

Cover Sheet for Proposals
(All sections must be completed)



Name of Call Area Bidding For (tick <u>ONE</u> only):	
Call I: Transforming Curriculum Delivery Through Technology (JISC funded)	/
Call I: Transforming Curriculum Delivery Through Technology (Becta funded)	
Call II: Assessment demonstrators	
Call III: Course description and discovery	

Name of Lead Institution: The Open University

Name of Proposed Project: Achieving Transformation, Enhanced Learning and Innovation through Educational Resources in Design: ATELIER-D

Name(s) of Project Partner(s): n/a

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Length of Project: 2 Years

Project Start Date: 1 November 2008 **Project End Date:** 31 October 2010

Total Funding Requested from JISC:

Funding Broken Down over Financial Years (April - March):

April 08 – March 09	April 09 – March 10	April 10 – March 11
£45,159	£90,317	£45,158

Total Institutional Contributions: £45,158

Outline Project Description

This two-year project engages seven academic staff plus assistant and steering group in the construction of a virtual atelier that combines well-established practice in art and design education with new opportunities presented by ICT to create a powerful new approach to learning and teaching design. It is founded on the delivery of three core Open University design courses (at Levels 1, 2 and 3) and their integration in a new design programme. The project platform will be OpenLearn, the Open University's open content initiative plus other elements of the VLE such as Web 2.0 tools (e.g. video-conferencing, social networking

<p>applications, Second Life), knowledge mapping software and a virtual design studio. Through the membership of the Steering Group and during the second year project conference the application of project outputs will be explored in other UK higher education institutions that offer design education.</p>		
<p>I have looked at the example FOI form at Appendix B and included an FOI form in the attached bid (Tick Box)</p>	<p>YES /</p>	
<p>I have read the Circular and associated Terms and Conditions of Grant at Appendix D (Tick Box)</p>	<p>YES /</p>	

FOI Withheld Information Form

We would like JISC to consider withholding the following sections or paragraphs from disclosure, should the contents of this proposal be requested under the Freedom of Information Act, or if we are successful in our bid for funding and our project proposal is made available on JISC's website.

We acknowledge that the FOI Withheld Information Form is of indicative value only and that JISC may nevertheless be obliged to disclose this information in accordance with the requirements of the Act. We acknowledge that the final decision on disclosure rests with JISC.

Section/ Paragraph number	Relevant exemption form disclosure under FOI	Justification
Paragraph 49 – project budget	S.40 Personal Information	Named Individuals with salary details

Please see <http://www.ico.gov.uk/> for further information on the Freedom of Information Act and the exemptions to disclosure it contains.

Section 1 Introduction

- 1 In his keynote presentation at the OpenLearn conference at The Open University (OU) on 30-31 October 2007, John Seeley Brown [1] used the term 'atelier' to characterise an emerging form of learning and teaching based on social networks, a distinct participatory approach by learners and teachers and pedagogy rooted in practice. Seeley Brown drew on his experience in architecture education but many in the parent domain of design education will recognise the well-established and powerful approach offered by the atelier. Its educational qualities have attracted the attention of such distinguished researchers as Donald Schön [2], Michael Polanyi [3], and Howard Gardner [4].
- 2 This project will construct a virtual atelier that combines well-established practice in design education with new opportunities presented by ICT to create a powerful new approach to learning and teaching design based on communities of practice. It is founded on the delivery of three core OU design courses *Design Thinking* (Level 1), *Design and Designing* (Level 2) and *Innovation* (Level 3) and their integration in a new design programme.
- 3 Aims:
 - To *transform* design curriculum delivery at the OU – which already has significant elements of distance teaching and learning through technology.
 - To *enhance* the design learning of all students registered on the selected courses.
 - To *innovate* in a wider arena by sharing course and programme developments with other higher education institutions (HEIs) involved in design education.
- 4 Objectives:
 - To demonstrate how a virtual atelier might support distance learning and teaching in design at the OU.
 - To explore the potential of various virtual atelier tools and to define what skills these lead to.
 - To engage in dialogue with business and other HEIs to enhance the relevance of the student experience and to demonstrate wider applications for outputs.
- 5 The project platform will be [OpenLearn](#), the OU's open content initiative [5], exploiting capabilities of the OU's VLE (Moodle). The project is constructed and validated through relationships with business and industry established through i10 – a consortium of UK Eastern region HEIs. In particular, the project will address a key issue of the Cox Report [6] concerning broadening higher education's understanding of the needs of business, particularly small and medium-size enterprises (SMEs).

1.1 The virtual atelier

- 6 This project takes as its starting point the centuries-old methods of learning and teaching in the studio of a master artist or craftsperson. The project brings the spirit of the atelier into the 21st century. It develops the notion of the virtual design studio [7] using ICTs to create powerful learning and teaching environments. An atelier is a space for coming into direct contact with expertise, a hub from which to make external forays, a zone for exploring and experimenting, and a home for peer group interaction. Essentially it's a secure but challenging place for exposure to the realities of the professional world to come. One of the key tools in an atelier style of education is the personal portfolio. For the tutors a portfolio provides evidence for assessment of a student's ideas, understanding and progression; for students the construction of a personal portfolio facilitates reflection, demonstrates learning and develops communication skills.
- 7 Ateliers have fostered the type of enculturation into practice that modern schemes for distributed situated learning are just coming to understand. The atelier addresses the sensibilities of *learning to be* rather than the now outdated *learning about*, and what Schön refers to as *knowing how*, as opposed to *knowing that*. The atelier system has proved particularly effective for developing sensitivities to and sensibilities of those classic but fugitive elements of design education such as problem finding and problem solving, working effectively as part of a team, sensitivity to market opportunities, an 'eye' for detail and the ability to generate innovation. The notion of a virtual atelier has much to recommend it as a guiding model for developing learning and teaching of design in our universities.

1.2 The challenge for undergraduate design education in the UK

- 8 In 2006 the Cox report focused on the need for design curricula to develop in collaboration with industry. Whilst UK art and design education is internationally respected, the dominant culture of studio-based practice has significantly inhibited the uptake of learning technologies, and this needs to be addressed to meet the needs of business.

- 9 Design teaching is essentially participatory. Tutors and students often collaborate to resolve design problems and this presents its own challenges. Learning from established design practitioners can involve storytelling and case studies where the lessons can be hard to extricate from the specific context. Much of the portfolio work of art and design students comprises sketches, models and mock-ups that are necessarily incomplete, vague and ambiguous. The ability to share such representations is vital in design team working but only recently has it been possible to do this between remotely located participants. Some design fields, such as product design, interior design and architecture have moved into the realm of virtual online worlds, such as Second Life [8].
- 10 At the same time there are emerging new trends in design education. Economic pressures demand that institutions find new ways to assist students to develop their skills, knowledge and competences – exploiting much more selectively access to studios, workshops and face-to-face contact with teaching staff. Also new demographic pressures are forcing institutions to address the needs of a diverse student population, some of whom cannot attend in the traditional way. There is a clear demand from a new digitally-aware student population for skills in new learning technologies that can assist their creative and systematic thinking as well as increasing their marketability in competitive jobs markets.
- 11 These factors combine to present a clear challenge to establish a new culture of design education. One in tune with new and emerging needs of the creative industries; one that builds on the proven atelier teaching approach and one that confidently exploits new technologies to support students. In short, the challenge is to create a virtual atelier. The converging interests of distance learning providers and traditional face-to-face universities are a key stimulus for this bid. The models for delivering design education explored in this project could find application not only in the OU but also in the 400 HEI and HE/FE institutions that currently offer design education in the UK.

1.3 Design education at The Open University: support and delivery mechanisms

- 12 Since the foundation of the OU in 1969 a diverse range of students from teenagers to those retired from full-time employment have engaged with a study of the principles and practices of design through various incarnations of part-time distance education courses. They have benefited from the OU's proven systems for student support through its high quality teaching materials, a nationwide network of Associate Lecturers, and its use of day schools and summer schools for face-to-face contact with peers and tutors. More recently, design courses have included on-line conferencing, bespoke and off-the-shelf software and interactive video. Some of these design course materials have been made publicly available via Open Learn, the OU's Open Content initiative (see para 15), and through Apple's iTunes U service. This proposal expands the scope of these delivery mechanisms.
- 13 In line with other HEIs, OU students achieve points through successful completion of courses (or modules). A 10 point course approximates to 100 hours of student activity. Many OU students follow a 60-point course (600 hours of activity) part-time over nine months (typically February to October) while their full-time colleagues might take on 120 points. Thus achieving the 360 points required for an honours degree will normally take 6 years of part-time study of several courses. Many OU students have constructed degree programmes to suit their own needs from a wide range of subjects. Others have used the design courses as continuing professional development in areas such as teaching, marketing and engineering.
- 14 For some years the OU has offered a Diploma in design. To achieve this students have had to successfully complete two 60-point courses: [Design and Designing \(T211\)](#) and [Innovation: Designing for a sustainable future \(T307\)](#). Together these courses are attracting 800 students annually. More recently the Open University has outlined a new degree programme in design. The two 60-point design courses will be supplemented by a new first level 60-point course titled Design Thinking (U101) to be first presented in 2010. The core courses are supplemented by a number of smaller (30 point and 10 point) specialist design courses. This project concerns innovation to the delivery and support of these three core design courses and their integration within a design programme.

1.4 OpenLearn

- 15 OpenLearn is the OU's open content initiative. With the support of a major grant from the William and Flora Hewlett Foundation to fund its two-year pilot stage, OpenLearn has delivered, for free re-use within a Creative Commons license, not only a wealth of self-study learning resources that correspond

to about 5% of the OU's current course provision, but effectively an integrated learning environment encompassing a variety of communication and social networking tools available or attached to the Moodle environment on which the project web sites are built. OpenLearn builds on the University's mission of offering open access to Higher Education within the government's agenda of widening participation, whilst providing the community of academics and educators worldwide a site for discussion, collaborative work and potential innovation in terms of curriculum, pedagogy and use of Web-based educational technologies.

- 16 OpenLearn has two parts: 'LearningSpace' primarily for learners, and 'LabSpace' for experimentation and collaborative work. LabSpace will be used as the platform for the construction of the design atelier. Collaborative learning, teaching and networking is supported by Wikis, Learning Journals and other tools. In addition to the Moodle-based asynchronous forums, the LabSpace offers blogging, video blogging and videoconferencing via the Web 2.0 tool *FlashMeeting*, developed by the OU's Knowledge Media Institute (KMI). In addition to providing a communication platform for the core project team and participants the site will be used for dissemination of Open Educational Resources to HEIs. The Director of OpenLearn, Professor Andy Lane, has provided a letter of support to this bid.

Section 2 Fit to JISC programme objectives and value to the wider community

- 17 This two year project focuses on transforming and enhancing the delivery of existing curriculum at the Open University but it also inspires new curriculum, new learning outcomes and new learning and teaching opportunities. Primarily the project addresses the JISC Programme vision through the theme *Learning and Teaching Practice*. Key areas of focus within this theme - and intrinsic to the atelier approach discussed earlier in paragraphs 6 and 7 - include the need for flexible learning and access to tools and support to develop skills to become effective, reflective and self-aware life long learners; the use of a design portfolio to facilitate different forms of assessment and to support learners' progression and reflection; the delivery of curricula responsive to individual learning needs with mechanisms that allow learners to access and participate in learning opportunities; and stakeholder engagement providing collaborative support for building new and innovative learning experiences. The specific learning and teaching challenges for design education are discussed in paragraphs 8 – 11 and 20.
- 18 The outputs are very relevant and highly transferable to other UK higher education institutions (HEIs). A clear challenge has been identified – that of creating a virtual atelier – and this project responds by combining new possibilities for ICT with a new application of traditional learning and teaching approaches. The chosen context is design where skills of researching, problem solving, critical analysis and team working must be combined with cross-disciplinary knowledge and the development of curiosity, responsibility, leadership and engagement.
- 19 The Atelier-D project is aligned with the OU mission to be open to people, places, methods and ideas and institutional priorities such as that outlined in the OU Futures strategic priority 4, 'lead and innovate in pedagogy and educational technology'. Examples of course and programme innovation explore the diverse, lifelong learning and teaching needs of the Open University student community. The toolsets applied lead to the definition of valuable and transferable skill sets. The project brings together academic staff from Design and OpenLearn, and the findings will have implications for course delivery and development across the OU. It also actively aims to engage with, and disseminate to, other HEIs offering design education through the steering group membership, the i10 consortium and the second year project conference. The project has the backing of the Director of OpenLearn and the Dean of the Mathematics, Computing and Technology (MCT) Faculty who is also a member of the steering group.

Section 3 Workplan

- 20 The challenges this proposal addresses guide the workplan. They are: 1. support a diverse, part-time student community to develop transferable learning and design skills; 2. develop flexible learning through the medium of ICT; 3. develop collaborative and independent learning skills that demonstrate shifts in knowledge in individual and group work; 4. engage students in developing professional competences using new technology support systems; and 5. disseminate information and findings that will enable HEIs offering full-time design education to better exploit ICT. The workplan is divided into Year 1 (October 08 - Sept 09) and Year 2 (October 09 - Sept 10) activities. An overview of the current structure of OU design curricula is described in paras 12 – 14 and includes details on student constructed learning programmes and innovative course delivery mechanisms. The October start of the project fits well with the start of the OU academic year, allowing the review period of the project to be completed in time for the implementation to begin at the start of the academic year in February.

Project Methodology: Year 1 activities focus on innovations to the delivery of the core design courses at Level 1, Level 2 and Level 3 each of which explores aspects of the virtual atelier. These are here referred to as 'course delivery innovations' (CDIs). Work will explore how students can achieve existing course learning outcomes and what new learning outcomes might be possible through these CDIs. Year 2 activities build on the CDIs and focus on the design programme. Work will explore how technology can support the integration of these courses so that students achieve the programme learning outcomes plus identify what new learning outcomes might be desirable. Thus Year 2 creates and evaluates 'programme delivery innovations' (PDIs).

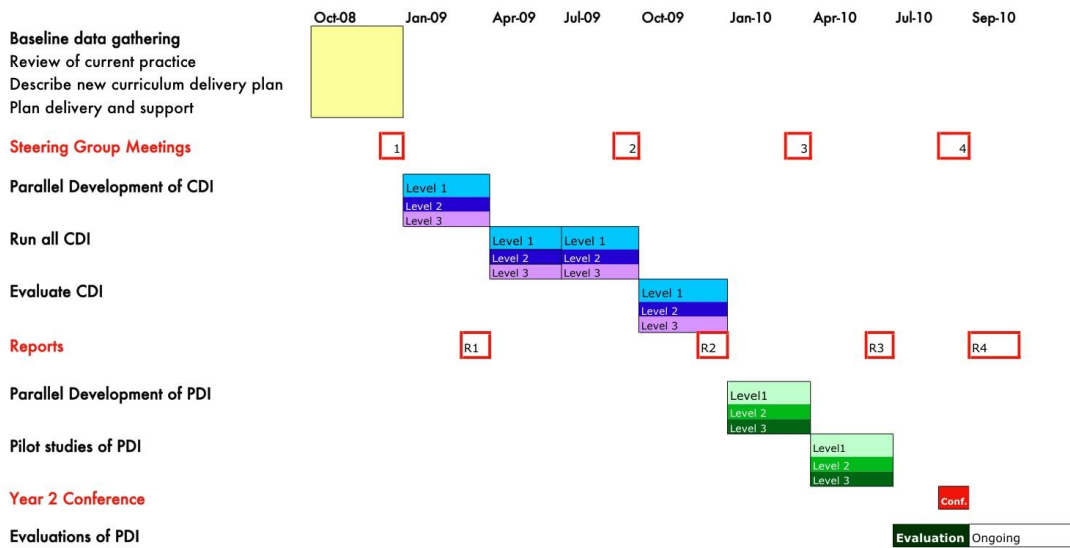
Year 1 outline

- 21 One of the tasks in the first three months of Year 1 is to form the Steering Group. Two OU tutors and three academics from UK universities are already committed, and the i10 consortium will be used to identify two members from business (e.g. via the Knowledge Partners East of England programme). Following this, six academic staff will each lead one CDI. Two elements will focus on the course Design Thinking (U101), two elements will focus on Design and Designing (T211), and two elements will focus on Innovation: Designing for a sustainable future (T307). Where possible these CDIs will replace selected elements of existing coursework for participating students. Where the scope of a CDI lies outside of current coursework the CDI will call for student volunteers who will make their contribution in addition to normal coursework.
- 22 The Steering Group and other stakeholders engage with development, trials and evaluation of the CDIs through a 'Research Studio'. This is a collection of tools that seek to bring about an 'atelier of research' in the same way that the project seeks to foster an atelier for learning and teaching. The Research Studio includes an online gallery for images and video, and a blog for communication and comment.
- 23 The Level 2 and Level 3 courses will run between February and October 2009 and evaluations, including student skills assessments, can be obtained within Year 1 of the project. The Level 1 course is first presented in 2010 so the trials and evaluations will take place with student volunteers representative of the anticipated intake. Descriptions of the schemes of work are given in paras 31 - 37.
- 24 The names of individuals in the project team, together with the roles of the Project Director, Project Manager, Research Assistant and Open Learn Project Advisor are described in Section 4, Project Management. In Year 1 each member of the academic team will contribute 10 days work with the exception of the Project Manager who contributes 20 days in Year 1. For those leading a CDI this breaks down as 5 days development, piloting and evaluation of their element, plus a further 5 days for external meetings and dissemination. This allows for the project team to meet the expectations of JISC to engage in workshops, visits and dissemination. This equates to 35 days in Year 1 (7 x 5 days) and 21 days in Year 2 (7 x 3 days). The Research Assistant is employed full time.

Year 2 outline

- 25 In Year 2 project members are tasked with creating an integrated learning experience throughout the design programme based on defined programme learning outcomes. Staff will collaborate with all stakeholders, including students and the Steering Group, in the construction of three programme delivery innovations (PDIs). As in Year 1 stakeholders are engaged in the development, trials and evaluation of the PDIs through the Research Studio. Evaluating these PDIs forms part of on-going work beyond the funded period but it will be possible to obtain feedback from all stakeholders before the project funding end date (30.9.2010).
- 26 In Year 2 selected project outputs will be reconfigured as Open Educational Resources and made available via the OpenLearn site. These are targeted at HEIs delivering design education. A project conference will take place in Year 2 to present findings and on-going work, within the OU, to other HEIs and to representatives of business and industry.
- 27 The academic staff are supported by the full-time Research Assistant. In Year 2 each project member contributes 10 days (7 days programme innovation plus 3 days support activities) except the Project Manager who contributes 20 days.
- 28 Three examples of potential PDIs are given in paragraphs 38 - 41. Once again the principles of an atelier style of teaching and learning guide these programme delivery innovations. The detail of these PDIs is not yet defined because Year 1 findings must inform the schemes of work for Year 2.

29 **3.1 Project Gantt chart**



30 **3.2 The Project Deliverables**

- A detailed project plan and a review of current models and mechanisms of delivery in design curricula;
- Detailed descriptions of virtual atelier tools, models of delivery and their implementation;
- An evaluation of the effectiveness of learning outputs and of student and staff engagement;
- A series of case studies reporting on the range of course delivery innovations (CDIs);
- Recommendations for the implementation of course delivery mechanisms in other HEIs through working with the steering group and other interested stakeholders;
- Dissemination of CDIs and guidance on the implementation of these, specifically through a second year project conference;
- An evaluation of the PDIs, the programme learning outcomes and the specific elements that inform the specification of an e-portfolio for design education; and
- A final report detailing how a virtual atelier can support distance learning and teaching in design.

3.3. Project members and schemes of work

YEAR 1

31 **CDI 1: Peter Lloyd**

Design education must prepare students for global interactions – the interconnectedness of resources, approaches and processes in designing. How can a Level 1 design course contribute to this? This element will explore the limits of knowing about global design processes through the words and pictures of others and explore the possibility and viability of a global collaborative design studio project in the Design Thinking course.

32 **CDI 2: Emma Dewberry**

This CDI will investigate the potential of knowledge mapping software in delivering an interactive, reflexive and systemic learning context to support the development of autonomous learners. Traditional design learning environments support: critical analysis and interpretation of work; an understanding of how thought and practice link together and consolidate within the design process; and communities of practice that foster emerging design knowledge and skills base. Distance design teaching offers alternative ways to support these. In CDI 2, independent learner review and reflection will be supported by Compendium, a knowledge mapping software created at the OU, which provides a flexible visual interface for managing the connections between people, ideas and information at multiple scales. It provides a learning landscape to support the cyclical and iterative qualities of the design process that are highlighted in face-to-face design teaching.

33 **CDI 3: Steve Garner**

Second Life presents a huge culture shift for teachers and students of design. Not only does it offer new ways of collaborating in a virtual environment, it offers new ways to create various forms of design representation from concept sketches to testable prototypes (e.g. in [architecture](#)). It also offers students new opportunities to test market their ideas in non-design communities. This CDI will construct and run a product design project with selected Level 2 students entirely within the OU's established island in Second Life. It will tap into expertise available in the OU community (e.g. Anna Peachey and her work for 'OpenLife').

34 **CDI 4: Nicole Schadewitz**

In an atelier model of learning, novices learn alongside more experienced peers. An open atmosphere for social networking and collaboration is created and in design this is very visual. Overseeing the activities of peers increases curiosity and is often the first incentive to stop by and ask 'what are you doing?' Social networking applications also support this question. In online applications such as Facebook or Twitter users frequently change their statement about what they are doing. This allows friends and peers to get a sense of co-presence and co-activity. It creates an opportunity for further interaction due to overlaps in place, time and activity. This CDI seeks to investigate how new social networking technologies can support access to peer expertise.

35 **CDI 5: Georgina Holden**

This CDI will explore the use of a combination of video-conferencing technologies, (Skype or a free OU in-house equivalent) and Web 2.0 interfaces to support collaborative group working in the early stages of a level 3 design project. The Web 2.0 technologies will include image- and video-sharing sites (e.g. Flickr, YouTube). The existing Level 3 design project runs throughout the OU academic year and students have a choice of working alone or forming small groups to work collaboratively. With students geographically separated, group formation currently relies on on-line student forums to identify possible collaborators. This results in a relatively small number of collaborative projects. This CDI will explore the potential for video-conferencing and Web 2.0 technologies to promote and facilitate effective group formation and remote group working. The evaluation will focus on the generic lessons that can be learnt about the use of technologies to support collaborative design work.

36 **CDI 6: Theodore Zamenopoulos**

This CDI explores the implications of integrating computational and social intelligence in a virtual design studio. Computational intelligence refers to computational procedures such as automated marking or computer interactive design tasks. Social intelligent ICT refers to systems that incorporate mechanisms (such as social networking and tagging, peer-to-peer evaluation, or collaborative content creation) able to support the coordination of learners to achieve common educational goals. Important questions here are: What are the benefits of such technology for design students, in comparison to more traditional mechanisms? Do students trust such computer-mediated processes of learning and evaluation? What is the role of the 'master' within such human-computer collaborative learning environments?

37 **All CDIs: Giselle Ferreira**

Giselle Ferreira is Project Advisor providing support to the Project Director and the Project Manager on the use of ICT tools and educational technologies and the preparation of Open Educational Resources for dissemination of project outputs, as well as providing a contribution to the overall project evaluation. She will draw upon her multidisciplinary background and extensive experience in course development, the use of ICTs and, in particular, the use of the OpenLearn environment to support the core team.

YEAR 2

38 As outlined previously the project team now collaborate to devise and pilot three programme delivery innovations (PDIs) with students at each of the three levels. Illustrations of potential PDIs include:

39 **PDI 1** Engaging students in effective peer mentoring systems. Level 3 students possess a wide range of skills, knowledge and competences. These are particularly rich in the Open University community where students tend to be older and often well-established in their various employments. They could make a valuable contribution to supporting Level 1 and 2 students in their portfolio-building and this may also improve retention on the programme. There are also opportunities for Level 1 and 2 students to reciprocate by supporting Level 3 students – for example in specified aspects of design project work.

- 40 **PDI 2** Successful engagement of students at all levels with employers might have important benefits for the student, the university and the wider economy. However, constructing systems for meaningful interaction between large and diverse student groups and a small number of industry experts is challenging. This PDI will explore how programme learning outcomes concerned with developing professional competences, transferable skills and preparation for employment can be met using new technology support systems.
- 41 **PDI 3** The construction and value of personal e-portfolios in design programmes. This PDI is founded on the Sutherland and Powell [9] definition (as promoted by JISC) of e-portfolios: 'An e-portfolio is a purposeful aggregation of digital items – ideas, evidence, reflections, feedback etc. which presents a selected audience with evidence of a person's learning and/or ability'. 10 students from each of the three levels will build e-portfolios during their course. Interaction between students, tutors and course teams plus contributions from the Steering Group will define successful elements and will result in a specification for an e-portfolio relevant to the programme and, more generally, to design education.

Section 4 Project Management

- 42 Steve Garner is Project Director (PD), responsible for finance and ensuring that project outputs match research aims and objectives. He will also coordinate the selection and application of appropriate assessment and evaluation tools at course and programme level. Georgina Holden is Project Manager (PM), managing the academic team to ensure that all contributions by individuals, including the timings of activity and outputs, match the workplan. She will also manage the Research Assistant (RA), who will devise schemes of work to match the requirements of individual academics. Giselle Ferreira is Project Advisor (PA) providing support to the Project Director and the Project Manager on the use of ICT tools and educational technologies and the preparation of Open Educational Resources for dissemination of project outputs, as well as providing a contribution to the overall project evaluation.
- 43 There will be a monthly progress meeting, chaired by the Project Director, with agendas published in advance. A project email list will be used for communications. A project blog will allow presentation of proposals and support discussion across all stakeholders including participating students. A file store will be established and managed by the RA.
- 44 **The Steering Group** includes the Project Director, the Project Manager, two Associate Lecturers with experience of design education at the OU (Ms Jenny Burke (T211), and Ms Barbara Jones (T307)), two external representatives of business and industry (to be defined during baseline data gathering period), three senior staff from HEIs that offer face-to-face design education (Professor Jack Ingram FDRS, School of Product and Interior Design, Birmingham City University Institute of Art and Design; Chris Evans, Teaching Fellow - Industrial Design, School of Engineering and Applied Science, Aston University; and Paul Wormald, Senior Lecturer, Department of Design and Innovation, Loughborough University) and the MCT Faculty Dean (Prof. Chris Earl) representing OU senior management.

45 Section 5 Risk Analysis

Risk Low = 1, High = 5	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staffing Delay in the recruitment of the research assistant	3	2	6	Part-time consultants from the Associate Lecturer (tutor) pool of the Open University will be identified who will be able to fill the gap.
Staff leave during project	1	4	4	One reserve academic has been identified.
Staff leave Steering Group	3	1	3	Reserves identified.
Organisational Course(s) not presented	1	5	5	Call for volunteer student participants.
Technical Technical and support problems with OU software and systems	3	3	9	Early liaison with OU computing services / OpenLearn to identify potential difficulties.
Technical and support problems with external software and system	4	2	8	Alternative delivery systems identified

Section 6 Engagement with the community

The project engages with a number of communities:

- 46 **Business and Industry communities** The project Steering Group will contain two local representatives from the creative industries. The Open University is part of i10 – a consortium of 11 UK Eastern region HEIs whose mission is to provide knowledge, resources and solutions for local industry, particularly SMEs. The project will engage with this community through i10 publications (e.g. newsletter) and will invite representatives of local industry to the Year 2 conference.
- 47 **Design / design education research communities** The project activities and findings will be relevant to design researchers and design education researchers worldwide. Targeted invitations to the Year 2 conference will be used. It is intended each academic produces one output in Year 2 (e.g. paper for Design Studies journal, presentation at Design Research Society conference, E&PDE 09), total 7 outputs. The Steering Group includes design academics from traditional HEIs and these provide expert opinion on value and transferability of new knowledge.
- 48 **The Open University community** The project engages with parallel research activity at the OU e.g. with Open Learn and KMi. Giselle Ferreira will coordinate this. The project engages with other OU Faculties so that the course and programme innovations might find application in the Sciences, Arts and Humanities. This engagement is through existing mechanisms for Faculty and university-wide seminars. The project directly engages with the academic staff, Associate Lecturers and students involved in the teaching and learning of design. The project will demonstrate innovations of direct relevance to students studying the core design courses at the OU. Currently there are over 800 students annually studying design at Level 2 and Level 3. This will increase to 1500 annually when the Level 1 course is first presented in 2010. In total over 3000 students study design or design-related courses each year at the OU.

49 Section 7 Budget

Directly Incurred Staff	Apr 08- Mar 09	Apr 09- Mar 10	Apr 10 – Mar 11	TOTAL £
Research Assistant, AC2, 100% FTE				
Total Directly Incurred Staff (A)				
Non-Staff	Apr 08– Mar 09	Apr 09– Mar 10	Apr 10 – Mar 11	TOTAL £
Travel and expenses				
Hardware/software laptop for RA, CAD software				
Dissemination Conference				
Evaluation				
Other Consultancies (TZ) 20 days @ £166 Consultancies (ALs) 20 days @ £129				
Total Directly Incurred Non-Staff (B)				
Directly Incurred Total (C) (A+B=C)				
Directly Allocated	Apr 08 – Mar 09	Apr 09 – Mar 10	Apr 10 – Mar 11	TOTAL £
Staff Garner Dewberry Ferreira Holden Lloyd				

Schadewitz				
Estates 1.35 FTE				
Other				
Directly Allocated Total (D)				
Indirect Costs (E)				
Total Project Cost (C+D+E)				£225,792
Amount Requested from JISC				£180,634
Institutional Contributions				£45,158
Percentage Contributions over the life of the project	JISC	Partners		Total
	80%	20 %		100%

Section 8 Previous experience of the project team

- 50 **Dr Steve Garner** is a Senior Lecturer in the Department of Design, Development, Environment and Materials at the Open University. He is Chair of [T211 Design and Designing](#), and contributes to many other distance design education courses. He was awarded his first UK research council grant in 1988 (ESRC/DTi) for work on computer supported design team working. Currently he is part of AHRC/EPSRC-funded collaborative research as part of the Design for the 21st Century programme (value £319k) <http://www.engineering.leeds.ac.uk/dssg/index.htm>. Research interests include the use of representations in design (particularly sketching), usability in product design, and computer supported collaborative designing. He is Director of the international [Drawing Research Network](#) and has produced over 70 publications on design research and design education.
- 51 **Dr Emma Dewberry** (FRSA, FHEA) joined the Open University in February 2008 as a Senior Lecturer in Design for Sustainability from Loughborough University. She has directed and taught both undergraduate and postgraduate design courses in four UK HEIs and is currently a member of the course production team for U101 Design Thinking. Emma is Principal Investigator for two EPSRC projects: *Exploring eco-literacy and its relevance in realizing far-reaching sustainable innovation* [EP/F013116/1](#), (2007-2008); value £24k; and *Design Dialogues: An exploratory study of design narratives, methodologies and tools towards achieving Factor 10 outcomes* [GR/S90645/01](#) (2005-2008), value £115k.
- 52 **Dr Giselle Ferreira** is a Lecturer in the Dept of Communication and Systems and a Fellow in the CETL Centre for Open Learning of Maths, Science, Computing and Technology (COLMSCT). She was a Member of the Academic Team of OpenLearn during the recently completed pilot stage of the project, where she gained extensive expertise in Open Educational Resources. She joined the OU in 1999 and has contributed to the development and evaluation of a number of courses that introduced innovative curriculum, pedagogy and support methods, including T171 *You, your computer and the net*, T209 *ICTs: people and interactions* and TA212 *The Technology of Music*. Giselle has research interests related to the impact of Web technologies on education, with a special concern with the changes fostered by the availability of open educational resources and tools.
- 53 **Georgina Holden** is Chair of the OU course [T307 Innovation: Designing for a Sustainable Future](#) and is a member of the course teams for [T189: Digital Photography - creating and sharing better images](#), [T211 Design and Designing](#), U101 Design Thinking (in production) and author in [T183 Design and the Web](#). In these Georgina has directed the production of DVD and internet resources to support design learning and holds three Open University Teaching Awards for her innovative work on these courses. She is currently researching into the use of photo-sharing to develop visual literacy and photographic skills.
- 54 **Dr Peter Lloyd** is a Senior Lecturer in Design and head of the Design Group. He joined the Open University in April 2005. He is currently supervising two PhD students in the area of design ethics and ambient interactivity. His research interests include: Design Ethics, Storytelling in the Design Process, Design in the Media, and Video Assisted Learning in Design. He recently co-organised [Design Thinking](#)

[Research Symposium 7](#) in London (2007) and is currently co-editing the book following the workshop (publication 2008). He is production course team chair for U101 Design Thinking.

55 **Dr Nicole Schadewitz** joined the OU as a Lecturer in Design in February 2008 from the post of Research Associate in design at Hong Kong Polytechnic University. She is a member of the production course team for U101 Design Thinking. Nicole's interests include cross-cultural design learning, collaboration in design, design patterns and design for emerging markets.

56 **Theodore Zamenopoulos** is a research fellow at the Open University, working on European and UK funded research projects in complexity science in design, and open education. As a qualified architect he has practiced architecture in Greece. His research interests and expertise include: design theory; mathematical and computational studies of design; complexity methods; design knowledge representation and acquisition; design and spatial cognition; artificial intelligence methods in design and planning; and creative collaboration. He has published academic papers and organized a number of workshops on these topics.

57 **Section 9 References and Notes**

1. Seeley Brown, J. Keynote presentation, at OpenLearn 2007, *Researching open content in education* conference, The Open University, 30-31.10.07.

<http://kn.open.ac.uk/public/getfile.cfm?documentfileid=12391>

2. Donald Schön has developed his original ideas (see Schön, D.A. *The reflective Practitioner*, 1983; *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass, 1988). Most recently he describes stages of design thinking, identifying an interplay between reflection in action and more conscious modes of analysis, and a phenomenon of 'backtalk' – that conversation between the maker and the made – both constituents of an atelier learning approach.

3. Polanyi drew an important distinction between 'attending from' as opposed to 'attending to' in learning in his seminal book *The Tacit Dimension*, (New York: Doubleday, 1967). This is also pivotal to an atelier learning approach.

4. An appreciation of the ongoing influence of Howard Gardner's theory of 'Multiple Intelligences', including its relationship to design thinking, appears at <http://www.pz.harvard.edu/Pis/Mlat25.pdf>.

5. Ferreira, G. M. d. S. (forthcoming) 'New spaces, new tools, new roles: two case-studies on the impact of Open Educational Resources'. Accepted for presentation at the 16th *International Conference on Learning* (Barcelona, July 2009) and publication in the *International Journal of Learning*.

6. Cox Review of Creativity in Business, UK Treasury (2005)

7. Maher, M-L. Simoff, S. & Cicognani, A. *Understanding Virtual Design Studios*, Springer (1999)

8. Second Life <http://secondlife.com/>. See also blog <http://elearndev.blogspot.com/2007/02/collaborative-building-in-secondlife.html>

9. Sutherland, S. and Powell, A., 9 July 2007, CETIS Portfolio SIG mailing list discussions (<http://www.jiscmail.ac.uk/archives/cetis-portfolio.html>)