JISC DEVELOPMENT PROGRAMMES

Project Document Cover Sheet

PROJECT PLAN

Project

Project Acronym	L4*All*	**Project ID**	
Project Title	LifeLong Learning in London for All		
Start Date	01 February 2005	**End Date**	31 March 2006
Lead Institution	Birkbeck College		
Project Directors	Dr George Magoulas and Prof Alex Poulovassilis		
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Partner Institutions	Institute of Education, Goldsmith's College, Hackney Community College, London School of Economics		
Project Web URL	http://www.lkl.ac.uk/research/l4all.html		
Programme Name (and number)	*Regional eLearning pilot projects* *Distributed eLearning programme (7/04)*		
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JISC Project Plan Template

Overview of Project

1. Background

The **LifeLong Learning in London for All Pilot – L4*All*** targets Theme 3 of the Distributed e-Learning Pilot Call, "Supporting the independent lifelong learner". The pilot focuses on helping those post-16 learners who traditionally have not participated in higher education. This problem is complex and multi-faceted but we believe, on the basis of research into life course choices, that there are two closely related issues that contribute to this situation: firstly, a lack of information about education opportunities, and secondly a perception that such options are 'not for me', leading to self-exclusion from such opportunities. The situation appears to be particularly acute for those who identify themselves as being from ethnic minorities or as having an impairment that may affect their participation.

L4*All* aims to provide lifelong learners in the London region with access to information and resources that facilitate their progression from Secondary Education, through to Further Education and on into Higher Education. Emphasis will be placed on widening participation and catering for specific needs and requirements of user communities which have been traditionally under represented in higher education such as ethnic minorities, people with disability and older persons, immigrants and refugees. In addition, the L4*All* pilot will provide lifelong learners in the London region with the opportunity to express and realize their preferences with regards to the way in which educational services are accessed, for example choice of provider, delivery medium, and language in multi-lingual content.

To achieve its aims the L4*All* pilot will work beyond infrastructure and technological barriers, bringing together a diverse group of people from a range of institutions, all of whom are committed to providing learning opportunities which enhance career development and widen participation across the London region. L4*All* will be the catalyst for devising a new framework of policies that engage the interest of lifelong learners, developing their trust in carrying out e-learning and web-based activities, and encouraging them to take responsibility for planning and managing their own lifelong learning and continued professional development.

The L4*All* pilot will provide not only a valuable resource for learners taking non-traditional pathways into Higher Education, but will also act as a valuable test bed of cross-institutional access management, enabling the assisted adoption of Shibboleth by a number of London institutions. L4*All* has good prospects for success as a Shibboleth Early Adoption test bed because it will depend mainly upon access to resource collections managed by the participating institutions.

The L4*All* pilot will provide a unique opportunity for a culturally diverse and expanding London to plan, initiate and execute a set of initiatives aimed at promoting equal opportunities, enhancing quality, accessibility and efficiency, and ensuring that new technological developments of previous JISC projects remove existing barriers and provide widening participation for all London learners. As well as creating a favourable environment for personal investment in lifelong learning, by focusing on widening participation the L4*All* pilot will help the London region attain internal social cohesion and provide London learners with the opportunity to participate in the transformation of the communities in which they live, work and study.

2. Aims and Objectives

The project aims to develop a pilot that provides an environment for the lifelong learner to access existing quality-assured learning materials via metadata, catalogues and search tools,. personal development plans, recommendation of learning pathways, personalised support for planning of learning and reflecting on learning. The pilot will offer: (i) interaction with a Web Portal that provides information on work-based, FE and HE courses and modules available to learners in the London region; (ii) personalised support in planning and reflecting on personal development and lifelong learning activities; (iii) advice on learning and personal development pathways; (iv) support in designing and maintaining personal learning and development plans; (v) allow learners to share information and collaborate with peers and tutors.

The following objectives are necessary to achieve this aim:
(O1) Definition of the **User Requirements, Usage Scenarios** and **Technical Requirements** of the pilot.
(O2) **Metadata generation and provision** to facilitate access to existing learning materials**.**
(O3) **Development of the pilot.**
(O4) Employment of a user-centred **Evaluation Process** that uses usability inspection methods, including user testing and heuristic evaluation, to improve the pilot so that the needs of learners and providers can be met.

3. Overall Approach

We believe that this project is distinctive from other projects because it is addressing learners who are often self-excluded from learning opportunities. The situation appears to be particularly acute for those who identify themselves as being from ethnic minorities or as having an impairment that may affect their participation. The L4*All* pilot will integrate recent work into learning object trails in a way that (a) identifies successful educational pathways, providing a repertoire of possibilities that learners may not otherwise have considered, and (b) positions successful individuals (anonymised as appropriate with the data protection law) as 'role models' to inspire confidence and a sense of opportunity amongst those previously excluded.

Our work is structured around a number of packages. Initially **User** and **Technical Requirements** and **Usage Scenarios** will be produced. Scenarios will be formulated by means of consultations with the relevant stakeholders, including widening participation officers of the institutions and colleges of the consortium, learners, tutors, student liaison committees' members and content providers. Among the main aims of this consultation process is to identify learners' individual educational goals and objectives, articulate expectations for the learner's performance in general education activities and accommodate different user needs and individual differences (such as age, level of literacy, ethnic minorities, special needs, accessibility requirements). We will be mindful of the longer-term extension of the pilot to include a much broader range of FE and HE institutions, and to work-based learning environments and Connexions gateway.

Our approach to deriving **Technical Requirements** will follow JISC guidelines, and will conform to JISC's Service-oriented System Architecture and E-learning Framework. We will exploit Portlets technology (JSR168 and WSRP standards). During the development of the pilot we will be mindful of its technical scalability to much larger volumes of information, resources and users in the longer-term.

The findings will be analysed and integrated in order to: (a) finalise the User Requirements specification; (b) create usage models and scenarios which present the interactions of different users with the pilot and which will be taken into account in the development and evaluation processes; and (c) inform a set of technical considerations that will be taken into account for integrating JISC funded tools in the pilot.

Our work also includes generating and providing metadata that describe resource collections managed by the participating institutions using available tools, and investigation of interfaces to JISC's X4L ReLoad metadata and other content packaging tools. This will have good synergy with the emerging Learning Activity Management (LAMS) tool. It will also be compatible with any digital repository that conforming to the IMS specification for Digital Repositories Interoperability (DRI) including JISC's Jorum repository, EU CELEBRATE, CAREO, European Treasury.

The development of the pilot will be on the basis of functionalities produced by existing JISC funded services. It will include: **Learner profiles** that will provide information on educational background, knowledge level, learning goals, and usage preferences such as time or accessibility restrictions and navigation preferences; **Learner profile management tools** that will support the management of a learner's personal development plans and personal development records; **Resource Discovery and Content Management** and **Competency tools** in order to provide personalised learning pathways; **Rating** and **Annotation tools** that will allow the learner to assign priorities to the possible learning pathways retrieved from a learner's search query using information from the learner's profile. Learning plans will, optionally, be sharable with peers and tutors through **Collaboration** and **Messaging** services. A **Personal plan designer** will allow learners to maintain and update these plans.

The pilot will also enable the exploration of identity and directory management for a diverse group of users, with specific requirements for personal information privacy, where affiliations (and therefore access rights) may need to transfer between host institutions. This would further develop similar work started in the previous JISC-funded SHELL and NIIMLE projects.

Lastly, **Evaluation** will play a key role in the project. There will be regular contact with user groups throughout the project and two prototypes will be piloted and evaluated (the first in July and the second in November 2005). The first version of the pilot will be evaluated in order to fine-tune the user requirements and usage scenarios through consultation with students, tutors, widening participation officers and content providers to examine how different users interact with the system. This step may lead to the identification of situations where users are disoriented, , learners are dissatisfied and/or demotivated, there is a lack of precision or clarity in the content, or there is a lack of adequate explanation or guidance. The results of this evaluation step will help to (i) demonstrate the benefits of the pilot; (ii) detect situations where the pilot does not satisfy learner needs; (iii) identify possible failures in the design and possibilities for improvement; (iv) make decisions and initiate actions in order to implement these improvements. The second evaluation will investigate user experiences of the updated and enhanced version of the pilot. To ensure that the final pilot is robust enough to cope with real-world use, it is imperative that users evaluate it to assess its behaviour and performance, and determine if the user requirements have been fully met. This second round of evaluations will take the form of a series of one-day workshops involving the different user groups – learners, tutors, widening participation officers, content providers – to test the various aspects of the system with a focus on lifelong learning. The feedback from these workshops will be used as measures of user acceptance to make any necessary improvements to the pilot before releasing the final version.

We are aware that the potential significance of this approach is a long-term one, involving the identification and sharing of successful educational pathways and the impact of this on learner choice. Such impact can only be studied longitudinally, making it feasible as part of the operation of a funded service but difficult to achieve within a pilot. Our evaluation effort will work towards the identification of impact, but will focus primarily on evaluating acceptance, usability and perceived impact. Data from the evaluation experiments will be integrated to generate a set of guidelines describing best practice in lifelong learning in the London region.

We consider the following factors as very important for the success of the project: (i) usability and interoperability of the portal; (ii) engagement of learners in maintaining and updating personal development pathways; (iii) communication and collaboration with each of the partner institutions that will host end-users or access-controlled resources and (iv) availability of and access to JISC-funded services.

4. Project Outputs

Primary output from the study will be the L4*All* pilot system. In particular, the project will produce freely available open-source software, including two successive versions of the pilot, showing demonstrable examples of distributed e-learning, and the final pilot.

It will also produce a series of freely available reports: on the evaluation criteria and results, user requirements and usage scenarios (from WP3 and WP7); on the technical requirements and their relation to ELF (WP4); on the system architecture and management of personal learning plans (WP6); on personalised learning pathways including illustrations of achievements (WP6); and the evaluation report, including the guidelines document and strategic recommendations (WP7). The software and report outputs of the project will be disseminated via the project web site, which will be set up within the first month of the project and via a Dissemination workshop which will be held at the London Knowledge Lab towards the end of the project. Lastly, the project will also produce a report on IPR issues, four Progress Reports and one Final Project Report (all from WP1).

Finally, the project will enable us to develop a more detailed understanding about the way in which previously excluded groups can progress through the educational system.

Work-package No	Workpackage title/Leader	Start month	End month	Deliverable (D)/Milestone (M) No
1	Management/ Birkbeck	1	14	D1.1-D.1.4 Progress Reports (on 30/06/05; 30/09/05; 31/12/05) D1.5 Annual cost statements and audit certificate (31/01/06) D1.6 Draft Project Report (28/02/06) D1.7 Final Report (30/03/06) M1.1 Final and completion report (30/03/06)

2	Disseminate / Birkbeck & Institute of Education	1	14	D2.1 Designing the Website (31/03/05) D2.2 Organising dissemination event/seminar (31/03/06) M2.1 Website uploaded (31/03/05) M2.2 Dissemination event (throughout the life of the project)
3	User Requirements/ Institute of Education	1	4	D3.1 Requirements elicitation plan (31/03/05) D3.2 User requirements report (31/05/05) M3.1 Requirements elicitation plan (31/03/05) M3.2 User requirements (31/05/05)
4	Technical Requirements/ Birkbeck	1	2	D4.1 Report on L4*All* system architecture (31/03/05) M4.1 The pilot architecture
5	Metadata Generation and Provision/ Birkbeck & Institute of Education	3	9	
6	Development of the pilot/ Birkbeck	3	14	D6.1 Report on first version of the pilot, including system architecture and management of personal learning plans (30/06/05) D6.2 Report on final version of the pilot, including personalised learning pathways and illustrations of achievements (31/03/06) M6.1 First version of the pilot (30/06/05) M6.2 Final version of the pilot (31/03/06)
7	Evaluation/ Institute of Education	1 10	6 13	D7.1 Report on Design of the workshops (31/10/05) D7.2 Report on Evaluation of the pilot, including the guidelines document and strategic recommendations (28/02/06) M7.1 Report on Design of the workshops (31/10/05) M7.2 Report on Evaluation of the pilot (28/02/06)
8	Shibboleth/ London School of Economics	3	8	D8.1 Report on implementation of software components in each of the partner institutions (30/07/05) D8.2 Report on implementation of software components in the portal (30/09/05) M8.1 Software components in each of the partner institutions (30/07/05) M8.2 Software components of the portal (30/07/05)
	TOTAL 8			

5. Project Outcomes

The main outcome will be the L4*All* pilot system. In addition to existing learners, this will support previously excluded learners to find new and unique ways to progress through the educational system. The pilot will also allow recruitment agencies to track learner pathways thereby allowing them to demonstrate particular career routes to new learners. The impact of the pilot upon the teaching, learning and research communities will be significant in that it will stimulate learners to think in longer term pathways rather than in terms of individual courses and modules thereby supporting and informing lifelong learning choices. Other project outcomes will include the technical and user-oriented reports that will inform other projects that aim to support lifelong learning. This will provide a focus for the research community and help to raise the profile of lifelong learning and widening participation,

whilst contributing to the research outputs of this area and focusing debate upon important related issues. The project will also demonstrate the development of knowledge about the integration of technical systems in this area, by providing a pilot study that the community can learn from and thereby having a significant impact upon the technical knowledge of implementing integrated solutions for tertiary education.

In particular, the L4*All* pilot will create a Web Portal that will allow learners to access information and resources registered with the portal by their providers, and to maintain an individual record of their 16+ learning throughout life. It is envisaged that the portal will impact on teaching and learning by allowing learners to:

- Make informed choices by clarifying their learning needs and requirements.
- Identify learning opportunities in the London region.
- Explore learning pathways which match their needs and requirements (whether they be skills-based, vocational or academic) with available modules and courses. Real-life case studies will be used to provide guidance about potential pathways for learning and career development.
- Access learning activities and other resources registered with the portal by providers.
- Develop and maintain an individual Personal Learning Environment (PLE) that records their learning experiences throughout life. This will include a Personal Learning Portfolio (PLP) that provides a history of past learning activities, achievements, qualifications and reflection on the learning experience, and a Personal Development Plan (PDP) that sets out short and medium term learning objectives and longer term learning plans. The PDP will be used to record and prioritise learning tasks and activities and set them in a manageable time frame.
- Maintain a list of contacts and other sources of information needed to make decisions about their lifelong learning requirements.
- Share their PLPs and PDPs (if they wish, either in full or in part) with other learners, in order to encourage collaborative learning and collaborative formulation of future learning goals and aspirations.

It is also intended that the L4*All* pilot will support the implementation of the **Lifelong Learning Network** currently being developed by the Bloomsbury Campus HE institutions and several other FE institutions and Colleges (Birkbeck is the coordinator of this Lifelong Learning Network). The L4*All* consortium recognises that developing a Lifelong Learning Network in the London region has far-reaching institutional and organisational consequences, requiring changes in individual and organisational culture. The consortium's commitment to this long-term target will be fostered by periodic reviews of progress of the pilot project, and a number of evaluation studies and demonstrators.

6. Stakeholder Analysis

The main stakeholder groups for the L4*All* pilot are listed in the table below.

Stakeholder	Interest / stake	Importance
JISC	Development of a pilot system with an evaluation report	High
Senior managers of FE/HE institutions	Consider new approaches to widening participation to previously excluded learners	Medium
Information system managers of FE/HE institutions	Provide technical expertise and access to relevant services and resources	High
Advisory group members	Participation in the project. Recruiting users for evaluating the pilot	High
Users evaluating the pilot	Increased opportunities for widening participation and continuing professional development	High
Post-16 Recruitment Departments	Potential of increased recruitment to post-compulsory institutions	High

Previously excluded learners	New opportunities for access to learning	High
Existing lifelong learners	Additional opportunities for access to learning	Medium
Project team members	Successful completion of the pilot project and evaluation of the potential of the pilot for identifying potential new services	High
Lifelong learning network	Success of the pilot and future support for developing the pilot into a full service for members of the London-based network	
Providers of work-based learning	Inspire new learning services	Medium
Shibboleth developers and adopters, and learners	Evaluate and extend the adoption of Shibboleth	High

7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staffing	1	3	3	Management: There is a group of appropriately qualified people within the London Knowledge Lab who can be deployed on this project in case of the resignation or incapacity of any team member
Organisational	1	5	5	Prevention: Birkbeck is one of the constituent Colleges of the University of London. The School of CSIS is one of Birkbeck's constituent Schools, and the London Knowledge Lab is one of London University's designated collaborative research labs.
Technical	3	3	9	Management: We will be producing a Technical Requirements Specification and two versions of the pilot before the final pilot.
Subcontractors and Advisors	1	4	4	Prevention: adopt standard metadata specification, JISC funded tools, comply with data protection and IPR regulations. Management: in the event of incapacity of a subcontractor or advisor to continue to participate in the project, we have contacts within a large pool of alternative institutions, and would have support from JISC.
Legal	3	3	9	Prevention: We will be using and producing open-source software; obtain end-user agreement for any use, publication, or dissemination of personal data or learning pathways. Management: Birkbeck's and the Institute of Education's Research Grants and Contracts Offices advise on any legal aspects of externally funded projects
Failure to recruit users for study	1	4	4	Prevention: We will be recruiting from a wide range of FE colleges and HE institutions, including the core project partners and other closely collaborating institutions. Users will also

				be selected from the advisory group member institutions who have a stake in the project.
Failure to obtain sufficient metadata to sustain a useful pilot	2	4	8	Prevention: The information required will be provided by institutions that are advisory group and core team members who have a major stake in the success of the project. If insufficient information is forthcoming (which is highly unlikely) other organisations will be involved.

8. Standards

Taking into account the specific requirements of the project, we will adopt a number of technologies for developing the pilot system.

Firstly, the project will be based on open Java technologies. The main reasons for choosing Java technologies are that (a) Java has proven its reliability and robustness in very demanding Web (and non-Web) applications, (b) there are a large number of open source projects and technologies that can be used to facilitate the development of the pilot, (c) Java technologies are widely supported by the user and developers community world-wide.

Secondly, building the pilot requires choosing an existing portal framework upon which the pilot will be built. The portal framework should be open source and Java-based and support the latest portal building standards, in particular the JSR-168 Portlet Standard (http://www.jcp.org/en/jsr/detail?id=168). This standard defines a set of Application Programming Interfaces (APIs) for Portlet computing addressing the areas of aggregation, personalisation, content presentation and security within a portal.

Thirdly, exploiting the functionality provided by the existing services in the ELF JISC architecture we will adopt standard Web Service technologies (SOAP,XML-RPC etc.). A web application container (such as Apache Tomcat) will be used as the deployment platform for both the portal framework and the integration web services. An open-source relational database (such as PostgreSQL,MySQL) or Name and Directory server (such as LDAP) will be used as the platform for storing and managing user-related information

Fourthly, for the metadata creation and management we will use the current e-Learning metadata standards as defined by the specifications provided by CETIS (http://www.cetis.ac.uk), for example IMS standards and the IEEE LOM .

Finally, and depending on the chosen portal platform, a web interface building technology such as XML/XSLT or Java Server Faces will be adopted in order to facilitate the development of the pilot user interface.

9. Technical Development

During the technical development of the pilot we will follow JISC's software quality assurance guidelines. We will set two-weekly goals the progress on which we will monitor in our regular two-week meetings. The software development will follow existing and well established standards, such as using the UML standard for system design. The development approach that will be followed by the project is test-driven development. This approach has been proved to provide high quality software in a short development time. Existing testing platforms such as JUnit will facilitate the testing process. To manage the development we will use a version control software, such as CVS. We will use a bug tracking system, such as Bugzilla, for monitoring and tracking the errors and problematic aspects of the programs.

The project will use a service oriented architecture and will adopt the e-Learning Technical Framework described in http://www.jisc.ac.uk/elearning_framework.html. With the involvement of JISC in the project, we will exploit JISC funded tools for Common services and Application services which are either available or are currently under development and nearing completion The envisaged service-based architecture of the pilot is shown in Figure 1, where the shaded boxes correspond to services that will be supported by the proposed pilot.

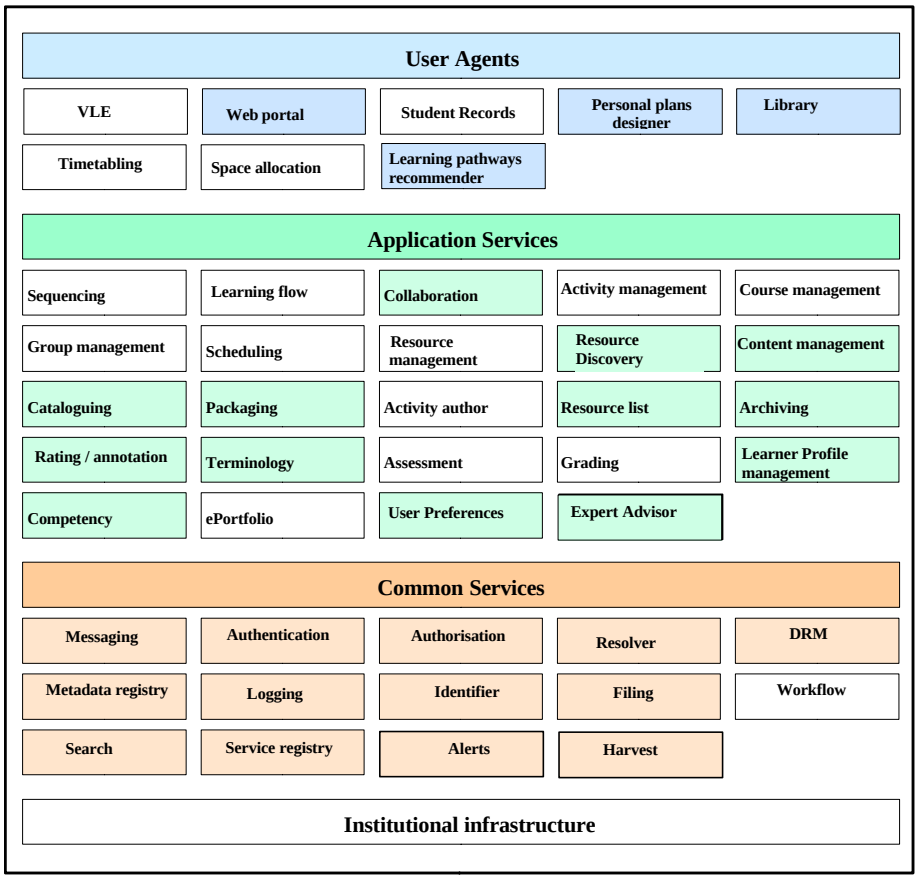

Figure 1: The envisaged services of the pilot

An abstract view of our system that makes use of the above service-oriented architecture of Figure 1 is show below:

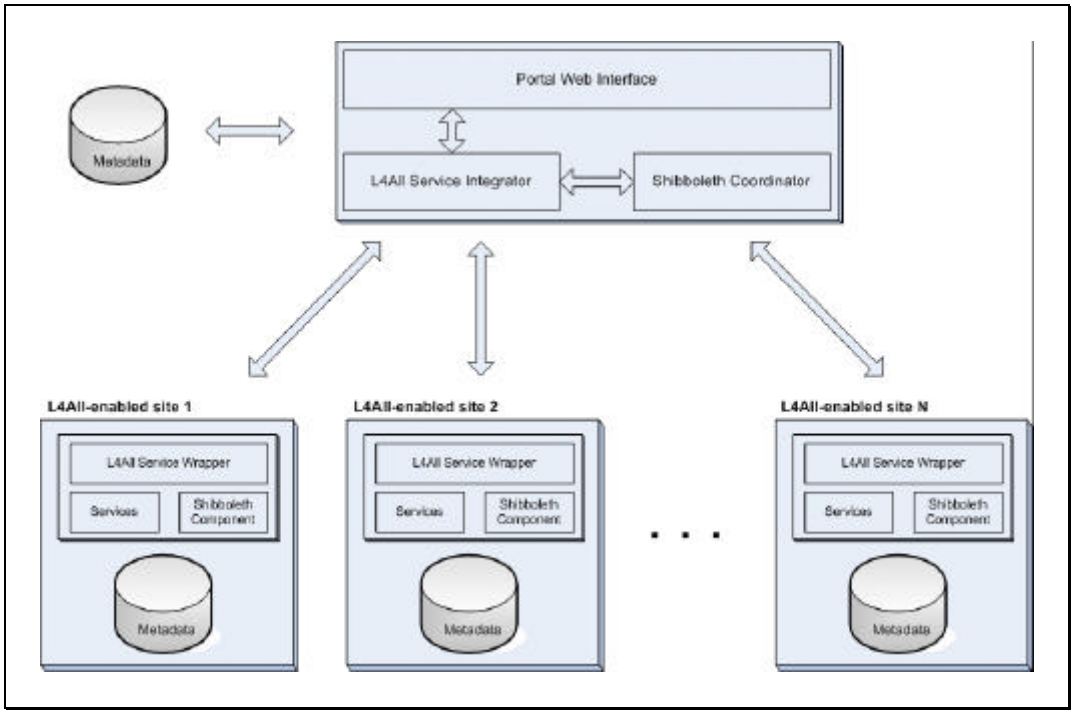

Figure 2: High level schematic of the distributed e-learning pilot.

A detailed derivation of the distributed architecture and of the involved services will be provided in the *Technical Requirements* (WP4) and the *Development of the Pilot* workpackages (WP6) respectively. The derivation of the Shibboleth components in the origin and target sites and policies will be provided in the Shibboleth workpackage (WP8).

10. Intellectual Property Rights

The project will use open source software and tools and will provide its software outputs free as Open Source software under the GNU Public Licence (GPL). The report deliverables will be freely available and will be posted on the project web site, which will be maintained for at least three years after the end of the project in accordance with JISC conditions. The outputs will be made available to the HE/FE community through the JISC development bay and web site for a specified period. The community that uses the software outputs in accordance with open source models will share the costs and support issues surrounding sustainable development of the pilot. During and after its duration, the L4*All* pilot will support the implementation of the Lifelong Learning Network currently being developed by the Bloomsbury Campus HE institutions and several other FE institutions and Colleges.

Before the start of the project, the team members will be requested by the institution to sign an undertaking covering issues such as IPR, confidentiality and publication of results. It is expected that Birkbeck will have the first option to arrange steps for exploitation. Should Birkbeck decide to seek exploitation, discussion between the other partners and other interested parties will be initiated to determine the appropriate action to be taken. Any revenue generated through the exploitation will be shared according to the organisations' internal policy.

Project Resources

11. Project Partners

The project will be hosted at the London Knowledge Lab (see http://www.lonklab.ac.uk/), which is a recently founded collaboration of social scientists from the Institute of Education and computer scientists from Birkbeck. The School of Computer Science and Information Systems at Birkbeck will coordinate the project. Birkbeck is a leading provider of part-time HE learning and teaching in London. Over 90% of its student population are mature part-time students (modal age 30-39 years) many of whom are employed or have other daytime commitments whilst studying. Birkbeck's mission is inclusive and this is reflected in the wide range of educational, ethnic, cultural and social backgrounds of its students, mirroring the diversity of the London population. The other consortium members are the Institute of Education, Hackney Community College, London School of Economics, Goldsmith's College, and three Advisor institutions, namely Greenwich City Learning Centre, London Metropolitan University and Kingston University. Table 1 gives the consortium structure, the areas of work of each partner, and the anticipated benefits for the learners. A Consortium agreement will be signed in early March 2005.

Table 1: Consortium details.

Organisation	Role and areas of work	Benefits for the learners
Birkbeck	Coordinator: User and Technical requirements; metadata generation and provision; personal learning portfolio; personal development plan; evaluation. Participation in all workpackages.	▪ Learning services to people in non-formal learning settings. ▪ Management of personal learning goals, plans and informal learning activities. ▪ Helping London region community members to learn about what others are doing, share knowledge and collaborate. ▪ Helping learners to make the transition between learning context: FE-HE, WBL-FE-HE. ▪ Provision of information on educational offerings
Institute of Education	Partner 1: user requirements, metadata provision; evaluation. Participation in WP1, WP5,	▪ Involvement of experts in learner choice and educational evaluation. ▪ Provision of information on educational

	WP7	offerings
Hackney Community College	Partner 2: user requirements; metadata provision, evaluation. Participation in WP3, WP5, WP7.	▪ Elicitation of real user needs ▪ Development of real usage scenarios ▪ Deployment of the pilot in real setting. ▪ Provision of information on educational offerings
London School of Economics	Partner 3: Technical expertise on Shibboleth technologies (WP8); technical support. Participation in WP4 and WP6.	▪ Access to content or services from different institutions ▪ Collaboration between learners of different institutions and sharing of personal development plans ▪ Satisfying the needs of learners who are members of multiple institutions
Goldsmith's College	Partner 4: Support for integration of existing JISC-funded work on visual front-ends to portfolios for those with dyslexia. Participation in WP4 and WP6.	▪ Interaction with a pre-defined institutional template for preparing personal learning portfolio in a format that is accessible to the learner ▪ Enabling planning and updating of Personal learning Portfolio ▪ Enable the learner to share, publish and disseminate a Personal Learning Portfolio
London Metropolitan University	Advisor 1: Informing the work in WP4-6 on the integration of JISC funded tools for easier access to personal learning information such as portfolios, and access to greater quantities of quality assured learning materials.	▪ Set of pedagogically effective, reusable learning objects and tools ▪ Emphasis on educational dialogue ▪ Creation of e-learning communities, combining methodologies from educational cognitive science, linguistics and psychology.
Kingston University	Advisor 2: Informing the work in WP4-6 on the integration of JISC funded authoring and content management tools; interface tools.	▪ Concentration on quality assured teaching and information resources. ▪ Reflection on the progress and plans of others ▪ Contribution to lifelong learning requirements.
Greenwich CLC	Advisor 3: Providing support and advice on the deployment of L4*All* pilot in school and college IT environments.	▪ Provision of a system that is stable, accessible and fully functional in school and college networks.

Project team

Birkbeck

- **Dr S. de Freitas** (S.deFreitas@bbk.ac.uk)– Project Manager, ICT in education expert.
- **Dr I. Harrison** (ian@dcs.bbk.ac.uk)– Lifelong learning expert
- **Dr G. Magoulas** (g.magoulas@dcs.bbk.ac.uk)– Personalised learning environments expert
- **G. Papamarkos** (g.papamarkos@dcs.bbk.ac.uk)– Software developer
- **Prof. A. Poulovassilis** (ap@dcs.bbk.ac.uk)– Web technologies expert

Institute of Education

- **Dr ?. Mee** (a.mee@ioe.ac.uk)– Life long learning expert
- **Dr M. Oliver** (M.Oliver@ioe.ac.uk)– ICT in education expert

Hackney Community College

- **M. Andrews** (mandrews@comm-coll-hackney.ac.uk])– Director of Lifelong Learning at the Hackney Community College.

London School of Economics

- **Dr J. Paschoud** (J.Paschoud@lse.ac.uk)– Shibboleth expert

- **S. McLeish** (s.mcleish@lse.ac.uk)– Shibboleth support

Goldsmith's College
- **Dr J. Phelps** (J.Phelps@gold.ac.uk)– Learning technology expert

London Metropolitan University
- **Dr J. Cook** (john.cook@londonmet.ac.uk)– Learning technology expert.

Kingston University
- **Dr. D. E. Livingstone** (D.Livingstone@kingston.ac.uk) – Web services expert

Greenwich CLC
- **P. Noakes** (philip.noakes@greenwich.gov.uk)– City Learning Centre scheme manager for The London Borough of Greenwich.

12. Project Management

Project management is described in the project management workpackage. Dr Sara de Freitas (S.deFreitas@bbk.ac.uk)–) will have overall project management and dissemination duties and day-to-day responsibility for the work carried out by the project administrator, pilot developer and Partners 2, 3 and 4. Dr Sara de Freitas will also have overall responsibility for WP3 and WP7, reporting to Dr George Magoulas (g.magoulas@dcs.bbk.ac.uk) and Prof. Alex Poulovassilis (ap@dcs.bbk.ac.uk). Dr de Freitas will spend about 50% of her time managing the project and 50% on dissemination activities, evaluation and user requirements and scenarios including writing up reports. She will also liaise with the project team and partners. Dr de Freitas will attend the JISC project training day to ensure alignment of project management processes and procedures with JISC guidelines and practice.

The project administrator's duties will include web site maintenance, organising meetings and workshops, writing minutes for meetings, data input of metadata, reporting to the JISC Programme Team and other administrative duties.

George Papamarkos (g.papamarkos@dcs.bbk.ac.uk) will undertake work on the technical requirements (WP4), pilot development (WP6) and metadata generation (WP5). George Papamarkos and the project administrator will report to Dr de Freitas on a weekly basis. George Papamarkos will lead on technical development of the L4*All* system working with Dr Magoulas and Prof Poulovassilis to define technical specifications and to develop the pilot system.

The project will be steered by a Management Committee consisting of Prof. Poulovassilis and Drs de Freitas, Magoulas, Oliver (m.oliver@ioe.ac.uk), Harrison (ian@dcs.bbk.ac.uk) and Mee (a.mee@ioe.ac.uk). They will meet every two to three weeks to discuss progress and make detailed plans for the next phase of work. Drs de Freitas, Mee, Harrison and Oliver will lead on user requirements, usage scenarios and usability evaluation process, while Prof. Poulovassilis and Dr Magoulas will have oversight of the technical aspects of the project.

The project will also include an Advisory Group: Dr Susan Jackson, Prof. John Annette and Prof. Stephen Frosh (Birkbeck), Dr David Livingstone (Kingston), Dr Philip Noakes (Greenwich CLC), Dr John Cook (LMU) and other stakeholders to be determined. The Advisory Group will meet four times during the project, in months 1, 4, 10 and 14. It will provide guidance on the user requirements, usage scenarios, technical requirements, integration of JISC-funded tools into the pilot, evaluation of the pilot, longer-term scalability of the pilot to additional FE and HE institutions and to work-based learning environments, use of the pilot to support Lifelong Learning Networks, and impact of the pilot in increasing uptake of Foundation Degrees and other degrees in the London region especially amongst those groups who have traditionally been under-represented in higher education.

All members of the project team can be contacted at: London Knowledge Lab, 23-29 Emerald Street, London WC1N 3QS. Tel: 0207 763 2137. Fax: 0207 242 2754.

13. Programme Support

Guidance on compliance with appropriate standards and best practice on technical development would benefit the project. Moreover, the successful development of the pilot requires incorporating a number of JISC-funded services and tools. An indicative list is given below:

Project (leader)	ELF Service Mapping
ASAP (Kingston)	Assessment
ASSIS (Hull)	Sequencing
e-Learning Annotation Web Service (Huddersfield)	Rating/Annotation
DELTA (Essex)	Content Management
GroupLog(Bath)	Forum
d+	Search
Interactive Logbook	Personal Development
JSmirk (Hertfordshire)	Forum
Open Mentor(Open)	Tracking
SHELLFISH (Plymouth)	Personal Development

Our work will be also informed by the work of JISC-funded SHELL and NIIMLE projects A detailed description of the services incorporated in the pilot will be provided as part of the Technical Requirements workpackage (WP4).

14. Budget

The project formally started on 1st February 2005 rather than the proposed start date of 1st January 2005. This was primarily due to the fact that Dr Sara de Freitas, the Project Manager, had already made other work commitments for the month of January by the time we were notified of the success of the project, and understandably she did not wish to back out of these agreements. The core project members discussed the feasibility of a 1st February start date and concluded that the project would not be significantly affected by this later start date, given that in fact the consortium had already started carrying out user and technical requirements research (WP3 and WP4) as soon as the success of the project was known to us.

Therefore, there has been a reduction of approximately 1/15-th in the salary budget for the project manager, pilot developer and administrator. A portion of these savings have been apportioned to the Dissemination and Travel heading – this was formerly entitled Travel and we have added here the costs relating to producing printed materials relating to the project and of running the workshops. We have also expanded the Equipment heading to Consumables and Equipment, to cover here also the cost of purchasing a laptop computer that will allow the Project Manager and others to easily produce and deliver presentations relating to the project, and also the cost of purchasing the necessary technical and reference manuals for the technical aspects of the project. Finally, we have allocated £1,800 to London School of Economics to reflect the fact that they will be coordinating WP 8 (Shibboleth) and hence the additional staff time involved.

The Project Budget template is included in Appendix A.

Detailed Project Planning

15. Workpackages

The project consists of eight workpackages. A Time plan for the life cycle of the project and a list of workpackages are included in Appendix B.

16. Evaluation Plan

The evaluation process will involve two main phases of work. The first phase will focus upon identifying user needs for most effective development of the L4*All* pilot system this will involve interviews and focus group activities designed to identify which groups would benefit the most from involvement with the pilot and which are most representative of the target groups. This will involve a consultation with student representatives, tutors, widening participation officers and content providers to examine how different users may interact with the system. Once the user groups have been identified the evaluation will then elicit the types of information that can be most effectively used to support the targeted needs of the group.

The second phase of evaluation will focus upon how selected user groups are using the pilot. This phase will involve usability testing, using talk-aloud observational protocols with a series of users. This will provide formative feedback to the developers, supporting changes to the rapid prototyping of the pilot. Given the short duration of the project, this activity has been designed to be timely and will inform both design parameters (are these the right tools to develop?) and usability issues and concerns including accessibility (can learners use them?). Taking an illuminative approach to evaluation, the study will evaluate selected learner groups using the L4*All* pilot and tools and will draw upon observational and interview-based methods. The purposes of the study aim to evaluate in-depth the entire system, and thus feedback from user groups will inform any necessary revisions for the prototype. The evaluation may also help us to assess the impact of the L4*All* pilot upon learning processes in defined HE/FE learner groups. This approach will allow us to test the pilot in real learning environments allowing a better fit between the technical specifications and the contexts of use.

This will involve asking questions such as:

- What does the learner do differently when using the L4*All* pilot and embedded tools?
- Is the system effective in supporting learning processes?
- What role might the tutor/organisation take in facilitating the use of the system?

To this end, the evaluation process will involve seeking evidence for:

- Successful system use (i.e.: accessibility, usability),
- Reflective learner practice,
- Effective learner support and
- Increased choice and flexibility for the learner.

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
WP3	Identification of user needs	What do potential users need from the system?	Interviews or focus groups.	Specification produced for system.
WP7-First phase	First version of the L4*All* system	Is the system usable?	Observational studies.	Specification of revisions required for system.
WP7-Second phase	Final version of L4*All* system	Does the system broaden users' educational choices?	Observation, systems logs, interviews.	Evidence of choices.

User Scenarios

User scenarios will be developed with focus on the JISC community's interests and the London region priorities. Table 2 gives a summary of the currently envisaged user scenarios, focusing to widening participation, progression and the benefits to lifelong learners.

Table 2: Scenarios.

Scenario	Learning/teaching context
Delivering lifelong learning	London's increasingly mobile international population needs additional information and support, particularly groups such as refugees and learners living temporarily in the UK. Planning pathways is particularly difficult for ethnic minorities. Language and lack of knowledge of the available options are a barrier to those with English as a second language and this is compounded by the lack of familiarity with the UK educational system and qualifications structure. Certain groups within ethnic minorities may not have the confidence to seek face-to-face advice for a range of reasons. No coherent system for providing advice and support in terms of educational opportunities and progression exists and information and advice is spread across a vast range of web resources including government agency sites and those of FE and HE providers. The pilot will allow interactive modelling of a variety of learning pathways using visualisation tools would support those who are currently unwilling or unable to access face to face support and those who struggle with English.

Planning and reflecting on learning	Learners are supported at key transition points, for example at the end of compulsory education, FE/HE transition, and those considering returning to formal education.
Communicating and collaborating with peers and tutors	Advice and support is provided on-line to groups who may be reluctant or unable to access current sources of information. Learners have an opportunity to share knowledge and experiences of the relative strengths of a variety of learning pathways.
Assessing progress or attainment	Learners are provided with opportunities to measure their progress against their learning goals and provided with formative feedback on further learning options available.
Engaging in learning activities	The system provides a mechanism to combine on-line courses from a range of providers and actively plan professional development.
Maintaining a record of achievements	Secure access to progress and attainment records are made available to the learner and those they choose to share them with.

17. Quality Assurance Plan

In the interests of making the project deliverables functional, widely accessible and reusable to the HE/FE community of practitioners and learners, this project will comply with the UKOLN QA methodology, following QA procedures that will include: documented policies on standards and best practice; documentation of the architecture used; documented exceptions, systematic checking and audit trails. Each deliverable will comply with the QA method and testing in accordance with these procedures.

Timing	Compliance With	QA Method(s)	Evidence of Compliance
WP7	Fitness for purpose	Test systematically, keep audit trails	Make audit trails available to JISC Programme Team
WP1/WP2/WP7	Best practice for processes	Keep audit trails	Make audit trails available to JISC Programme Team
WP4	Adherence to specifications	Document architectures used. Test systematically	Technical reports
WP3/WP4/WP5/WP6	Adherence to standards	Document policies on standards and best practice. Document architectures used	User study and technical reports
WP3/WP7	Accessibility legislation	Document policies on accessibility and best practice	User study and technical reports

18. Dissemination Plan

The project team will work closely with the advisory group members, the local London Learning Skills Council, the JISC Regional Support Centre and with the other London-based projects to ensure that the findings of the project are disseminated to the widest audience. The project will share outputs, outcomes and information arising from the project with stakeholders and the wider academic community in three main ways:

1) **The L4*All* project web site.** The web site will provide testers and the expert community with open source access to the tools under development, documentation and survey details and reciprocal links to JISC web site, CETIS web site. The web site will be maintained for at least three years beyond the end of the project.
2) **Networking activities**. We will hold seminars to present our findings throughout the project, discuss the benefits of our approach, and evaluate the validity and usefulness of the personal plan recommendations. There will be a final dissemination event held in January 2006 at the London Knowledge Lab. It is also envisaged that this final dissemination event will be held

jointly with the other London regional projects in order to most fully support synergies between the projects and to ensure the highest profile for the JISC project outputs.

3) **Formative dissemination through the JISC.** The formative dissemination of outputs, outcomes and information arising from the project will be disseminated to the HE/FE communities of practice through: the JISC development bay, relevant JISC mailing lists and events. This process will be ongoing throughout the project lifecycle. The L4*All* project team will liaise closely with the JISC team to facilitate broad dissemination of the outputs. The formative dissemination will also include forming close links with other stakeholders and organisations wherever appropriate.

Timing	Dissemination Activity	Audience	Purpose	Key Message
WP2	L4*All* web site	Developers/HE/FE community	To disseminate outputs	Formative corrective input into tools and system development
WP2	Networking Activities	HE/FE community	To disseminate information about the system	Assessment of feedback from the community about the system
WP2	Dissemination event with HE/FE community	HE/FE community	To disseminate information about the project	Embedding use of system into learning and teaching practice

19. Exit/Sustainability Plan

The outputs from L4*All* will be made available to the research and academic community as open source products and embedded into the open source community for further use. The project web site will support this process of continuity, and all documentation will be made available there. In addition, it is hoped that the products will be made available to the HE/FE community through the JISC development bay and web site for a specified period. The community that uses the tools in accordance with open source models will share the costs and support issues surrounding sustainable development of the tools. It is however important to consider how the tools will be embedded into teaching and learning practice and therefore some consideration of these issues is drawn out in the following table:

Project Outputs	Action for Take-up & Embedding	Action for Exit
L4*All* pilot	Working in liaison with the Birkbeck Lifelong Learning Network	The Birkbeck Lifelong Learning Network would (if funded) provide a mechanism for continuing the L4*All* pilot and developing the pilot into a production system
Project reports	Promoted through relevant conferences, mailing lists and workshops	Archived on project web site
Knowledge about integration of technical systems for distributed e-learning	Application knowledge through other project work and research publications	Publication and follow-up projects
Knowledge about widening access and participation	Application knowledge through other project work and research publications	Publication and follow-up projects

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
L4*All* pilot	Possibility of funding through the Birkbeck Lifelong Learning Network	Ongoing support for the project beyond the life cycle of JISC funding would be provided by the Birkbeck Lifelong Learning Network currently being proposed for funding by HEFCE	Successful piloting of L4*All*. Requirements of the Lifelong Learning Network. Technical and project management support issues.
L4*All* web site	Supportable as part of the London Knowledge Lab	Archived on LKL web site	None

APPENDIXES