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# Mobile library services for distance learning students

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## INTRODUCTION

Library Services at the Open University (OU) has been offering mobile library services to our large body of users for over five years and these services continue to evolve. As the OU is a distance-learning institution, from the library perspective the emphasis is on providing flexible user-friendly access to online resources.

The OU has approximately 260 000 students and about 70% of them remain in work while they are studying<sup>1</sup>. Their access to library resources is entirely online so scalability and ease of use are vital for our online services.

This article will look at the services for mobile devices that have been established over the last five years and will discuss our current developments, how they fit into university strategy and what we are planning for the near future.

## BACKGROUND

Around 2006, colleagues in the OU's central IT department observed that a small but significant number of visits to the student portal (called StudentHome) were from mobile phones; they started to track whether numbers were rising (see Fig. 1). Other colleagues in the university had already begun to consider the potential opportunities afforded by mobile learning, and it was generally considered that mobile phone ownership and mobile internet use were likely to increase. In order to be prepared for the anticipated increase in demand for mobile access to university websites, a 'mobile learner support project manager' was appointed within the university's VLE development team and the Institute of Educational

Technology was undertaking research projects to evaluate the efficacy and impact of mobile learning.

#### FOCUS ON USER REQUIREMENTS

In 2009 I had the opportunity to take part in the Arcadia programme at Cambridge University

Library. The programme was funded for three years by the Arcadia Trust, and enabled librarians to spend ten weeks at Cambridge as fellows, undertaking small projects which would 'increase the library's capability to provide users with services appropriate to a networked world'<sup>3</sup>. My project focused on gathering user requirements for mobile library services. At the time the mobile internet was still considered prohibitively expensive and the concept of mobile library services was very new, so I didn't anticipate a good response if I asked directly about

accessing library services on mobile phones. Instead I ran a survey asking students and staff at both Cambridge and the OU about the ways they already used their phones to look up information. I asked if they used existing mobile internet sites or SMS lookup services such as National Rail Enquiries; only one question at the end of the survey asked whether they might access any library services via mobile devices. I found that students at Cambridge University were somewhat interested in location-based services that would allow them to find materials among the vast physical library collections available to them.<sup>4</sup> Students at the OU, however, were a little more interested in mobile access to e-resources, so when I returned to the OU at the end of my fellowship that became our focus.

Hassan Sheikh, Head of Systems development at OU Library Services, developed a prototype mobile search, which enabled users of the mobile site to search within the website and find library resources.

By 2010 we were finding that the ADR system was no longer keeping up with the rapid release of new mobile phones, and we did not recognise the new breed of smartphones; this led to complaints from iPhone and Android users that they could not access the mobile website and had to make do with the desktop site. We looked around for other solutions and found that MIT had taken a different approach to device recognition which seemed more scalable. They were also using a '3-device approach', which rendered a different view of the mobile site depending on how advanced

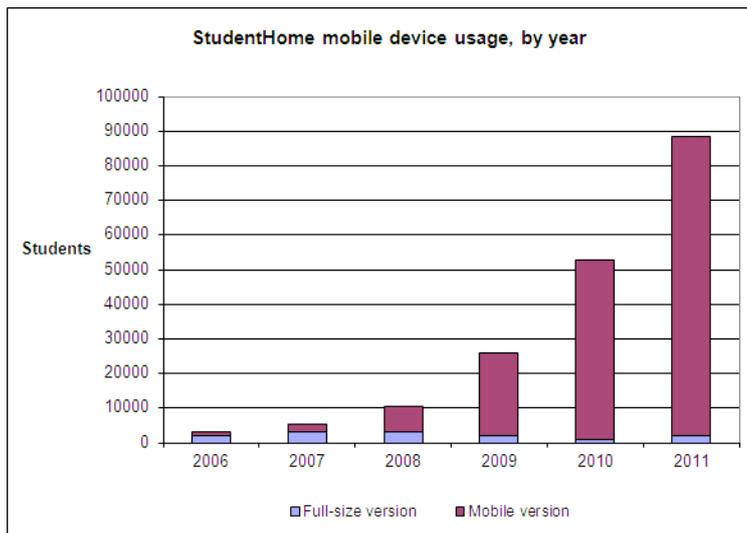


Fig. 1: Number of unique student visits to the OU's mobile student portal each year from 2006 to 2011

A Mobile Technologies Special Interest Group was formed to enable colleagues from faculties and support departments to share knowledge and ideas and to encourage collaboration and a consistent approach to mobile learner support. Library Services began to work on improving the experience of accessing our own website from mobile devices, and by 2007 had a mobile-friendly website.

#### LIBRARY WEBSITE IN YOUR POCKET

Our first mobile website used an Auto-Detect and Reformat (ADR) system developed by Athabasca University in Canada. Using the ADR software meant that when users visited the normal library website on their mobile phone the site automatically detected the type of device from a database of mobile phones and delivered the full content of the site in a stripped-down style-sheet<sup>2</sup>. All images were removed, text-based content was delivered in a single column and navigation elements were displayed below the body content of the page.

Google Analytics was used to track visits to both the desktop and mobile versions of the library website, so we were able to ascertain which pages were visited most frequently on each version. However, as the site was experimental it wasn't widely publicised to students, relying instead on their own desire to access the website on their mobile phone. As a result we had very little feedback from users about whether they liked the site.

the mobile device viewing it was. This seemed the perfect solution for us, as Google Analytics showed that our site was being viewed by a variety of mobile devices, some of which were 'feature phones' such as BlackBerry devices and Nokia phones. Our systems team went to work with MIT's open source software and developed a separate mobile site with fewer pages than the desktop site<sup>5</sup>. Page content is fed from the main site so that it has to be maintained in only one place.

The new mobile site was ready for launch in September 2011, alongside a newly redeveloped desktop site. This time we made sure that we told our users that the mobile site was available to them, by including a link to the mobile site from the desktop site as well as a page explaining what the mobile site has to offer.<sup>6</sup>

So far, take up of this site has not been as high as anticipated, but the number of visits from mobile devices each month has continued gradually to increase. We have continued to work on it and plan to promote it more at the beginning of next academic year.

#### THE MOBILISING ACADEMIC CONTENT ONLINE (MACON) PROJECT

In 2010 we started using the EBSCO Discovery Service as the main e-resource search on our desktop website. In 2011 we secured JISC funding to improve the search on our mobile site using the EBSCO Discovery API<sup>7</sup>. The MACON project<sup>8</sup> ran from November 2011 to July 2012 and resulted in a much-improved mobile search interface, which allows users to search across a wide range of our e-resources. The search results incorporate both subscription and open access collections. User evaluation of the search showed that users want to be able to select whether or not the search is limited to items for which the library can provide full text access, they want search terms highlighted (see Fig. 2) and they want to be able to save individual search results as references.

We worked to make the interface as simple to use as possible by incorporating a list of saved search terms and recently read items.

Developing this mobile search interface has also influenced our thinking about our desktop search facilities.

*A Good practice toolkit for publishers delivering academic content to handheld devices*<sup>9</sup> was also developed as part of the MACON project. The aim of

the toolkit is to highlight tools to help content providers ascertain user requirements and meet usability and accessibility guidelines when optimising their content for delivery to mobile phones or other handheld devices.

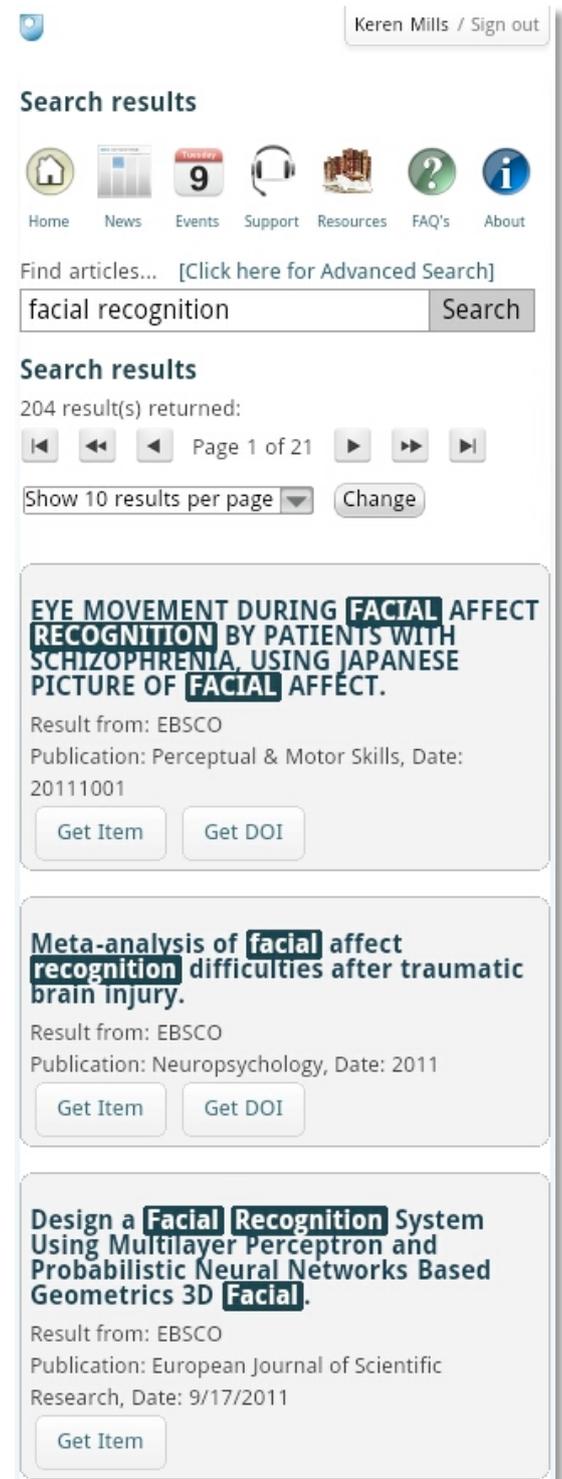


Fig. 2: Screen shot showing top three search results for 'facial recognition' in MACON interface

## INTERNATIONAL M-LIBRARIES CONFERENCE

In 2007 the OU and Athabasca University jointly hosted the first international m-libraries conference at the OU's campus in Milton Keynes. More than a hundred delegates registered for the initial conference, eager to learn more about this new area of library service development. Since then conferences have been held in Vancouver and Brisbane, and this year the fourth conference returned to the OU in September<sup>10</sup>, with over 160 delegates attending from 19 countries from as far afield as Slovenia, Nigeria, Japan and New Zealand.

The main theme for the conference this year, '*From margin to mainstream: mobile technologies transforming lives and libraries*', attracted a very strong field of papers split into six parallel sessions, grouped around the sub-themes Imagination, Transformation, Exploration, Inspiration, Implementation and Collaboration. A book of selected papers has been published after each conference, edited by Gill Needham from the OU and Mohamed Ally from Athabasca University<sup>11</sup>.

For those interested in following the m-libraries community, the conference has a Facebook group. Following a JISC project there is also an m-libraries community blog<sup>12</sup> detailing case studies, a mailing list<sup>13</sup> and an active Twitter discussion using the hashtag #mlibs<sup>14</sup>.

## FUTURE DEVELOPMENTS

The story Google Analytics tells us about the pages our users are visiting from their mobile devices suggests that we should return to offering the full site content rather than just a selection of pages. The new desktop site has a 'responsive design'<sup>15</sup> that allows it to resize to suit different screen sizes, which means it caters well for netbooks and tablets as well as mobile phones.

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