



Library Hi Tech

Emerald Article: Student attitudes towards mobile library services for smartphones

Lorraine Paterson, Boon Low

Article information:

To cite this document: Lorraine Paterson, Boon Low, (2011), "Student attitudes towards mobile library services for smartphones", Library Hi Tech, Vol. 29 Iss: 3 pp. 412 - 423

Permanent link to this document:

<http://dx.doi.org/10.1108/0737883111174387>

Downloaded on: 05-04-2012

References: This document contains references to 14 other documents

To copy this document: permissions@emeraldinsight.com

This document has been downloaded 1394 times.

Access to this document was granted through an Emerald subscription provided by UNIVERSITY OF AKRON

For Authors:

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service.

Information about how to choose which publication to write for and submission guidelines are available for all. Additional help for authors is available for Emerald subscribers. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

With over forty years' experience, Emerald Group Publishing is a leading independent publisher of global research with impact in business, society, public policy and education. In total, Emerald publishes over 275 journals and more than 130 book series, as well as an extensive range of online products and services. Emerald is both COUNTER 3 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.



Student attitudes towards mobile library services for smartphones

Lorraine Paterson and Boon Low

e-Science Institute, University of Edinburgh, Edinburgh, UK

Received February 2011
Revised February 2011
Accepted May 2011

Abstract

Purpose – This paper aims to provide quantitative and qualitative data on students' use of mobile devices and to consider the benefit of academic mobile library services to students.

Design/methodology/approach – Initial mobile library research included an online survey that attracted 1,716 participants. This was followed up with two discussion groups of six undergraduate and five postgraduate students. The survey followed-on from an earlier survey conducted by the University of Edinburgh's Information Services (IS) in March 2010.

Findings – The dramatic growth of smartphone ownership among students in an eight-month period was surprising: a 17 per cent increase between March and November 2010. In addition, 68 per cent of students who plan to change their mobile handset would upgrade to a smartphone.

Research limitations/implications – As students were unable to provide feedback on University of Edinburgh's own mobile library services, their feedback is speculative and subject to change.

Practical implications – The paper provides evidence for libraries to determine the value of developing their own mobile services. It also demonstrates the proliferation of mobile device usage within the university and library context and indicates which services students would find most useful on a mobile device.

Originality/value – The paper provides insight into a rapidly moving area of technology as demonstrated through the research. The increasing use of mobile devices among students is important to acknowledge. The role of the academic library is to embrace changing student behaviour by providing services optimised for mobile devices.

Keywords User research, Smartphones, Academic libraries, Mobile library services, Mobile communication systems, Information technology

Paper type Research paper

1. Introduction

Mobile phone technology has changed rapidly since the advent of the smartphone almost a decade ago (Fling, 2009). However, few libraries are thinking about the potentially dramatic implications the uptake of devices with sophisticated capabilities may have on the user community and more specifically on the use of digital information resources (Lippincott, 2010a, b). Previous research has shown that 55 per cent of students were in favour of being able to access the library catalogue from their mobile phones (Mills, 2009). This coupled with an increase in power users of mobile internet and general usage among university students (Smith and Caruso, 2010) clearly indicates that mobile library services merit serious investigation.

In this exploratory study we investigated student attitudes towards mobile library services with an online survey and two follow-up focus groups. The aim was to

The authors would like to acknowledge that the research has been possible through the funding of the JISC Information Environment Programme 2009-2011 (12/08 call).



uncover the scope of mobile services students would find useful in order to try and prioritise those services for development. The findings will underpin existing mobile library service developments at the University of Edinburgh. It may also be useful to other academic libraries in terms of planning mobile library service development and understanding users' needs. The findings support existing research which states that Smartphone ownership and use of the internet among students is rising. It also suggests that libraries need to consider providing a range of services optimised for mobile devices in addition to mobile library catalogue use scenarios.

2. Background

The research has been conducted as part of the JISC project, UX2.0, which is funded under the Information Environment Programme 2009-2011[1]. The project seeks to develop contemporary user experience (UX) of digital libraries through a technological development and usability evaluation framework. It aims to enhance an existing digital library with state-of-the art technologies and investigate new contexts in which digital library services can be diffused. This dovetails with the current developments of mobile phone technology and a need to harness these for the mobile application pilot development in UX2.0.

As the University of Edinburgh is currently developing mobile services for students, it also seemed appropriate to carry out research to supplement the work, especially to deepen the research outcomes for digital library provision. As technological advances present both challenges and opportunities, it is important to ensure that the best possible strategy is developed which puts the user's experience at its heart.

Recommendations for mobile library services are provided at the end of the article and are based on the findings of the research. These will hopefully be useful to both Edinburgh University and other academic libraries in the wider JISC community who may be considering developments in mobile library services.

3. Literature review

The increasing interest in mobile technology in providing library services is apparent in the number of case studies recently conducted and the growing number of mobile friendly websites and native applications being developed for libraries. It appears that the ubiquitous presence of mobile devices has made it virtually impossible for libraries to continue ignoring them (Speight, 2009). The recognised opportunity of new technology to libraries has been demonstrated through a number of studies. Such studies provide benchmarks with which to track attitudes to new services as technology advances. For example, Ryerson University Library performed a survey of student mobile device usage in November 2008 to gain a better understanding of how mobile devices were being used by students and to provide insights on what library services might best be adapted to the small screen. They found that top internet use on mobile devices was to access e-mail, Facebook, and browse the internet. Mobile devices were also primarily used for making calls, texting, taking photos and listening to music. Only 21 per cent of students surveyed owned a smartphone but almost 40 per cent were planning to purchase a smartphone next. Consequently, Ryerson predicted a sharp rise in smartphone ownership to between 40 and 80 per cent by the end of 2011 (McCarthy and Wilson, 2009).

The EDUCAUSE Centre for Applied Research (ECAR) has been conducting an annual survey of undergraduate students and information technology since 2004. Their seventh survey in 2010 gathered feedback from 36,950 undergraduate students across US and Canada. The survey supported Ryerson's prediction, revealing that two thirds of respondents own internet-capable handheld devices. They also found that half of students use the Internet from their device daily which was an increase from the previous year's respondents. This clearly demonstrates that mobile computing is on the rise. However, they also concluded that student technology adoption patterns are relatively stable, even as technologies themselves change dramatically (Smith and Caruso, 2010).

California Digital Library (CDL) embarked on a mobile user research project more recently which culminated in a new mobile version of California Digital Library's website. They conducted two surveys which collected responses from 295 participants, followed by fourteen interviews. They found that mobile users use the library services to find known materials or quick pieces of information and they are normally already using online databases and catalogues on their mobile devices. As a result, there appeared to be a need among users to transfer data between devices such as search results to primary computers. They also found that 55 per cent said they would like to search the library catalogue on their mobile frequently or occasionally (Meier, 2010). This finding was shared by Cambridge University who also conducted a survey that found that 55 per cent of respondents were in favour of accessing the library catalogue from a mobile phone (Mills, 2009). This was in addition to accessing information such as library opening hours, location, contact information and borrowing record. Such services were therefore recommended to be implemented to a mobile library service.

Huddersfield University also conducted research into student attitudes and use of mobile library services. Inviting eighteen students to a number of small focus groups they were able to investigate user acceptance of the libraries use of mobile technologies and SMS (text messaging) in particular. The findings suggest that students do not view text messaging services as intrusive but are reluctant to use the mobile web unless where absolutely necessary or to access e-mail (Walsh, 2010). This contradicts the research by California Digital Library which found that students showed significantly less interest in notification by text. However, both studies did find that students were only really interested in mobile library services when there is a perceived need and immediate benefit to them. This highlights the issue of usefulness in mobile library services. Huddersfield University pondered that such reluctance could change in the near future as access to the web via mobile phones becomes increasingly mainstream. The survey and focus groups carried out for this project seeks to find out if this is the case.

4. Methodology

In March 2010 the university's Information Services (IS) management team surveyed Edinburgh University students on mobile university services. The UX2.0 project conducted a follow-up survey seven months later based on the IS survey but with an additional section concentrating on mobile library services. Doing so made it possible to compare findings from both surveys and identify any changes which might have taken place over a period of time. The additional section on library services provided

insight into those services accessed by students using the mobile devices. It also helped to determine those services students considered to be most useful on a mobile device.

The UX2.0 survey was launched on 12 November and ran for two weeks. The survey was hosted by the Bristol Online Survey service. It was promoted by placing an announcement on the student and staff portal, MyEd. An e-mail inviting students to participate was also sent to all students. Students were offered the chance to enter a prize draw upon completion of the survey as an incentive to participate. During the two-week period a total of 1,716 students completed the survey. This was very similar to the 1,989 students who participated in the IS survey eight months earlier and approximately 6 per cent of the total student population at the university during 2009/2010[2]. This would represent approximately 11 per cent of the average UK higher education student population[3]. Overall, 56 per cent of respondents were female and 66 per cent were undergraduates, 18 per cent were taught postgraduates and 16 per cent were research postgraduates. A total of 36 per cent of respondents were also international students. The largest age group of respondents was 20-25.

In addition to the survey, two focus groups took place in January 2011 as a follow-up to the survey. All of the focus group participants indicated their interest in participating in future research in the survey and were recruited on this basis. Those who were interested in taking part in future research were encouraged to leave their contact details at the end of the survey. Focus group participants were recruited from this list and screened to ensure they all owned a smartphone and had sufficient internet access through their mobile service provider. Recruitment was done to ensure a mixture of students and types of smartphones. In total, five post-graduate students and six undergraduate students took part. Each participant received a £10 book voucher as incentive for taking part. The focus groups took place at the e-Science Institute over the course of one day.

Each focus group involved demonstrations of existing mobile library services by other academic institutions. The purpose of the focus groups was to identify the main tasks which students wish to carry out on their mobile devices within a university and library setting. As Edinburgh University has not yet developed any mobile specific services for student's to evaluate, the mobile services of independent higher education institutions were used. Doing so made it possible to gather feedback on each mobile library website, learning what services should be implemented at Edinburgh University but also identify less successful services and what not to do. The mobile services which were demonstrated to students during the focus groups included North Carolina State University Library (NCSU)[4], Cambridge University Library (CamLib)[5] and Amsterdam University Library[6]. The Universities were chosen because they approached the development and implementation of mobile library services in different ways.

As students were required to use their mobile devices during the focus group, only those with internet capable phones were recruited. Table I provides the profiles of everyone recruited for the focus groups.

5. Findings

5.1 Mobile preferences

One of the most significant finding from the survey was the dramatic increase in smartphone ownership among students. A total of 67 per cent stated that they owned a

Table I.
Focus group participants

Sex	Status	Mobile device	Service type	Internet provision
F	Undergraduate	iPhone 3G	Pay monthly	Unlimited access
M	Postgraduate	iPhone 4	Pay monthly	Limited, but meets my needs
M	Postgraduate	iPhone 3GS	Pay monthly	Unlimited access
M	Postgraduate	Samsung	Pay as you go	Unlimited access
M	Postgraduate	Blackberry	Pay monthly	Unlimited access
M	Postgraduate	Palm	Pay monthly	Limited, but meets my needs
M	Undergraduate	Palm	Pay as you go	Unlimited access
F	Undergraduate	Blackberry	Pay monthly	Unlimited access
M	Undergraduate	Blackberry	Pay monthly	Limited, but meets my needs
F	Undergraduate	Sony Ericsson	Pay monthly	Unlimited access
M	Undergraduate	iPhone 3GS	Pay monthly	Unlimited access

smartphone, an increase of 17 per cent from those students surveyed by IS in March 2010. It is also 4 per cent higher than undergraduate students surveyed for the 2010 EDUCAUSE report (Smith and Caruso, 2010). The definition used of smartphone for the research was borrowed from a survey conducted by Apple. Their definition is described as:

A mobile phone with touch screen and/or QWERTY keyboard you use for e-mail and the web (using a full web browser such as IE, Safari, or Chrome, and downloadable applications).

This is coupled with another finding that 68 per cent of those who said they are planning to change their mobile handset in the next 12 months would upgrade to a smartphone. The results clearly indicate a rapid movement towards smartphone ownership among university students. This supports the prediction by Ryerson University (McCarthy and Wilson, 2009) and is in line with findings from the EDUCAUSE survey (Smith and Caruso, 2010). The trend suggests that the number of students owning a smartphone will continue to grow.

Students were also surveyed to determine the level of access to the internet available on the mobile handsets. Almost three quarters of students stated that they have a contract which provides unlimited internet access to their mobile handset or a limited internet service which is sufficient for their needs. Only 16 per cent of students surveyed had no form of internet access on their mobile handset which is less than the number of students who do not own a smartphone, suggesting that even students without a smartphone still have some form of access to the internet on their mobile device. The ramifications for universities and libraries in particular is that a high proportion of patrons have the ability to access services using their mobile handset and that this is likely to increase over time.

5.2 Mobile library services

Edinburgh University library does not currently have services specifically designed for mobile devices. Consequently it was important to find out if students have ever tried to access any services using their mobile devices in the past and what services they would be likely to use with mobile devices if available. Students were asked to rate how useful a number of library services would be by completing a four-point Likert scale: very useful, generally useful, not very useful, and not at all useful. The positive and negative attitudes to the services listed are illustrated in Figures 1 and 2.

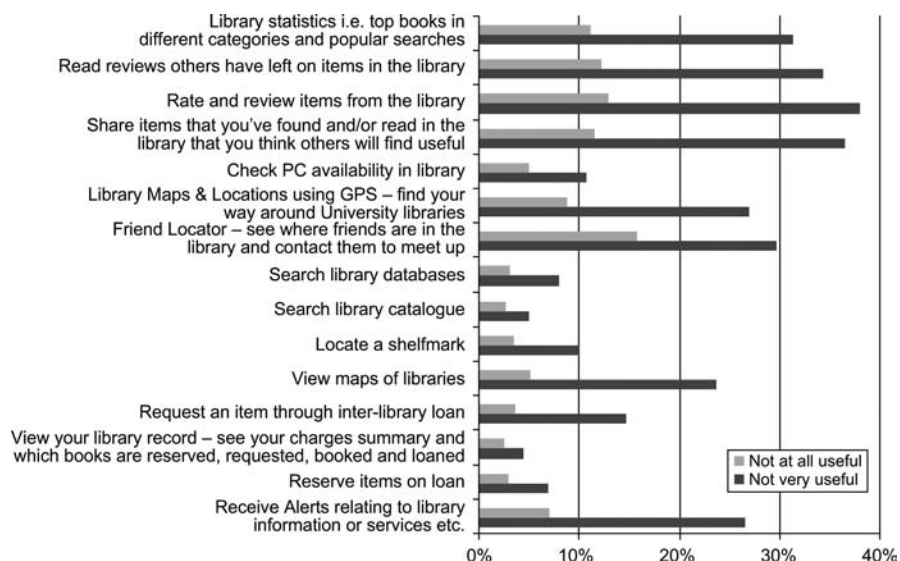


Figure 1.
Percentage of students who rate each library mobile service as “not very useful” or “not at all useful”

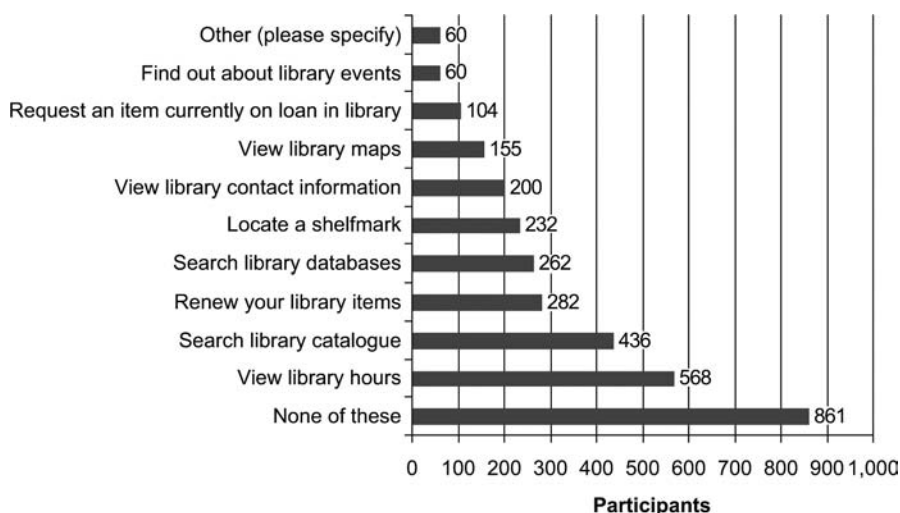
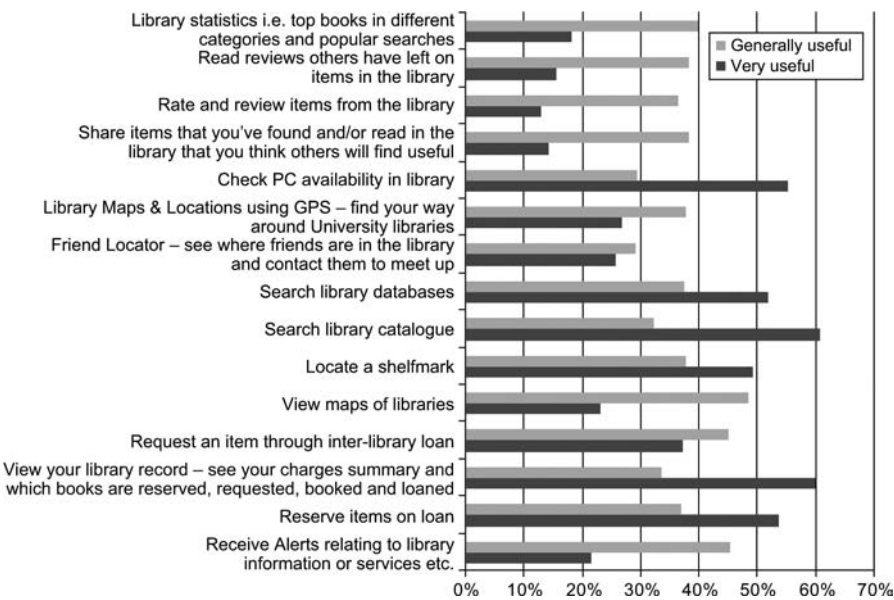


Figure 2.
Frequency of library information accessed using mobile device

Figure 3 clearly demonstrates that there were some services students believed to be very useful to them. These included the ability to check PC availability, search the library databases and catalogue, view their library record and reserve items on loan. Although most of the services were considered useful to some extent, the prioritisation of these services would likely provide the optimum user experience. Being able to locate a shelfmark was also useful however it is not clear what such a service might look like. This could relate to simply presenting information on the item's shelfmark or a more detailed description or visual representation of the location or a combination of them all. When students discussed the shelfmark during focus groups, there appeared

Figure 3.
Percentage of students
who rate each library
mobile service as “very
useful” or “generally
useful”



to be a strong desire for more detailed guidance to help locate shelfmark within the library. Students described being confused about library layouts, especially unfamiliar libraries and the difficulties they faced knowing where a shelfmark was without asking for help. There clearly is a crossover between different services which could perhaps combine to help students find what they are looking for in a library. For example, students' described having a link to a map next to the shelfmark number on an item description page. This link could take students to a static map or in an ideal situation, an interactive map designed for smartphones which can track the GPS location of the smartphone similar to the Google Maps service. The focus groups supported the usefulness of these services identified in the survey and any such tasks which are normally restricted to the library helpdesk such as managing their account, checking-out books and reporting missing books. This is supported by the findings from a separate survey conducted by the University of Cambridge (Mills, 2009).

The ability to search the library catalogue was also a service that 60 per cent of students rated as very useful for mobile devices. This suggests that not only is it expected from students but that there is a desire to search for items on the move. The focus groups briefly looked at the search service provided by each university to see if it met their expectations. Feedback suggested that although students preferred a simple and streamlined service for the mobile, they still want advanced options to help determine the type of search, for example, title, author or keyword. Thumbnail images were also considered useful even on a small screen. Availability and location of items was very important to the participants and consequently students wanted this information to be visible on the results page within the shortened item description.

Focus group participants were asked to identify useful services provided by other university mobile library websites. There were several services implemented by NCSU which students particularly liked including their webcams, group finder, computer

availability and room reservation services. The webcams were a contentious issue among participants who were uneasy about the possible invasion of privacy. However, in certain situations such as the library cafe, students agreed that there could be a real benefit of such a service. This in conjunction with the Computer Availability service, (which is also provided by Amsterdam University Library) would allow students decide to go to the library based on how busy it is.

The focus groups also revealed additional details on the importance of room reservations. The popularity of library services such as study pods and meeting rooms means that competition is high and booking a room is required well in advance. Students described individual departmental booking systems and believed that they are more effective than the library's current system. A booking service accessible on a mobile device was widely considered a convenient tool in helping students use the library as effectively as possible. There was also demand among participants to build a better system for study pods that currently cannot be booked in advance. A participant stated that they were unable to locate an available study pod on a frequent basis and as a result had resigned themselves to using external locations such as coffee shops. The exploitation of the study pod system has meant that some students have stopped trying to use them altogether.

Course Reserves was another service provided by NCSU which was considered a useful tool to quickly access relevant reading materials. Some of the students during the focus group revealed a need to access reading material quickly to help them prepare for lectures. One MBA student indicated how important a Course Reserves service on his mobile would be for them when they described their situation. Working full time and studying in the evenings often meant that the participant only had an hour to obtain slides and reading material for their lecture. They believed that being able to preview lecture materials beforehand would be very useful.

Figure 1 illustrated those services that students felt were not useful. Although a much smaller proportion of survey respondents felt that the services listed would not be useful, it is still worth noting those which had the greatest response. Reviews did not perform strongly in the survey including writing reviews, reading reviews and sharing items with others. User-created content does not appear to be useful to students which could be explained by the existing and successful service already provided by Amazon. However, a larger portion of respondents did not feel that library maps or GPS location and library maps were useful which contradicts earlier evidence of a desire from students to receive help locating items. Overlaps in each service and confusion surrounding the difference between each service could be partly to blame for this finding. On reflection, refining the list of services and piloting the survey before launch would have removed this issue.

When students were asked which university library services they use, it was not surprising that around half of students surveyed stated they have not tried to access a library service using their mobile device (Figure 2). This is due largely to the fact that mobile services are still being developed at the university and are not due to launch until summer 2011. The low use of library services on mobile devices is evident despite the high number of internet ready mobile devices owned by students. As the university launches its Mobile Campus Application later this year it would be worthwhile gathering more data from students to understand if student habits and attitudes change when mobile specific services are provided.

5.3 Mobile habits

Within the survey, students were asked to rate the frequency with which they undertook various activities using the internet on their mobile device (if at all) and the typical locations where these activities take place. The results helped to better understand student habits and anticipate where mobile internet use would be most likely to take place.

The results show that students look at websites, check their e-mail and use social networking sites such as Facebook and Twitter most often (Figure 4). Students are less likely to download media content to the mobile handset. The memory size allowance of mobile devices could be an influencing factor for this. This supports the need for a service where students can bookmark items of interest or e-mail a number of information resources to themselves for reference. Focus group participants often mentioned this as a common need when searching on the move. The limited screen size of mobile devices and the difficulty in annotating documents on such as small scale restricts serious reading activity. A number of focus group participants supported this by saying they would only be likely to skim a document or article on their mobile devices, if at all.

Half of students stated that they used maps on the move. A total of 71 per cent of students felt that being able to access maps of the library to locate a shelf mark would be useful on a mobile device. In addition, focus group participants agreed that it is often difficult to locate books due to unfamiliarity with a library layout. There was strong support in favour of easy access to floor plans of respective libraries as is currently provided by Cambridge mobile library.

As you would expect of a mobile device, students undertook mobile activities in a variety of locations. A number of students acknowledged carrying out each mentioned

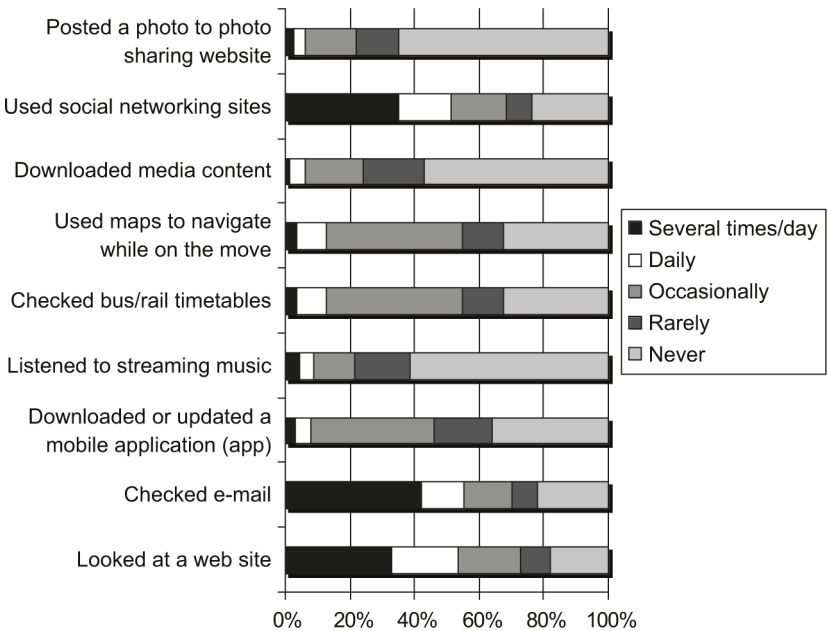


Figure 4.
Frequency of internet
based activities accessed
using mobile handset

activity in the library in addition to other venues. A third of students stated that they browsed the web, checked email and social networks on their mobile device while in the library. This shows that students are often multitasking with related and unrelated library tasks while they are in the library. It also indicates that if students are already using their mobile devices within the library for unrelated tasks, they are capable of using them for library related tasks if available. The survey revealed additional library services which students wanted to access on their mobile devices. These included library related mobile alerts (due books, reserved books available), the ability to pay fines, top up printing credit, check printer balance and renew books on the mobile devices.

6. Conclusions

The findings from the research support previous studies which predicted that ownership of smartphones would rise dramatically over a relatively short period of time. It also demonstrated that there is a strong desire among students for mobile library services. Whereas previous studies concluded that not enough people are using the mobile internet to justify libraries dedicating resource to developing mobile websites (Mills, 2009), the findings from this study clearly show that this is no longer the case. The research from the EDUCAUSE 2010 survey supports this when it states “students are adopting the mobile Internet in ways we would expect for a maturing technology, with an increase in power users and a decrease in nonusers from 2009 to 2010” (Smith and Caruso, 2010).

Students themselves stated that the services demonstrated by other libraries such as NCSU, Cambridge University Library and Amsterdam University Library would be very useful to them at Edinburgh University. The survey and the focus groups provided genuine enthusiasm for the idea and a feeling that they expect these services to be available within universities. The challenge academic libraries face is to create compelling information services and digital content available in a way that the user community will find not only acceptable, but tailored to their needs (Lippincott, 2010a, b). To do this, libraries need to involve end users throughout the development process. Ongoing user research and usability testing is essential to ensuring that services are not only useful but also intuitive and easy to use. Ensuring that these two factors are met will not only allow libraries to compete with external information resources more effectively but ensure the success of any developed services by ensuring students can get the most from their university library.

7. Recommendations

Based on the findings from our research there are areas which academic libraries should consider developing for mobile devices:

- Account access so that users can check due dates, renew items and even reserve items where possible.
- Provide a streamlined OPAC which allows users to search items in the library effectively on the move. This would be accompanied with a simple search tool with basic advanced options such as author/date/keyword, should users need them.

- Floor plans and maps of each library to help users navigate libraries and locate items easily.
- Access to live library information including PC availability within the building so that students can identify the best location to study prior to going to the library.
- A booking system that allows users to make and amend library room bookings.

Notes

1. www.jisc.ac.uk/whatwedo/programmes/inf11/sue2/ux2
2. http://en.wikipedia.org/wiki/University_of_Edinburgh (accessed 11 April 2011)
3. According to HESA statistics – Higher Education Numbers 2008/2009.
4. www.lib.ncsu.edu/m/home/?browse=iphone
5. www.lib.cam.ac.uk/mob/camlib.cgi#menu
6. <http://m.uba.uva.nl/en/>

References

- Fling, B. (2009), *Mobile Design and Development*, O'Reilly, Sebastopol, CA.
- Lippincott, J.K. (2010a), "A mobile future for academic libraries", *Reference Services Review*, Vol. 38 No. 2, pp. 205-13.
- Lippincott, J.K. (2010b), "An integrated strategy for mobile devices", paper presented at JISC/CNI Conference.
- McCarthy, G. and Wilson, S. (2009), "The library's place in a mobile space", m-Libraries Conference, Vancouver BC, Canada, June 23, 2009, available at: http://digitalcommons.ryerson.ca/library_pres/2/ (accessed 11 April 2011).
- Meier, A. (2010), "Comparative analysis, mobile device user research", California Digital Library, available at: <https://wiki.ucop.edu/display/CMDUR/Home> (accessed 11 April 2011)
- Mills, K. (2009), "M-libraries: information use on the move", Arcadia Programme, available at: http://arcadiaproject.lib.cam.ac.uk/docs/M-Libraries_report.pdf (accessed 11 January, 2011).
- Smith, S.D. and Caruso, J. (2010), "The ECAR study of undergraduate students and information technology, 2010", EDUCAUSE Centre for Applied Research, Boulder, CO, available at: www.educause.edu/Resources/ECARStudyofUndergraduateStudents/217333 (accessed 3 February, 2011).
- Speight, S. (2009), "M-libraries: libraries on the move to provide virtual access", *Ariadne*, No. 61, October.
- Walsh, A. (2010), "Mobile phone services and UK higher education students, what do they want from the library?", *Library and Information Research*, Vol. 34 No. 106.

Further reading

- Bazillion, R.J. (2001), "Academic libraries in the digital revolution, libraries in the midst of revolution need new ways of thinking about their mission", *EDUCAUSE Quarterly*, Vol. 24 No. 1, pp. 51-5.
- Lippincott, J.K. (2008), "Mobile technologies, mobile users", *ARL: A Bimonthly Report*, No. 261.

-
- Hu, R. and Meier, A. (2010), "Discovery and delivery mobile strategy", *California Digital Library*, available at: <https://wiki.ucop.edu/display/CMDUR/Home> (accessed 11 April 2011)
- Hu, R. (2010), "Mobile strategy report, mobile device user research", *California Digital Library*, available at: <https://wiki.ucop.edu/display/CMDUR/Home> (accessed 11 April 2011)
- Walsh, A. (2010), "Emerging technologies in academic libraries (emtac10)", *Ariadne*, No. 64, July.

About the authors

Lorraine Paterson is the usability analyst for the UX2.0 project, Usability and Contemporary User Experience in Digital Libraries at the University of Edinburgh. She has worked on the project since August 2009 and before that was a usability consultant for the consultancy, User Vision. She is a member of the Usability Professionals Association (UPA). Lorraine Paterson is the corresponding author and can be contacted at: lorrainepaterson@gmail.com

Boon Low manages the UX2.0 project at the University of Edinburgh. He also implements web applications and digital library systems for the project. Prior to UX2, he worked at the university library, on several projects pioneering search engine technologies and interoperability mechanisms for the integration of library catalogue and digital repositories in virtual learning environments. His current interests include the research and development of interaction design patterns and advanced user interface in digital libraries.