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Author(s):	Jeff Haywood
Contributor(s):	Denise Haywood
Contact name:	Denise Haywood
Organisation:	University of Edinburgh
Address:	School of Education, Edinburgh EH8 8AQ, UK
Telephone:	+44 131 651 6545
E-mail address:	<a href="mailto:denise.haywood@ed.ac.uk">denise.haywood@ed.ac.uk</a>
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# Final Report Pilot 6:

## Providing advice and support to outgoing students

### ABSTRACT

This report gives an account of the activities undertaken in Pilot 6 of the VICTORIOUS Project on ways to provide support to students for study supported by ICT whilst away from their home university on a visit. An example is provided of a website for outgoing students and a structured series of tasks based on online connection to the home university for students already at another university. The findings from the implementation of these examples are discussed and recommendations for various stakeholders in the student visit domain are provided.

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# 1. AIMS OF THE PILOT

Pilot 6 was designed to explore the need for advice and support to outgoing students before they left for their visit to a university in another country, the extent to which universities addressed these needs and offer examples of some ways in which they might do so.

Questions which we had identified in our preliminary research into this area were:

- To what extent do universities provide good advice for off-campus learners?
- Are university services organized to be easily accessible off-campus, in particular are mechanisms in place to enable access to secure materials?
- How well-equipped are students intending to go on a study visit for academic work outside their own university?

The Pilot was established to obtain information about these areas from students and universities, and also to create demonstrators of how solutions might be achieved.

# 2. METHODOLOGY AND WORK PLAN

The Pilot was carried out in different phases. An assessment of the background to the area of support for mobile students, in particular from the home university, was undertaken, and this informed later work. Questions in the university survey, and in more specific areas with the VICTORIOUS Project partners, were designed to gather information from home and host institutions as to how they enabled their own students before and during visits, and interviews with students were used to explore their actual experiences.

Armed with this information two tests were carried out:

One was to develop an information website for outgoing students and evaluate it with students who were away on visits. The website contained advice about being a mobile learner, based in another university.

The other was to create a set of online tasks for home students away on visits to establish the extent to which they could perform activities that needed online access to their home university. The students were prepared for these activities before departure and reported back on their experiences.

# 3. BACKGROUND TO THE PILOT

A university's outgoing students need support to be fully-effective long-term learners in another location. This is distinct from studying in local accommodation where the home campus is near at hand for those services that cannot be accessed or made to work. The advent of mobile learners has forced many universities to re-assess their support and services for those studying off-campus, although many universities have still to address this in a systematic way. The needs of students undertaking study visits to other universities have much in common with those of off-campus learners, but there are some specific differences as we discovered in our study of the options for advising outgoing students.

Although there is a commonly-held perception that online materials are available 'anytime, anyplace', this is only partially true. Many digital resources offered by universities to their own

students are protected by various methods and require authentication to access them. Examples of such restricted materials and systems are the virtual learning environment, the library's digital contents, especially e-journals and databases, and webpages which are domain restricted (some IT, Library and business areas such as Finance, Student Records). Although all of these may be **web-delivered**, they are not therefore automatically freely available to all-comers from anywhere. Some services check the IP number of the user's computer and only allow access from those computers registered as being on the campus. Some organisations use robust firewalls to protect themselves and block the types of internet data exchanges that users need to use to interact with the university service they wish to use, for example virtual learning environments. Health services and schools are typical members of this restrictive category.

Students accustomed to using digital services on campus may not recognise that restrictions exist, or may just tolerate them as long as they can access materials the next time they are in the university. Advising students on how to gain access whilst away for prolonged periods is one important preparation activity.

Another major area of concern to mobile students is getting online whilst travelling. Within their own university they may have wireless access or network ports for their laptop, but once away from their home university they may need to rely on Internet cafes or wireless hotspots if the host university has low provision of IT. Making students aware of how to get online whilst travelling, and how to make a connection that is like the one they have on their home campus is a valuable service. Typical mechanisms for doing this are the 'virtual private network' (VPN) connection and use of an authenticating portal.

University support services may not recognise that they still have a responsibility to students who are away from the home university, or may not have thought deeply about how to provide support and to what extent. Self-help pages may or may not provide guidance for these types of learners, assuming that they can be accessed at all.

## 4. METHODS IN USE FOR ENABLING OFF-CAMPUS ACCESS

We investigated the availability of off-campus access to secure services directly in our own universities, and questioned other universities indirectly through the university survey. The questions which we addressed to technical staff in our own universities were:

- 1) does your university offer a way to ensure that students who are away from the university on exchanges and visits (or for any other reason) can access all the digital services that the university would provide to them whilst they were on campus? This would include such resources as e-journals, bibliographic databases, filestores, checking their university records or accounts, email service, VLE for any courses or materials they are still entitled to see, e-portfolio etc.
- 2) if YES, what mechanisms are used (VPN, simple direct authentication via a website or portal, Shibboleth or similar based process using passing of digital identity, etc)? How comprehensive is the coverage for the range of services concerned (eg still will not be able to see/use some services or resources)?
- 3) if NO, is there any concern over this lack of continuing access, and if so are there plans to put a process in place that all students would be informed about, either as a complete solution or as a partial solution?

Different solutions were in place in some universities and others reported that there was no systematic method in place for off-campus access to restricted materials. The methods being used or in development were:

- Virtual Private Network (VPN) – a method of connecting a computer via the internet to a university (or other organisation) that makes it appear as if the user is on campus and not away and so entitled to all the services they had entitlement to whilst ‘at home’;
- Shibboleth – an identity sharing method so that if a user is allowed entrance to their host university electronic systems, they are automatically given access to other systems, including their home university’s;
- Proxy server – a gateway webserver that acts as a security check on the rights of users before allowing them to reach the restricted services;
- Authenticating portal – use of a single web entry point (portal) to verify the identity of a user and then pass the authorisation and permissions to other digital information resources within the organisation.

Links to detailed explanations of these are available in References at the end of the Report.

It was clear that there were some reservations in universities about promoting widespread use of secure access technologies such as VPN due to limitations on ability to scale these up to use by large numbers of students or worries about loss of security by the increase in usage. It is notable that no university appeared to be using methods to improve security such as single-use passwords renewed via SMS or pager such as are in regular use by global corporations and banks. The trade-off between security and cost is in favour of reduced financial cost for universities, at the ‘business’ cost of limitations on access by users.

The lack of engagement of a significant number of universities with mobile study by students (and perhaps mobile working by staff) is a concern for those wishing to see wider uptake of physical and virtual mobility.

## **5. PILOTING OPTIONS**

### **A website to advise outgoing students**

The University of Edinburgh’s investigation of explicit support for outgoing students showed that although there was a significant amount of useful online material about off-campus study and work within the Information Services website, this information was not readily found and not well-structured for student use. A website was constructed to test the effectiveness of a single location for offering outgoing students advice on use of IT whilst on a study visit. To do this they had to:

- define what outgoing students might need to know;
- find what information was already in place in the university;
- decide how to link to this existing information in a useful structure;
- decide what further information needed to be developed;
- test the pilot site with users.

In more detail:

1. Defining what outgoing students might need to know. This was made simpler by the experiences of the VICTORIOUS Project team members who are frequent international travellers and need to remain in contact with their home universities and groups. In addition, some of the group are closely involved with distance education or virtual mobility activities, and this provides good evidence of the difficulties and solutions for the mobile learner.
2. Finding out what information was already in place in the university. The Information Services teams that have responsibility for the website, for training for staff and students, and for the Digital Library were all asked to identify the location of useful webpages in the IS site. A significant amount of useful material already existed but was quite difficult to find, and outgoing students might well not locate it. A search of websites of the academic Schools did not reveal any further information, and the International Office was already known to have none.
3. Deciding how to link to this existing information in a useful structure. A single website was required and had to be designed in a student-friendly manner. This was achieved by employing a current student with good ICT skills and an appreciation of what might appeal to students. Guidance was given by a more experienced researcher for content.
4. Deciding what further information needed to be developed. The university webpages did not address all questions that might be posed by students and in particular did not address language problems, something that was known to be a challenge for visiting students. Pointers to online glossaries of IT technical terms in multiple languages were provided and checklist for outgoing students.
5. The test site was offered to home students currently on visits elsewhere and feedback requested. These students were very interested in the development, were pleased to be in contact with someone at their home university who was working in the area of student visits, and so gave their views enthusiastically. Some modifications were made as a result of the feedback but in general the site was considered to be a very useful aid to students intending to undertake study visits, and contained much information of which they were unaware, confirming the view that the information on this subject that was available in the university websites was not evident to most students.

The test website can be found at: [www.flp.ed.ac.uk/mobile\\_student/](http://www.flp.ed.ac.uk/mobile_student/)

The structure and content is to be incorporated into the university International Office website on its next revision in 2009, and will be uploaded to the Information Services website for the start of the next academic year in September 2007 and promoted from there in the interim.

The pilot was also conducted at Tartu University. All services that the university offers to its members (staff and students) are web-based and available from any internet access point with a university single password (except VLE WebCT that still might have a different user-name and password) which has made it relatively easy to offer all these services also outside of the campus. The guidelines for doing this are at the IT department's website: <http://www.ut.ee/it/juhendid/vorkvaljast> .

Tartu University Library electronic data-bases that are also offered via the web but which are restricted to users according to university IP addresses have been the only reason to develop a VPN connection. However, due to technical reasons the service have not been widely published before. Thus, anybody wanting to use the data-bases outside of the campus and not knowing how to do it had to contact IT department to get advice. Academic staff working at home have been the main users of the service. Making the IT department aware that out-going exchange students might also want to use it, and would need information about the service was one of the good outcomes of the pilot. The guidelines for using the VPN were produced as a part of the pilot, and are now publicly available on University web-site together with the rest of the guidelines for using IT services: <http://www.ut.ee/129774>

## Testing off-campus access to secure digital services

At the University of Edinburgh many digital services can be accessed via the web without the need for special settings in the student's web browser or computer. Such services include the library catalogue, the virtual learning environments and student email. However, not all services useful for student's academic work are so accessible, and it is not obvious whether any single service is restricted or not without deep inspection. Examples of restricted services are e-journals, information for Edinburgh-only staff and students and filespace or other resources that are not web-enabled. Two routes to secure access exist at present – via the virtual private network (VPN), or via the authentication gateway in the student or staff portal 'MyEd'. The former is more powerful in that it allows non-web connections to be made, at the cost of more complexity and special settings. The latter is easier but only works for web-enabled services, and not for all of these, as some are quite restricted and require the VPN.

A list of tasks for students was constructed and several Edinburgh students on visits in countries across Europe were recruited to attempt the tasks and report back on the outcomes. Regular email contact was maintained with these students over a period of months as they settled into their host university and organised their internet connections. Some had taken laptops with them and the rest were relying on local computers; some self-rated themselves as technically competent and others had limited IT skills. They were sent an email with the tasks listed as shown below:

We have devised a small number of tasks for our students who are out of the UK on exchanges to pilot for us. These are described below:

### 1) Access point

Please describe the method you used to carry out these tests, for example internet café, university microcomputer lab, laptop on wireless network at hot-spot, dial-up over phone line or mobile phone. Was this free or did you have to pay for it? Is this the normal way you would access the internet away from the University of Edinburgh? Please write in the box below:

### 2) Student personal details

- a) Go to the student portal (MyEd) via the link 'Present students' on the University of Edinburgh website at [www.ed.ac.uk](http://www.ed.ac.uk)
- b) Login
- c) open your personal details page
- d) logout
- e) close the browser window

If this fails to work, or is problematic, please write a brief description of the problems into the box below:

### 3) Email

- a) Open your Edinburgh student email account by the method you prefer to use to access it.
- b) Send an email with the subject line and message 'VIC test' to this address: [email address of researcher here]

If this fails to work, or is problematic, please write a brief description of the problems into the box below:

### 4) Library catalogue

- a) Go to the student portal (MyEd) via the link 'Present students' on the University of Edinburgh website at [www.ed.ac.uk](http://www.ed.ac.uk)
- b) Login
- c) click the tab called Library
- d) choose the option Launch Library Catalogue. Try searching for 'author browse' with the name Stevenson. This entry should appear Stevenson, Adlai E. (Adlai Ewing) 1900-1965 and if you click on it a page with entries about Adlai Stevenson should appear. Close the window. (Your MyEd browser window should remain open.)

If this fails to work, or is problematic, please write a brief description of the problems into the box below:

### 5) e-journals

- a) Repeat a) to c) steps above
- b) Click on Launch Library Resources (you should see a page saying Athens Login and it is checking, so click Yes if it asks you if it can proceed)
- c) Go down to "e-journals" and click this link
- d) Choose Browse by Subject Category and select Social Sciences from the pull-down list
- e) Choose Anthropology, Folklore
- f) Click Folklore Studies on JSTOR – this should take you to the Journal
- g) Choose Vol 21, then 1962, then see if you can open the full-text article "Shamanism in Japan"
- h) Close the browser window

If this fails to work, or is problematic, please write a brief description of the problems into the box below:

**6) VPN** You need to have set this up before you left Edinburgh to do this exercise. It makes your access point appear to be coming from within the university.

- a) Connect to the internet at your host university or at a wireless hotspot using your laptop
- b) Connect to the Edinburgh university VPN by the method you have set up before you left Edinburgh
- c) Open your web browser and follow these steps
- d) [www.ed.ac.uk](http://www.ed.ac.uk)
- e) On the homepage click on 'Support Services', then select 'H' in the A-Z and find Human Resources – click on this link to open the HR homepage
- 6f) Select the option 'Forms' and browse in the list of forms to Scholarships/Studentships and see if you can open the Word or Acrobat version of this form which is restricted to users who appear to be inside the University of Edinburgh.

If this fails to work, or is problematic, please write a brief description of the problems into the box below:

**7) EDUROAM** This is a new service that allows wireless access to visitors using their usual home university login and password at those universities that are part of the scheme.

- a) Go to this URL ([www.eduroam.org](http://www.eduroam.org)) and check if your host university is a member of the scheme (click on the country in the map on the home page and follow to the map or list telling you the universities that are in the scheme. In the UK, there is a map for Scotland <http://www.eduroam.ac.uk/scotland.html> )
- b) If it is a member of the system. you have a laptop with wireless networking installed and you use this feature in Edinburgh University, see if you can detect a wireless network with the name given in the website of EDUROAM. (For example, if you look at Edinburgh University it calls its network eduroam and eduroam-web)
- c) Try to connect to the network using your Edinburgh wireless network login and password.

If this fails to work, or is problematic, please write a brief description of the problems into the box below:

## END OF EXERCISES

The outcome of the tests provided interesting data. A variety of technical problems arose even with what appeared to be simple tasks such as logging on to the Edinburgh student portal website. Network connections or browser settings in university computer labs appeared to be the cause of these problems. Ironically, internet cafes appeared to be less problematic in this respect. This failure meant that students could not gain web-mediated access to secure digital services or resources in their home university. Other students had no difficulty with the first

tasks, managed to connect to the secure services via MyEd and reached restricted library resources etc.

Few of the universities being visited by Edinburgh students were in the EDUROAM scheme, and students in the test group either did not have wireless networked laptops or did not know how to make this feature work. This indicates the importance of advance awareness and support prior to departure for the visit to ensure that students know about how to set up the wireless networking facility or about acquiring a wireless network adaptor.

It was also clear from the advance information that they offered and comments during the tests that many of the students we were not highly technical, and some of the tasks required some degree of comfort with technical aspects of computer use and networking. As a high percentage of students in European exchanges are from humanities and social sciences backgrounds, this is likely to be a more common occurrence than if they were scientists or engineers, and support in advance of departure on a visit is important.

## 6. CONCLUSIONS & RECOMMENDATIONS

Students who undertake study visits appear not to be well-served in general by their own universities in terms of preparation or support whilst away. Mobility is not high on the agenda of many universities, or at least the digital aspects of modern mobility appear not to be. Their International Relations Offices do not really engage with the digital world, and are more concerned with traditional methods of education, and the IT Services and Libraries are often not really fully aware of their own students' needs whilst away. The information students need may exist on websites, but it is not automatically easy to find or understand. Only those who are aware of their needs will search information out, and so those not aware of their own impending needs will not be supported. The web is mostly used as a 'pull' technology rather than as a 'push' technology, despite the opportunity to identify intending visit students and reach them as a cohort before they leave.

There is still a lot of technical development to be done inside universities. For visiting students there are a lot of issues around getting online easily, of poor ICT provision by some universities that hinders access to the internet, and of local technical support not always being good. Some universities still exclude visiting students explicitly from digital services, for example libraries and e-learning platforms, which is surprising and depressing information. We were '*not real students*' and '*second class*' were terms used by returning students. On the positive side, other universities have begun to address the problem of off-campus learners systematically and are providing good advice and support, and they are making their digital services as accessible as possible via the web. A few universities had begun to exploit email and the web to set up electronic 'buddy' systems in which incoming students were paired with local students to enable an exchange of information at an informal level. These good practice examples need wider promotion.

Different stakeholders have different roles to play:

- The ICT infrastructure for higher education in Europe is essential for mobile users. Students need easy access to the internet for their studies and for social and personal support, and those who are away from their home university have particular need for this facility. Improving the 'roaming' features of the HE network and improving the quality of ICT provision inside universities is essential if mobility is to be supported and increased. European, national and regional agencies all have a part to play;
- University senior managers need to ensure that their universities care for their own students whilst on study visits, and not assume that the host university will provide for

them. They should also be confident that their own university provides well for incoming students too. Support services and academic units should be encouraged or directed to coordinate their actions, and be aware of the changing needs of mobile students;

- Libraries and IT services need to address the needs of mobile students, recognising that access off-campus and for visitors is of increasing importance. Licence restrictions for e-journals do exist but flexible interpretation and negotiation with suppliers can be, and has been shown to be, successful. They also need to engage with support for their own students whilst away – it is easy for support services to slip into ‘out of sight, out of mind’ – and ensure that they are aware and skilled for the activities ahead of them;
- International Relations Offices and Erasmus Coordinators play a key role in supporting students on visits, and need to be aware of and confident in the digital world if they are to support them now and into the future. They can also influence their partners in Erasmus and other exchanges to make them aware of incoming student needs. The IRO staff should work with their colleagues in academic and support units to ensure that their staff are conscious of the need to help home students whilst away as well as incoming students;
- Schools, Faculties and Departments often provide local digital services, especially in devolved universities, and they therefore have a responsibility to their own students for support and training prior to departure, and for provision to incoming students to enable them to study and communicate effectively through ICT. They should examine whether their services are of high quality and work with central service colleagues to ensure an integrated information flow to incoming and outgoing students;
- Student associations need to support their own students by making them aware of the aspects of digital technologies that will be important to them as they travel for study, and also work with their university to make them aware of mobile students’ needs, monitoring progress as appropriate;
- Students need to find ways to make their home universities, departments, faculties aware of their experiences whilst on visits, in feedback sessions and other opportunities where these exist. Where they do not, working with student associations would be beneficial in creating pressure for change. They also need to find ways to self-assess themselves in so far as this is possible, thinking ahead into their likely needs in their forthcoming visit. A lot of information is available online that can be used for self-development.

## 7. REFERENCES

Virtual Private Networking (VPN)

<http://en.wikipedia.org/wiki/VPN>

<http://computer.howstuffworks.com/vpn.htm>

Proxy servers for security

[http://en.wikipedia.org/wiki/Proxy\\_server](http://en.wikipedia.org/wiki/Proxy_server)

Shibboleth

<http://shibboleth.internet2.edu/shib-intro.html> - a method to enable a federation of (HE) institutions who 'trust' each other to enable their staff and students to access defined digital resources at other institutions by means of their 'home' credentials (login-password) without the need to acquire a new set of credentials from each institution they wish to access.

#### EDUROAM

<http://www.eduroam.org/> - a method in development for enabling members of higher education institutions to use the same credentials (login-password) to access wireless networks of any other institution they are visiting.

#### Authentication

<http://en.wikipedia.org/wiki/Authentication> - a digital mechanism to prove identity and hence be allowed access to digital services and resources.