knowledge and use of mobile technologies. They developed and evaluated a highly sophisticated library treasure hunt activity using QR codes and a range of social tools which ran over a four-week period. They present and discuss their results in Chapter 12 and reflect on the experience overall.

Andrew Walsh and Peter Godwin are librarians at two UK universities (Huddersfield and Bedfordshire). Their chapter, Chapter 13, falls into two distinct sections. The first is an analysis of the concept of mobile information literacy, based on a review of relevant literature and their own local research work. They suggest that, because of the impact of mobile technology, the library community needs to rethink the information literacy needs of users. The second part of their chapter consists of a review of their experience as providers of mobile information literacy in their respective institutions. A range of innovative interventions are described, with evidence of take-up and impact.

At La Trobe University in central Victoria, Australia, the postgraduate students enrolled on a Diploma of Education programme were each given an iPod Touch to enable them to download their learning materials and share their work with others. In chapter 14 Iris Ambrose describes the way in which she and her library colleagues seized the opportunity to use these devices to introduce the students to

online library services and searching skills. The sessions are described and the results of the subsequent evaluation presented and discussed, as are the implications for future practice.

Part 3 is entitled Focus on Technology. Chapter 15, by Wei Dawei, Xie Qiang and Niu Xianyun, describes the history and implementation of the National Library of China's suite of mobile services. These services have evolved since an initial launch of SMS services in 2007 and continue to develop to meet the needs of a growing population of mobile phone 'netizens' (303 million in 2010, with 859 mobile phone users overall). The authors present the range of developments they have achieved and discuss the drivers, constraints and current and future challenges.

Chapter 16, by Seema Chandhok and Parveen Babbar, gives a comprehensive overview of the phenomenal explosion of mobile phone usage in India (811 million subscribers in 2011) and details the ways in which the potential is being harnessed across the country for learning and libraries. They describe a diverse range of initiatives involving both public and private sector institutions and provide inspiration for others at earlier stages of progress.

On a smaller scale, in Chapter 17 Jim Hahn presents his rapid ethnographic study of users of mobile computing, carried out at the University of Illinois in the USA. He set out to explore the impact of context on use by observing and investigating the use of library iPads by a small group of students while riding a campus bus. He describes his methodology and presents the results and their implications for future work.

Hassan Sheikh and Keren Mills describe the background and development of mobile services at the Open University Library in the UK in Chapter 18. They focus on the development process itself, following user requirement gathering, the experience and lessons learned to date, future plans and some hints and recommendations which may be helpful to others.

Keiso Katsura identified a shortcoming in the ways in which library opening hours are displayed and published. He observed from earlier studies that users rate library opening hours as important information, but he recognized that there was no easy way of gathering up-to-date and accurate information about which libraries in an area are open at a particular time. In Chapter 19 he describes the system he has

developed, based on CGI (Common Gateway Interface) technology, to make this information available dynamically to mobile users.

In Chapter 20 Damien Meere and his colleagues from the University of Limerick in Ireland and Plovdiv University in Bulgaria describe their research, which is developing and testing a new architecture for providing both mobility and a personalized information environment for library users. The architecture is based on an InfoStation design model whereby users can access a range of m-services through a distributed network of intelligent wireless access points.

The final chapter in this section, Chapter 21, differs from the rest in format and content. Based on his extensive practical experience in the library at the University of Southern Queensland, Sam Moffat provides a simple step-by-step guide to developing a basic mobile website. This very practical chapter could prove to be an invaluable resource for any library embarking on mobile service development with only limited technical resources.

Finally, Mohamed Ally rounds off the volume with his concluding thoughts.

### **References**

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- Ally, M. and Needham, G. (2010) *M-Libraries 2: a virtual library in everyone's pocket*, Facet Publishing.