

JISC DEVELOPMENT PROGRAMMES

WP3: D3.2 User Requirements Report

This document provides the results of the user study.

Project

Project Acronym	L4A//	Project ID	L4A//
Project Title	LifeLong Learning in London for All		
Start Date	1 st February 2005	End Date	31 st March 2006
Lead Institution	Birkbeck College, University of London		
Project Director	Dr George Magoulas & Prof. Alex Poulouvassilis		
Project Manager & contact details	Dr Sara de Freitas (sara@dcs.bbk.ac.uk)		
Partner Institutions	London Knowledge Lab; Birkbeck College; Institute of Education; Goldsmiths College; London School of Economics; Community College, Shoreditch		
Project Web URL	http://www.lkl.ac.uk/research/l4all		
Programme Name (and number)	<i>Distributed e-learning regional pilots</i>		
Programme Manager	Sarah Davies		

Document

Document Title	<i>D3.2 User Requirements Report</i>		
Reporting Period	<i>March-April 2005</i>		
Author(s) & project role	de Freitas, S., Mee, A., Harrison, I., Oliver, M., Mohamad, F.		
Date	May 2005	Filename	D3.2
URL	N/A		
Access	<input type="checkbox"/> Project and JISC internal	<input checked="" type="checkbox"/> General dissemination	

Document History

Version	Date	Comments
1.0 DRAFT	April 2005	Final version of D3.2 user requirements report (WP3).

JISC DEVELOPMENT PROGRAMMES	1
WP3: D3.2 USER REQUIREMENTS REPORT.....	1
ABSTRACT.....	3
BACKGROUND	3
THE INTERVIEWS:	4
<i>Learners from FE colleges.....</i>	<i>4</i>
<i>Findings</i>	<i>4</i>
<i>Discussion</i>	<i>6</i>
<i>Learners Studying on the ITApps Programme.....</i>	<i>6</i>
<i>Findings</i>	<i>7</i>
<i>Discussion</i>	<i>8</i>
THE FOCUS GROUPS:	8
<i>Teacher education</i>	<i>8</i>
<i>Background.....</i>	<i>9</i>
<i>Findings</i>	<i>9</i>
<i>Discussion</i>	<i>10</i>
THE WORKSHOP.....	11
<i>Findings</i>	<i>11</i>
<i>Discussion</i>	<i>15</i>
CURRENT CAREERS SERVICES & GUIDANCE PROVISION.....	15
PRODUCTION OF THE USER SPECIFICATION	17
KEY FINDINGS AND DISCUSSION.....	17
REFERENCES	20
USEFUL LINKS	22

Abstract

*This report presents the main findings of the L4All WP3 User study conducted between 1st February and 29th May 2005. The user study encompassed: interviews with higher and further education (HE/FE) students, focus groups with people aiming to get involved with teacher education and a workshop event including representatives from recruitment and careers specialists, and course tutors and directors from HE and FE. In addition the user study also entailed a consultation with the project advisory group and experts in the field including workshops, face-to-face and telephone interviews with specialists in the field and a scoping study of other similar projects and services in the London area. This information was then used to inform the development of the user requirements as part of the system user specification. For further details of the work package outputs, see: **Appendices A-G**.*

Background

The user requirement study has been based upon producing learner trails and scenarios as a basis for developing a user-based personalised L4All pilot system. This methodology was adopted by building upon existing projects and research conducted by members of the London Knowledge Lab including outputs from previous research projects (Poulovassilis, 2003; Keenoy et al., 2004a,b; Papanikolaou et al. 2003) and research papers (Peterson & Levene, 2003).

The study was conducted between 1st February and 29th May 2005 and included: in-depth interviews with users from FE colleges and users on the IT Applications course at Birkbeck College, as well as a series of focus groups of people aiming to participate in teacher education, held at the Institute of Education. In addition, an expert workshop including recruitment and careers' specialists and course tutors and directors from HE and FE and a representative from registry was held at the London Knowledge Lab. This report therefore presents the findings of the user requirements and usage scenarios study.

The report also provides information relating to current careers advice and services available to support lifelong learning in the London area. The selected scoping study included telephone and face-to-face interviews with experts and specialists and was supplemented with keyword-based Internet searches of relevant services and HE/FE web pages.

These findings were collected together to provide the basis for a mapping process conducted by the whole user team (3-17th May 2005). This process forms the basis of the user requirements specification, which identified specific needs and requirements within each user group, according to a prioritised schema. While the main outputs of the study will be incorporated into the user specification for the pilot system it is recognised that within the scope of the L4All project not all functionality could be offered, however it is hoped that the full specification outlined in this report will be facilitated should the pilot system be fully developed beyond

the duration of the pilot. For full details of the work package outputs, see **Appendices A-G**.

The Interviews:

The interviews were conducted with two user groups: learners from FE colleges and learners on the IT Applications (ITApps) course. The following presents the findings of the in-depth interviews.

Learners from FE colleges

This section presents the findings from the user study of FE colleges including: general findings of the user study for the user group, field notes of the interviews conducted (see: **Appendix B-1**), learner trails and scenarios produced from the field study (see: **Appendix C-1**) and general findings that relate to the overall objectives of the L4A// project.

The study includes qualitative in-depth face-to-face interviews with FE learners at Community College, Shoreditch, on 19th April 2005 and at the City of Westminster College on 20th April 2005. Those interviewed were aged between 17 and 35 (see: **Appendix A** for the list of questions).

The selection criteria of the learners was handled by the College representatives: Margaret Andrews (Community College, Shoreditch) and Suzanne Overton-Edwards (City of Westminster College) based upon the particular requirements of the project, and with an emphasis upon representation from ethnic minorities, with disabilities, or with learning difficulties.

The interviews were conducted as a structured in-depth interview using a set of questions as a guideline (see: **Appendix A**). Dr Sara de Freitas, with Ms Fitri Mohamad in attendance, conducted the interviews at the respective FE colleges. The interviews were audio taped. The learners were given an information sheet and informed consent form in advance of the interview in accordance with Birkbeck College Ethics procedures and guidelines (see: **Appendix D**). The interviewees have been anonymised for the purposes of the study.

The interviews allowed for a series of real-life learner trails to be mapped out for each participant (see: **Appendix C-1**). These learner trails or pathways were then used in the expert workshop, which consisted of careers advisors, recruitment specialists and course directors from FE and HE, who annotated the learner trails providing advice and guidance.

Findings

The interviews with FE learners produced a series of coherent and comprehensive trails through the lives of the learners interviewed. These learner trails or pathways highlighted a number of core issues that may need to be addressed by the L4A//

project development. Several issues were highlighted during the course of the interviews. The following represents a selection of those issues raised.

One of the main findings of the study was how important **social factors** were in facilitating career decisions and educational choices (see also: Hughes, 2004). In some senses they provided the ignition for study, support and guidance for making choices and informed where study took place. Location, family and friends all played a significant role for the choices and pathways chosen by the lifelong learner. Furthermore, many of the learners had chosen their college because of **word-of-mouth recommendations** from friends who had already attended the college.

In general, third party careers support seemed to play a more peripheral role in how learners made their choices. This may in part be due to the fact that careers provision and guidance was **patchy and uneven** (see also: Bimrose et al., 2004), varying greatly between different schools and colleges, creating uncertainty amongst learners about what kind of provision they might expect. In particular, there was an apparent **lack of good careers advice and guidance during the GCSE years of study** (14-16 year olds), and this affected some of the learners adversely in the sense that they were not so well prepared for college and did not always know what they needed to achieve at school to ensure a smooth progression through their educational pathway. The learners all seemed to value having **one-to-one sessions** with careers specialists or tutors, but did not all seem to have such access.

While **one-to-one sessions** were found to be the most helpful form of guidance and support, often students were basing decisions upon an interview with a specific college tutor when the learner attended a college open day session. While the learner valued this support, it does bring out issues of the need for **advice from a more impartial source**, such as a personal tutor from school or a specialist careers advisor. Of course this is not always feasible but the fact that career decisions are being made in this subjective environment may have profound implications upon the learners' experiences and life choices and as such greater impartiality would be a preferred approach.

In terms of the desired functionality that L4A// system should offer, there was a perceived need for more **integrated careers and learning advice and information**, which could realistically be offered. Learners interviewed found that HE provided good information on their web sites when compared with FE colleges, which did not seem to offer such comprehensive and useful information. Some learners indicated that a **single entry point** for finding information about courses rather than searching across the Internet would be helpful, aiding the process of seeking particular information about course selection. One suggestion was that the FE colleges included testimonials from past students.

One learner, an asylum seeker, had significant **language difficulties** that might have been avoided if he had had access to a translation service or if the information could be translated into his own language. Although it should be noted that he did not have home access to the Internet so if this service had been available there are questions about how he would have gained access to it,

highlighting an important issue about the link between **participation and web access** (see: Gorard, 2002; Gorard et al. 2003).

Location emerged as a major factor in the selection of courses and colleges; most learners cited this as a major consideration of course selection. A database that incorporated a **postcode-based system** would be extremely useful for learners.

There was also quite a lot of confusion relating to the different career routes, qualifications and combinations. This was particularly difficult for foreign students. The interviewer felt that a **Flash-based animation of the possible career routes**, with clickable fields with explanation would be easy to produce and make selection much simpler (see: **Appendix E** for sample of the educational routes that may be taken: occupational, vocational and academic).

Discussion

The interviews indicated the importance of access to high quality and simple information, particularly at the times when the critical decision points or periods are reached. In general the learners valued the one-to-one sessions and these proved more helpful than interventions of unknown third parties.

There were clearly more important factors at work in the process of decision-making and these were generally social factors, including proximity to home or work, recommendations from family and friends and support from personal tutors.

The role that the Internet played in decision-making was secondary to the use of prospectuses and attendance at open days and interviews. However the learners did on the whole agree that improved web-based services would be of value and indicated that student testimonials and a single entry point to information would be particularly helpful for informing a wider set of educational choices.

Learners Studying on the ITApps Programme

This section presents the findings from the user study of IT Applications (ITApps) and Foundation Degree (FD) students¹ at Birkbeck, University of London, including: general findings of the user study for the user group, field notes of the interviews conducted (see: **Appendix B-2**), learner trails and scenarios produced from the field study (see: **Appendix C-2**) and general findings that relate to the overall objectives of the L4A// project.

The study includes 9 qualitative in-depth face-to-face interviews with ITApps learners conducted at Birkbeck over the period 17th March to 21st April 2005. Those interviewed were aged between 25 and 44 (see: **Appendix A** for the questionnaire used).

The selection criteria of the learners was handled by Dr Ian Harrison, ITApps Programme Manager, based upon the particular requirements of the project, and with an emphasis upon representation from a diverse range of ethnic backgrounds.

¹ Students studying modules from the ITApps programme were registered on the Certificate in ITApps, Diploma in Multimedia and Web Authoring, Foundation Degree IT or Foundation Degree in Business and Media.

Conducted by Dr Ian Harrison, the interviews were structured in-depth interviews using a set of questions as a guideline (see: **Appendix A**). The learners were given an information sheet and informed consent form in advance of the interview in accordance with Birkbeck College Ethics procedures and guidelines (see: Appendix D). The interviewees have been anonymised for the purposes of the study.

The interviews allowed for a series of real-life learner trails to be mapped out for each participant (see: **Appendix C-2**). These learner trails or pathways were then used in the expert workshop, which consisted of careers advisors, recruitment specialists and course directors from FE and HE, who annotated the learner trails providing advice and guidance.

Findings

One of the main findings of the study was the lack of formal careers guidance/advice sought by those interviewed coupled with the high degree of self-motivation and self-direction regarding their choice of learning pathways. Indeed this was a very striking characteristic of the ITApps learners and is undoubtedly related to the fact that all those interviewed fall into the category of 'mature students': all have had significant life and work experiences and all are currently employed or have recently been in employment. Reflection upon previous educational, work and life experiences would seem to be the major driver in the decision-making process with regards to both continual (lifelong) learning and career progression.

Most of those interviewed had a clear idea of the subject area they would like to study: IT and web design/technology. However, their choice of programme was also influenced by a number of other factors: **location** (close to work or home, or the availability of disabled facilities, including parking), **family commitments** (requiring part-time evening/weekend study, the availability of crèche facilities), and **friends** all played a significant role in the choices and pathways chosen by the ITApps learners. Some of the learners had chosen Birkbeck because of **word-of-mouth recommendations** from partners or friends who had already attended the college.

As indicated above, third party careers advice/support played little or no role in the choices made by ITApps learners. Many used Internet search engines (such as Google) to search the web for suitable programmes of study and then followed this up by more detailed searches of Birkbeck, ITApps and the FD websites, leading to request for information, some written, and some by telephone.

In terms of the desired functionality that L4A// system should offer, there was a perceived need for more **detailed programme and module specifications, advice about study requirements, details about the age range/composition of the student intake as well as information about specific facilities, such**

crèche or disabled parking. A number of those interviewed said it would have been helpful to see **case studies and testimonials from past students** about the programmes of study and also how they had used their IT skills after graduation/completion.

Location emerged as a major criterion for students choosing to study on the ITApps or FD programmes: Birkbeck being close to work or home. As with FE learners a database search facility that incorporated a **postcode-based system** would be extremely useful for ITApps learners.

Most learners were clear about their progression after graduation. From a career point of view most seemed to be contemplating a move into IT or the management of IT, but all felt that they would need to further develop their skills in their future roles. Those on the ITApps programme recognised that the modules merely provided a 'taster' of a particular technology and they would need more in-depth study before they would be in a position to apply their skills in a business environment. In this respect students seemed clear about their progression routes regarding further study. However, a number of those interviewed said it would have been helpful to see **case studies, including career progression of past students**, which highlighted how students had used their IT skills after graduation/completion.

Discussion

As with FE learners the interviews revealed the importance of access to high quality and accurate information at the times when the critical decision points are reached. In contrast to FE learners the Internet played a primary role in decision-making for ITApps learners. This is reflected in the fact that ITApps learners tended to be self-directed and self-motivated seeking out information on the web and identifying suitable programmes of study. They then followed this up by direct contact with the relevant programme directors/administrators.

As with FE learners, other social factors were also involved in the final study decision: these included proximity to home or work, availability of support facilities, part-time nature of the courses of study and the age range of other students.

The Focus Groups:

Teacher education

This section presents the findings from the user study of those seeking entry to the teaching profession by a range of routes. This group of prospective learners face a range of difficulties when seeking information regarding access to courses that will provide qualified teacher status (QTS) for the UK.

The information was collected from a total of 14 participants who attended one of three focus groups held at the Institute of Education on Friday 22nd April 2005. The proceedings of the focus groups were audio taped. The participants signed appropriate consent forms (see: **Appendix D**).

The participants were chosen randomly from a list of attendees at a previous open day at the Institute of Education providing information for those with an interest in teaching as a career.

Background

The process of gaining access to courses leading to QTS is complex and presents those seeking to enter the career with a range of staged barriers. The availability of information to support decision-making is complicated by four major factors:

1. There are a range of qualifications leading to QTS with varying entry requirements;
2. Access to these courses is controlled by Higher Education Institutions (HEIs), with reference to regulation by the UK Governments' Teacher Development Agency (TDA).
3. Complex financial considerations need to be taken into consideration by applicants as candidates will incur costs but also stand to receive financial incentives in some circumstances;
4. The conditions for entry and financial support change relatively regularly.

Findings

The following section represents a summary of issues raised by participants with respect to access to advice and information to support informed decision making in order to gain access to course leading to QTS.

Most felt that the process of gaining **access to courses was highly bureaucratic** and that a map of showing the role of various agencies and procedural pathways would help make the system more transparent.

It was also suggested that information regarding deadlines and key dates was unclear and that a calendar showing these dates could aid decision-making. Information relating to closing dates and final deadlines for applications were major issues.

Many stated that they had found the web-based information useful only for providing **basic information** on entry requirements. In order to make an informed decision regarding whether to make an application and to what course to apply for most had been thrown back onto face-to-face informal advice from friends and acquaintances. In a number of cases this had proven to be a disadvantage as the experiences of those consulted did not relate to the current situation regarding regulations for entry or financial costs and incentives.

Whilst some attendees stated that the web-based information provided was useful at a basic level, **face-to-face contact was much appreciated** and most felt that the open days provided by the Institute of Education had been a valuable opportunity to consult with tutors and those already undertaking courses. Several participants had joined **online discussion groups** of students already taking QTS courses in order to gain advice on the realities of undertaking a course.

Applications for access to courses can be completed on-line but this process does not support the diverse situations of those seeking to apply. It was suggested that a form might be developed which adapted to user needs as they were entered. It was felt that the current system of **providing information was based on a stereotypical - or generic - applicant**, which did not always represent the needs of the majority of applicants.

Many participants had used web-based resources but were still confused by the range of courses, which could provide QTS, and it was felt that the differences between the Postgraduate Certificate in Education (PGCE), Bachelor of Education (BEd) and Graduate Teacher Programme (GTP) could have been clearer. Some suggested that an **active matrix might be developed as a web resource**, which could indicate the advantages and disadvantages of various routes to different groups of applicants e.g. those who had overseas qualifications and those who already has significant experience of teaching.

Some **overseas applicants** had difficulty in relating the entry requirements to their own situation. Many found it difficult to gain advice on how qualifications gained overseas mapped to entry requirements. Resources providing this facility would be highly valued. The current situation requires the enquirer to make an application then wait for the HEI to which their application has been sent to undertake this check. This was compounded by the fact that many applicants did not have access to academic referees. A further problem for overseas applicants was a **lack of familiarity with the nature of the UK teacher's job** and this, it was felt, made it difficult to complete and effective and informed application.

Many participants were concerned regarding the **lack of information** relating to the characteristics of those who apply. Many participants wanted information regarding the likely age and ethnicity of those they would be studying with.

In order to make an application which had the maximum chance of success participants felt that they would benefit from information relating to the **ratio of applicants to offers** from various courses. This was particularly important with respect to the timing of applications and the institution being applied to.

Discussion

Participants find the applications process opaque and an online active map showing pathways through the system would be welcome. Applicants need a range of information on the current state of play regarding various aspects of the applications process. An active calendar showing which course was almost full and deadlines would support decision-making.

An online qualification checker, which would allow overseas applicants to check the validity of their qualifications against the requirements of various pathways, would support users.

Online access to a discussion group involving current students and tutors would also be useful.

The way in which information is provided needs to be more tailored to the enquirer's particular circumstances e.g.: age, previous experience and financial situation.

Central to the process of providing appropriate and timely information to potential applicants rests of acknowledging the diverse needs and capacities of the client group. It must also be capable of being rapidly updated as circumstances change e.g.: funding issues, places available, application deadlines etc.

The system would also need to draw together information from a range of stakeholders including various government agencies and HEIs.

The Workshop

The 'expert workshop' was held on 29th April 2005 in the London Knowledge Lab, and was attended by FE careers advisors, a sector skills council representative, recruitment specialists, course tutors and directors, and a representative from registry. The workshop was part of a wider consultation with experts being undertaken throughout the course of the project, including sessions with the advisory group (26th May 2005), meetings with specialists and telephone interviews. The workshop included a general discussion about current services available to lifelong learners, an exploration of particular learner trails and scenarios, and a plenary session for identifying particular learner requirements leading to required system functionality.

Findings

Current services available to support lifelong learning.

The workshop included a debate about current services for supporting learner progression. Here the experts debated what services were currently available for supporting lifelong learning choices and decisions. Reflecting points raised in an interview with Gareth Dent from the University for Industry's Learndirect service - which fields approximately 1 million telephone career and education inquiries per year (G. Dent interviewed 3rd May 2005) - the group found that one of the key purposes of careers support was to broaden the horizons of learners, helping them to overcome pre- and mis- conceptions about what they can achieve to support their personal development. These misconceptions can influence not only which courses are applied for but also which university is applied for and ultimately which profession or career is chosen. Participants pointed to initiatives such as Aim Higher, which aimed to challenge learners' low expectations (see: <http://www.aimhigher.ac.uk/>). Questions asked by students included: 'will my sort of

person be accepted?' a question that related more to social background rather than academic level or interest (see also: McGivney, 2003).

The group also agreed that **social networks and factors** were critical for informing choices made, as indicated in the interview-based study, and all concurred that this was a relatively under-researched area that merits further consideration.

Due to the range of career support services available, it was noted that not all careers advisors were aware of what was available to support careers advice and guidance, and therefore they tended to stick with systems that they were familiar with and used regularly. The somewhat fragmented picture of careers advice did not seem to help either, in terms of diverging sets of services, which rather seemed to work against the need for joined-up services and learner trail and pathway approaches.

The participants regarded **location** as a primary factor for course choices and university choices, with some learners favouring colleges and universities that were only a bus ride away.

Learner trails and usage scenarios

The group did appreciate the learner trail methodology of approach and broadly welcomed the more holistic and user-based approach that this study promotes. One participant felt that the main purpose of the system should be to **challenge students' assumptions** on the basis of their learning pathway to help them to decide what they should study.

The group also felt that this approach should be enshrined in the system itself helping other learners to make their own choices through considering **scenarios of work**, such as 'a day in the life of... [a particular job]' and **case studies and profiles** of the pathways that other learners had taken.

Requirements and desired system functionality

The final session aimed to provide a list of desirable functionality for the L4All system.

The group felt that this system would fit best with a **referral system** aimed on outcomes, such as pointers to relevant careers advisors, courses and services. The group felt that a suitable screen process was needed (such as that piloted in the Fast Tomato or Learndirect service). This approach was also favoured by the Advisory Group (at a session held on 26th May 2005 at the London Knowledge Lab). The group felt that some form of facilitation was needed to support initial data entry, this facilitator role may be played by the careers advisor or a tutor. The group also wanted to establish which particular user groups were being targeted by

the system, and was the system intended to be selective or general. For the purposes of the pilot project and to support the evaluation process the system was envisaged to support selective learner groups (see defined user groups above), with view to wider provision should the full system be implemented in 2006.

There needed to be **pointers to specialist services** for particular groups such as refugees. There was also a need for practical information relating to issues such as wheelchair access, crèches, Skills for Life programmes for supporting basic and key skills needs and other specialist support such as translation services. Other specialist services linked to should include: support for ex-offenders, the homeless, and drug-related advice indicating specific courses as well as where to find advice and support for these specialist groups of learners. For example, there was a perception that learners with low literacy levels may need specialised provision. The advisory group (26th May 2005) felt there may be a need to integrate an online assessment tool for evaluating learner aptitude determining suitability for particular courses.

Online support for learners would be desirable as well particularly to support social networks and link to appropriate social networks. This support may include links to teaching materials, reading lists or lesson plans. Notably, the group did want to see **learning support** integrated into the system, including online assessment, screening and links to HE/FE, as well as **learning development plans**. Where relevant it was suggested that **online mentoring** may support particular learners.

While learner expectation can determine retention and ensure that the learner optimises their learning experiences, it is important the group felt to give the learner the fullest picture possible, particularly for those from communities with low participation in HE, they need an accurate impression of a range of factors not least: **hours of study and work, costs, IT skills requirements**. In particular, financing study was a particular area of interest, and **costs to students** as well as **time allocated to study** should be made available to inform choices made and to support retention. A cost chart, with indications of course fees, and hidden costs such as books to be bought need to be made available to allow students to set expectations at the right level and to invest in their skills wisely.

The group felt that **maps and charts** would be central to the success of the service; they wanted to see London location maps based on postcode search that indicated the distance from the home to the institution. They also wanted bus maps, and maps of the local area, with travel details included. In addition to links to the course details and institutional web sites, there was a perceived need for charts that demystify occupational, vocational and academic routes (see: **Appendix E**), and that explain equivalent qualifications for prospective overseas learners.

In terms of the look of the service, the group favoured a **simple, direct and uncluttered look and feel**: functional rather than over designed as suitable for

adults. Specific parameters (e.g.: tick boxes and pull down menus) were favoured over natural language (Advisory group meeting 26th May 2005).

Testimonials and guidance from other students was regarded as particularly interesting and one participant suggested linking to existing student web sites and pages to give a fuller impression of what studying entails.

Diagnostic tools were helpful for careers advisors, supporting one-to-one session and should include prioritisation of learning needs and requirements, perhaps linking with the learners' **learning development and career development plans**.

The group also gave emphasis to the need not to be prescriptive in the advice given the system should be used to **broaden rather than narrow down learning and career opportunities**, although they did expect the 'shopping list' of jobs to be narrowed rather than to be too broad as to be helpful. Furthermore, the expectations of the learner needed to be based in reality, rather than upon television programmes or misconceptions based upon parental selections.

The group indicated that there was a need to **diagnose aptitude as well as qualifications**, and this might include soft as well as hard skills including taking into account whether the learner works well in teams and is a good communicator, particularly for professions where working with people is a given, such as in medicine or in teaching.

Issues of **data protection** emerged out of discussions with the advisory group (26th May 2005), in particular there would be a need to protect user identity. A system allowing users to specify whether they wanted to share their trails with selected groups or only with their advisor needs to be considered.

The issue of **ongoing sustainability of the system** was raised by the advisory group members (26th May 2005), they wanted to know who would maintain the system past the project end date. While Birkbeck will continue to support the pilot beyond the end date of the project, plans to cement relationships with the stakeholders (including: Learning providers, London Learning and Skills Councils, Learndirect, JobCentre Plus, JISC Regional Support Centres, JISC, Prospects and Connexions) may provide an effective collaboration for supporting wider roll-out of the full service across London and the South East.

In addition the tool needed to be **functional for careers advisors**, to support one-to-one sessions and inform broadened job and course selections.

Discussion

Based upon the workshop session, it is envisaged that the points raised by the user group where possible should be integrated into the design of the L4A// system. It is also envisaged that careers advisors should be part of the evaluation process in WP7 of the project, and consulted throughout the process of development to ensure that this stakeholder group takes up the system effectively. The group had clear needs and was vocal about what they needed. While much of what they wanted is currently available in other web-based systems, there was a clear focus as to the central requirements of the pilot system.

Like the learner group stakeholders, this group identified the need for an integration of existing tools and could envisage how careers guidance should dovetail into the learning requirements of the lifelong learners. However, they felt that alongside social factors, costs and time needed to facilitate successful study were key factors for how lifelong learners' made their choices and decisions, and indicated whether they completed their studies.

Current Careers Services & Guidance Provision

Adapting to the rapidly changing needs of the post-industrial 'knowledge economies' (DTI, 1998), the 'concept of career is fast changing from a linear model to a more holistic view of individuals' life and work experiences' (Hughes, 2004, p. 6), leading to the need for better and more timely careers guidance and advice to support lifelong learning.

A recent OECD report has indicated the importance of careers guidance for supporting lifelong learning (OECD, 2004). However, as Bimrose et al. (2004, p. 1) points out 'there is a lack of compelling evidence regarding the nature of effective guidance and its benefits. Despite this, the strategic, and economic role of guidance has been emphasised and in England, guidance provision for those under 19 years has been enhanced and 'refocused' on social inclusion' (see also: Taylor et al. 2005). In particular, this approach is evidenced in England by the significant investment of public money of the Information, Advice and Guidance (IAG) services, to support the needs of the 'learning society' (Irving and Slater, 2002).

Necessarily, the extended possibilities of lifelong learning imply the need for increasingly complex and timely career guidance and support, and this extended requirement has implications both for providing useful guidance, coupled with a need for establishing better criteria for assessing need and learner requirements. To date a number of ICT and Internet-based systems have been developed to facilitate targeted and timely support. While some systems have been shown to be effective there is a lack of evidence-based research that would allow us to evaluate these systems more accurately.

From searching on the Internet, word-of mouth recommendations and a series of interviews with careers specialists (e.g.: Connexions, Prospects, Morrisby) we identified a range of careers guidance services were available for learners in the

London area, see listing of available careers services in **Appendix F**. These services ranged from provision of one-to-one interviews, digital online services, psychometric testing, personal learning plans, career analysis and assessment and tracking tools. However the systems available did not employ a learner trail methodology, and from this scoping study this is one of the most innovative aspects proposed by our L4A// pilot system.

In particular the Fast Tomato system, developed by Morrisby, (see: www.fasttomato.com), was found to be particularly relevant for our pilot system. Fast Tomato is currently aimed at students based in schools and colleges, and is being used in a quarter of all schools in the UK (M. LARBalestier, interviewed 27th April 2005), has recorded 15 million hits and has 125,000 registered users. It is currently the largest online careers service in the UK and there are plans to develop a similar system for adults (I. Sharp, interviewed 18th May 2005). The system brings together information from the UCAS database and the Learndirect system, which comprehensively lists UK courses.

The Fast Tomato system includes a range of functionality including: information about courses, postcode searching of learning centres and courses, assessment tools relating to learning styles and preferences, as well as options of personal learning plans and career guidance notes tied to action plans. For example, the APIR personal development profile includes 12 factors and is aimed at assessment, planning, implementation and reviewing personal development. The system also provides additional support services: such as links to support services, additional careers advice and general social and local services. The service can also make provision for translation services, health provision and links to employment agencies (M. LARBalestier, interviewed 27th April 2005).

UFI's Learndirect service provides access to UK courses, to diagnostic tools and occupational profiles and a range of other support services. Underpinning the Fast Tomato system, Learndirect provides a tailored guidance system with access to careers advisors providing personalised support for lifelong learners (see: www.learndirect.co.uk).

While face-to-face careers guidance and support is patchy and uneven across the Capital, this is partly due to a lack of continuity with Government policy, which has changed with different governments reflecting subsequent funding priorities and opportunities. For example, although a not-for-profit organisation now, Prospects emerged from the privatisation of the careers service in 1995/6. While the different partners are clearly working closely together there is a perceived need for greater cohesion across service provision, and a forthcoming government white paper on the subject is expected to address these issues.

It is envisaged that ICT could play a vital role in integrating the services that may be offered by different companies, including public and private partners (see: Taylor et al. 2005). However there may be issues of IPR in relation to using commercial tools and services, which may be possible to overcome in relation to this development pilot project but may be more problematic should a fuller service be proposed - if it is to accord with the JISC open source approach to development.

Production of the user specification

The empirical work outlined in the previous sections served to identify a number of themes and issues with which to frame the design of the proposed system. However, as general issues, these remained too abstract to incorporate into the system design. Consequently, a user specification was developed to act as a bridge between this qualitative analysis and the technical design that is to follow.

The format of this specification involved two main elements: a narrative and a list of features. The narrative was intended to represent elements or incidents identified in the case studies in a grounded and approachable way. It is a fiction, created through abstraction from the specific reported cases. This narrative was developed iteratively, to ensure its relevance to the analysed data.

The first step was to identify the key themes from the analysis. A short version of the narrative was then developed that incorporated incidents or descriptions that embodied these. This short version was checked against one case from each of the rounds of data collection (see: **Appendices**) to check its validity. This short version was distributed around the project team for comment, and a discussion was held with the team members responsible for the data collection and analysis to ensure its plausibility and validity as a representative account. Several amendments and extensions were proposed, and these were incorporated into a revised version of the narrative. This process was repeated, this time checking the narrative against all the cases presented in the appendices to ensure representativeness. The final narrative was structured as a series of paragraphs, each located as one cell in a table.

Alongside the development of the narrative, the second main element was developed. For each paragraph, the tasks performed were analysed and the functionality required to support these tasks was identified. This functionality was then summarised as a bullet point list in a separate column of the table alongside the main narrative. These areas of functionality were consulted upon and revised, as above.

The final element of the table was a column containing notes on the entries. The purpose of this was to highlight concerns or questions relating to either of the other two columns, as points for discussion.

The final version of this user specification is included as **Appendix G**.

Key Findings and Discussion

Evidence (e.g.: OECD, 2004) has indicated that there is a **link between student retention and good careers guidance**, and this is based upon creating a correct balance of student expectations in line with real-life experiences. In this context good careers guidance is equitable with correcting false assumptions and replacing them with a more realistic picture of university or the intended job, how to find your way around the system and how to make best use of opportunities and existing skills. While there is recent evidence that indicates a positive link between career

guidance and course retention (OECD, 2004), at present overall careers support and guidance was found to be uneven within schools and colleges, universities and also in the workplace (Hughes, 2004). Uneven coverage has led some to consider the role of **online support** as providing a valid form of careers guidance and support where face-to-face provision cannot be sustainably provided and emerging evidence suggests that online provision and support may provide better reach for existing services (Taylor et al. 2005).

The **learner trail or pathway concept** seems to present a new way of looking at learning and professional development, and as such provides a useful tool with which to better connect between different areas of a learners' life. Some current studies and literature has been developing in this field, based upon the early work of Vannevar Bush (Bush, 1945) and more recently extended by Peterson and Levene (2003). Recent work based upon funded research projects has contributed to developing the trail concept in practice as adaptive learner trails (e.g.: Keenoy et al., 2004 a, b). This JISC project aims to extend the concept to inform how learner profiles can be more effectively personalised to fit existing and developing e-learning tools, systems and services. This approach is qualitatively different from those that have gone before in that the learning trail or pathways also integrates social factors aiming to provide support throughout lifelong learning rather than compartmentalising learning into one stage or period, attempting to broaden rather than narrow the potential opportunities for sustained and sustainable lifelong development. The approach is original and provides us with a tool to understand social as well as educational factors that may influence not only how we learn but also how external factors influence career decisions and educational choices made. These more adaptive learner trails can therefore provide a useful research tool as well as helping us to inform the design of information systems such as the one being developed in this project.

The role that **social networks** and factors play in making effective career decisions and for supporting educational choices clearly is a hugely significant one, and one that seems comparatively under-researched. This project may consider supporting these informal social networks through online support and access.

The study has highlighted particular **selected user groups** for evaluating the final pilot system. The study has identified selected London-based Connexions centres aimed at young learners at school and college and Next Step centres, which are run by Prospects and are aimed at adult learners as possible testing places for the final pilot system.

The study has also indicated that there are what we term **critical decision points or periods** (CDPs) when the learners need increased support, and while a number of assessment tools have been developed to identify this stage in career progression, there needs to be a better understanding about how support targeted at this period can influence overall career development and educational choices.

This study has also indicated the importance of **forming partnerships** between different learning providers, careers advisors and adult learning organisations (e.g.: Learndirect and Prospects) in order to offer a more connected and holistic approach to the learner's educational and career needs, and for developing a more

effective and integrated pilot system. Gaps in provision can provide significant stumbling blocks for career progression and successful lifelong learning pathways, through working together as a community it is more likely that these gaps can be avoided.

While each user group had **different expectations and requirements**, it is felt that much of the required functionality could be offered in the L4A// system, including area maps, course details, access to online communities, a referral system based upon sharing learner trails and scenarios, access to information about specialist services, referral to learndirect careers advisors and occupational profiles, links to personal learning development plans and links to online course content.

References

Bush, V. (1945). As we may think. *Atlantic Monthly*, 176, 101-108.

Bimrose, J., Barnes, S-A., Hughes, D. & Orton, M. (2004). What is effective guidance? Evidence from longitudinal studies in England. See: <http://www2.warwick.ac.uk/fac/soc/ier/publications/bydate/egr2004.pdf>. Last accessed 28th April 2005.

Bimrose, J. (2004). Lifelong Learning for Guidance, in *Constructing the Future: Reflection on Practice*, Stourbridge, ICG, pp1-11.

Bimrose, J., Mulvey, M.R. & La Gro, N. (2003). 'Careers Guidance', in Bayne, R. & Horton, I. (eds) *Applied Psychology*, London: Sage, p94-103.

Department for Trade and Industry. (1998). *Our competitive future: building the knowledge driven economy*. London. Stationery Office.

Gorard, S. (2002). Robbing Peter to pay Paul: resolving the contradiction of lifelong learning. *Research in Post-Compulsory Education*, 7(2): 123-132.

Gorard, S., Selwyn, N. & Madden, L. (2003). Logged on to learning? Assessing the impact of technology on participation in lifelong learning. *International Journal of Lifelong Eductaion*, 22(3): 281-296.

Hughes, D. M. (2004). *Investing in Career: Prosperity for Citizens, Windfalls for Government*. Winchester. The Guidance Council.

Irving, P. & Slater, A. (2002). *Evaluation of Information, Advice and Guidance Partnerships*. DfES Research Report 359. London. Department for Education and Skills.

Keenoy, K., Levene, M., de Freitas, S., Montandon, L., Pernin, J-P., Eyssautier, C., Jones, A., Brasher, A. and Waycott, J. (2004a). Personalised trails and learner profiling in an e-learning environment. EU Kaleidoscope Trails Deliverable 22.4.1. See: <http://www-kaleidoscope.imag.fr/pub/trails/> . Last accessed 28th April 2005.

Keenoy, K., Levene, M., de Freitas, S., Montandon, L., Emans, B., Schoonenboom, J., Pernin, J-P., Eyssautier, C., Jones, A., Brasher, A., Waycott, J., Turcsanyi-Szabo, M. and Bodnar, E. (2004b). Collaborative trails and group profiling within an e-learning environment. EU Kaleidoscope Trails Deliverable 22.4.2. See: <http://www-kaleidoscope.imag.fr/pub/trails/> . Last accessed 28th April 2005.

McGivney, V. (2003). *Adult Learning Pathways - through routes or cul-de-sacs?* Leicester. NIACE.

Organisation for Economic Co-operation and Development (2004). *Career Guidance and Public Policy: Bridging the Gap*. Paris.

Papanikolaou K., Grigoriadou M., Kornilakis H., and Magoulas G.D., (2003). Personalising the Interaction in a Web-based Educational Hypermedia System: the case of INSPIRE, User-Modeling and User-Adapted Interaction, vol. 13, 213-267,

Peterson, D. and Levene, M. (2003). Trail records and navigational learning. London Review of Education, 1, 207-216.

Poulovassilis, A. (2003). SeLeNe: Self e-learning networks. See: <http://www.dcs.bbk.ac.uk/~ap/projects/selene/>. Last accessed 28th April 2005.

Taylor, J., Vasickova, D., Byrom, A. and Dickson, J. (2005). Demand for, and perceptions of, information, advice and guidance. Winchester. The Guidance Council.

Useful Links

Adult Directions. Developed by CASCAiD, Adult Directions provides adult learning guidance through the use of diagnostic tools that evaluate skills. See: <http://www.cascaid.co.uk>. Last accessed 3rd May 2005.

Aim Higher. Aim Higher provides information for individuals seeking to attend higher education. See: <http://www.aimhigher.ac.uk/>. Last accessed 3rd May 2005.

Connexions. Connexions is the government's support service for all young people aged 13 - 19 in England. See: <http://www.connexions.gov.uk/>. Last accessed 3rd May 2005.

Fast Tomato. Developed by Morrisby, Fast Tomato provides an integrated service for school age learners, integrating course information with diagnostic tools. See: www.fasttomato.com. Last accessed 3rd May 2005.

Graduate Prospects. This is the UK's official careers service for graduates offering support and guidance to meet the needs of the graduate community including job searches and course information. See: <http://www.prospects.ac.uk/>. Last accessed 3rd May 2005.

Institute of Careers Guidance. The ICG are the awarding body for the Qualification in Career Guidance (QCG) and supports best practice in careers advice and guidance. See: <http://www.icg-uk.org/>. Last accessed 31st May 2005.

London Colleges. London Colleges is the web site for the Association of Colleges and was set up to extend access to Further and Adult Education in London for post-16 learners. See: <http://www.londoncolleges.com>. Last accessed 3rd May 2005.

Next Step. This organisation provides advice and guidance to all adults over 20, providing access and information for supporting learning, skills and work. See: <http://www.nextstep.org.uk/>. Last accessed 27th June 2005.

Prospects is a leading supplier of education, youth and community services. See: <http://www.prospects.co.uk/>. Last accessed 3rd May 2005.

Ufl Learndirect. The learndirect service provides information for selecting courses, course content and an advice service including information about courses. See: <http://www.learndirect.co.uk>. Last accessed 3rd May 2005.