

<b>Name of lead institution/organisation</b> University of Plymouth
<b>Name of proposed project</b> SHELL-FISH
<b>Project partners</b> none
<b>Full contact details for primary contact</b>  <b>Name:</b> Dr Neil Witt <b>Position:</b> Principal Lecturer <b>Email:</b> nwitt@plymouth.ac.uk <b>Address:</b> Institute for Science Education, School of Earth Ocean and Environmental Sciences, University of Plymouth, Plymouth, PL4 8AA.  <b>Tel:</b> 01752 232417 <b>Fax:</b> 01752 232406
<b>Programme area(s) of proposal</b> SHELL-FISH addresses both Tools for Learners and Tools for Teachers and the output is focussed on the learning processes.
<b>Length of project and total cost to the JISC over its life</b> 7 months
<b>Cost of proposal to the JISC</b> £101140
<b>Proposed project start date</b> September 1 <sup>st</sup> 2004
<b>Outline project description</b> SHELL-FISH project aims to deliver a learning support system by providing learners with a facility to obtain feedback, a development plan and a record of progress related to that feedback. Teachers will have a feedback management system which will allow the accessing and updating of a learner's record of progress and previous feedback, linking students to existing on-line learning resources and monitoring the impact of resource use on students' academic performance.  SHELL-FISH will be a plug-in to the SHELL project, which is the leading inter-operability framework, working to UK LEAP and IMS LIP standardised data transfers. SHELL has already developed, tested and proven the technical infrastructure and the base Learner Record for distributed e-Lifelong Learning. The SHELL Project Director has been consulted and is fully supportive of SHELL-FISH. The SHELL-FISH plug-in will use the inter-operability features of SHELL whilst creating a pedagogically sound example of effective practice in learning, teaching and technology.

## A. Introduction

### A.1. Project outline

#### A.1.1. Summary.

The SHELL-FISH project aims to deliver a learning support system by providing learners with a facility to obtain feedback, a development plan and a record of progress related to that feedback. Teachers will have a feedback management system which will allow the accessing and updating of a learner's record of progress and previous feedback.

These user-facing tools support both lifelong learning planning and ePortfolio systems. SHELL-FISH will be a plug-in to the SHELL project, which is the leading inter-operability framework, working to UK LEAP and IMS LIP standardised data transfers. SHELL has already developed, tested and proven the technical infrastructure and the base Learner Record for distributed e-Lifelong Learning. The SHELL Project Director has been consulted and is fully supportive of SHELL-FISH. The SHELL-FISH plug-in will use the inter-operability features of SHELL whilst creating a pedagogically sound example of effective practice in learning, teaching and technology.

#### A.1.2. Introduction.

This proposal seeks to develop and test an e-personal learning environment (e-PLE) tool which builds on the existing capacity and features of the JISC-funded SHELL project. ([www.shellproject.net](http://www.shellproject.net)). The proposed e-PLE tool will enable a **Formative & Summative Heuristics (FISH)** methodology to be applied to coursework assignments submitted electronically by learners. This project will benefit learners by providing feedback, a development plan based on the feedback and a record of progress related to issues generated during the feedback process. The project will add value to existing online study guidance resources, improving access by inserting hyperlinks into teachers' feedback comments, and measuring the efficacy of resources by tracking changes in student performance associated with their use. Teachers will benefit from having access to a feedback management system (FMS), the ability to access a record of a learner's progress and of learner's previous feedback.

The FISH plug-in will facilitate learning activities focussing on the *personal web portal for students* element of the SHELL system and therefore the bid falls within the *tools for learning and learning support* element of the 3/04 call. The plug-in will be designed to be used in all sectors of 14-19 learning, including local schools, FE and HE. Figure 1 shows the relationship between FISH and SHELL.

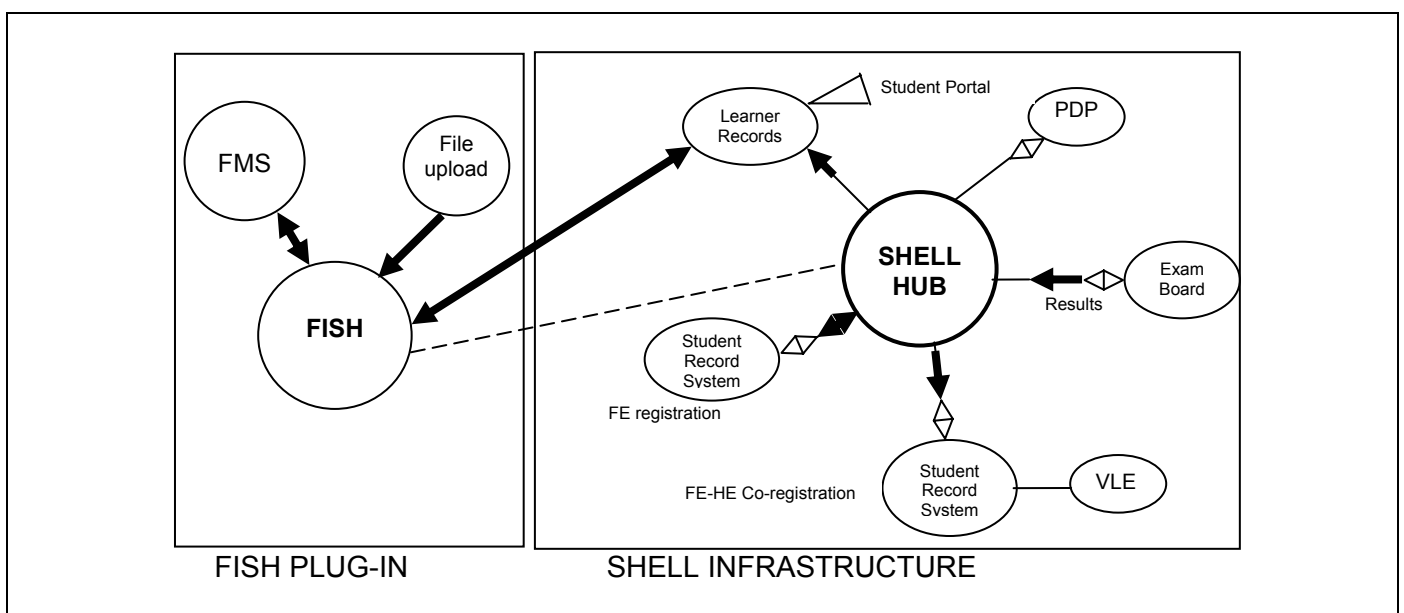


Figure 1. Relationship between FISH and SHELL.

### A.1.3. Underpinning Pedagogy

The purposes of assessment and feedback automation include:

- enhancing students' learning through assessment and feedback;
- reducing the time that teachers<sup>3</sup> spend providing assessment and feedback.

SHELL-FISH sets out to move away from the transmission model of feedback, and to exploit the constructivist model described by Nicol and Macfarlane-Dick<sup>4</sup>, providing opportunities to involve students in the development and use of academic assessment criteria, integrating the students' internal performance improvement processes with institutional curriculum-based performance management processes. SHELL-FISH will enable an increasingly automated approach to assessment and feedback.

A number of difficulties typically restrict the learning opportunities presented to students by written feedback. These difficulties include:

- much feedback is hand written and difficult for students to read;
- handwriting comments is a tedious experience for teachers<sup>5</sup>;
- students often experience feedback comments as abrasive;
- responding to numerous similar fundamental mistakes often tests teachers' patience.

Automation via the SHELL-FISH FMS will provide teachers with an extendable shared resource of standard feedback comments that:

- is grouped into themes such as spelling & grammar, discussion & analysis, and assignment-specific comments;
- contain links to existing on-line resources and interactive exercises<sup>6</sup> such as exercises through which students learn punctuation rules;
- remain positive and helpful long after the teacher's sense of humour is exhausted;
- provide a permanent record of the students feedback.

SHELL-FISH will support the learner's assessment through coursework and examinations:

- by accommodating detailed assessment criteria that can be applied for example by teaching assistants and students in peer assessment;
- by identifying trends in a single students' performance with respect to assessment criteria applied across a sequence of assessments;
- by measuring the impact of learning development interventions such as online subject specific resources, or seminars that set out to develop students' critical thinking;
- by measuring the performance of an entire student cohort across the learning outcomes for a programme of study in order to identify opportunities to improve teaching, or to measure the performance of innovative teaching;
- by rapidly completing statistical analysis of student cohort grades.

### A.1.4. Key characteristics of SHELL required by SHELL-FISH

The elements of SHELL that are exploited by SHELL-FISH are:

- Framework. The SHELL project has already developed and tested the inter-operability framework which already meets the criteria set out in Olivier<sup>7</sup> 2004, p1. (Requirements for ACDF's).

---

<sup>3</sup> Teachers in higher, further and secondary education

<sup>4</sup> Nicol, D. J. & Macfarlane-Dick, D. (2004) Rethinking formative assessment in HE: a theoretical model and seven principles of good practice. *Paper Presented At Enhancing Student Learning Through Effective Formative Feedback*, London, 7 June 2004.

<sup>5</sup> Particularly where students persistently submit assignments containing errors that would have been removed had the student proof read their work. By directing students to exercises, for example grammar and punctuation exercises, which must be completed before the student receives their grade, students learn to avoid unnecessary additional work by checking their work before submission.

<sup>6</sup> Teachers can withhold the grade for an assignment until these exercises have been completed by the student. This improves student performance by encouraging students to focus on learning goals rather than performance goals (Dweck and Elliot<sup>7</sup>) and acts as an incentive for students to avoid submitting assignments without checking for simple errors.

<sup>7</sup> Olivier, B. (2004), *Application & Tool Component Frameworks*. [http://www.jisc.ac.uk/uploaded\\_documents/Application Component Deployment Framework.doc](http://www.jisc.ac.uk/uploaded_documents/Application%20Component%20Deployment%20Framework.doc). Accessed 24.06.04.

- Lifelong Learning (LLL) Partnership. The SHELL partnership includes three schools, five Further Education Institutions and the largest Higher Education Institution in Southwest England. This partnership would be an ideal test bed for SHELL-FISH. Client servers and plug-ins have been installed and tested at each site. Plans are currently in place to expand the framework both to another region (Blackpool and Fylde).
- Architecture. SHELL recognises that it is important for providers to retain ownership of their contextualised systems whilst concurrently providing services for “nomadic” individual learners who migrate from place to place over a lifelong learning process, but are dependent on local frameworks whilst registered at a particular institution. SHELL therefore has a platform-neutral architecture, with the ability to take in data feeds from any proprietary e-learning system or student records system via plug-ins. SHELL-FISH with its FMS will be able to plug-in to the SHELL infrastructure. The links between partnership sites is provided via an ioNode infrastructure. SOAP is already used for data packaging, with WSDL translation units attached to plug-ins. By utilising the existing SHELL architecture the feedback records can be linked to the Learner record.
- Data input. Data from Student Record systems, awarding bodies and learners/users will be fed into the SHELL Learner Record database/archive/portfolio, providing a rich LLL source on which learners can draw to create both “outward facing” portfolios and ones for private reflective practice. The feedback profile developed via SHELL-FISH FMS will embed into the Learner Record.
- Data archive. Currently, the conceptual model of the archive is to divide it into at least four broad areas: personal information; formally accredited learning and associated data; skills and competencies and associated data; personal documents. The SHELL-FISH outputs will be stored within the skills and competencies area.
- Search, retrieve, edit, prepare. At the next level above the archive, functional tools will enable the learner to drill down into the archive, retrieve documents and data, edit, manipulate and create new files based on the archive. One such tool which has already been developed enables the learner to retrieve and edit their record of formally accredited learning, and present it in different ways for sharing with external audiences. This tool, like those to be developed, has been mapped to IMS LIP and UK LeaP. The SHELL-FISH outputs will follow these mappings.
- Portal access. Portal access to the database is currently being designed and developed, with the direct involvement of user groups. The learner will be able to access their SHELL-FISH feedback comments, record and development plan via the Portal.
- Security User authentication to the SHELL portal will be via HTTPS and VPN. As SHELL-FISH is a plug-in to the SHELL system the security issues have been met.

#### **A.1.5. Feedback Management System**

The FMS will provide a number of functions within the SHELL-FISH system and is illustrated Figure 2. The functions are to:

- convert proprietary formatted documents into HTML;
- act as a user interface for the teacher to annotate the learner’s assignments from the database of generic skills feedback;
- allow the teacher to create their own subject specific feedback modules to be used either by the creator only or put in the public domain for wider use;
- allow the teacher to link feedback comments with resource information to be accessed via the annotated assignment;
- create an action plan for the learner, based on the annotations selected by the teacher;
- inform the learner that their annotated assignment and action plan is available via the SHELL portal;
- update the learner’s feedback record with any issues raised from the annotated assignment
- updates a Module Feedback Record with any issues raised from the annotated assignments from a cohort of learners;
- track the learner’s access to resources suggested by the action plan. This tracking information is held in the learner’s feedback record as an indication that the action plan is being adhered to;
- track changes in the learner’s performance against specific assessment criteria in subsequent assessments as an measure of the impact of the feedback and resources
- the FMS will utilise the ELT Transformation Manager and ioNode as an agent and hub layer for data transport and data transformation.

---

<sup>7</sup> Dweck, C. & Elliot, E. (1988) Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*. 54, 5-12.

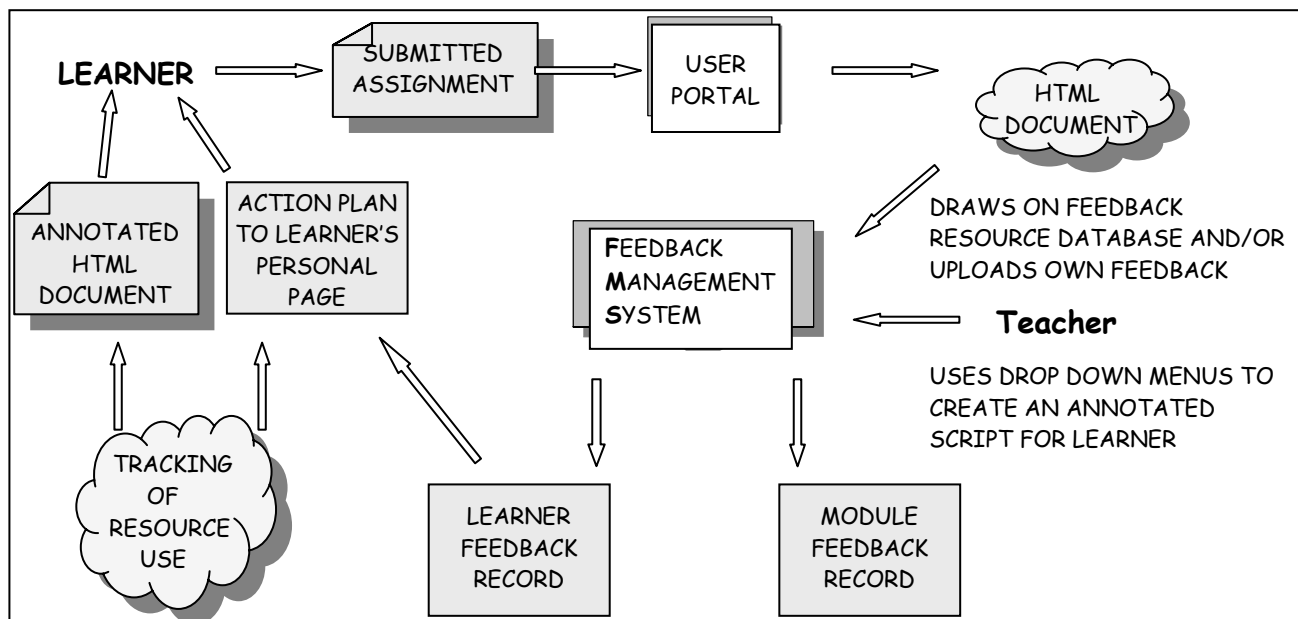


Figure 2. The Feedback Management System.

## A.2. Length of project

The SHELL-FISH project will require funding for 7 months.

## A.3. Start date

The proposed start date is 1<sup>st</sup> September 2004.

## A.4. Contribution to the Distributed E-Learning Programme

Shell-FISH will contribute to the distributed E-Learning Programme as:

- the FISH plug-in will support e-learning locally and will allow the sharing of resources (contained in the FMS) across regions and sectors;
- by utilising the SHELL framework the project outputs could be adopted and used at local, institutional, regional or national levels, following the wider spread adoption of the SHELL framework;
- the project uses inter-operability and open standards to facilitate a robust feedback tool that: links into a lifelong learner record; is not subject specific; can be adapted to subject specialisms if required; allows the sharing of user created feedback areas;
- FISH could be utilised by any subject area as there is a core of non-subject specific feedback areas that can be enhanced with the addition of user defined feedback areas.

## B. Project Description

### B.1. Project Plan

The SHELL-FISH project is divided into 6 work packages (WP).

- WP1 Project Management
- WP2 Definition of Feedback Themes and Associated Resources
- WP3 User Focus
- WP4 FMS design
- WP5 FISH to SHELL Data Interface
- WP6 Dissemination

#### B.1.1. WP1 Project Management

This WP will be led by the Project Co-ordinator.

- The project consists of three sub-areas: (1) Pedagogic Issues; (2) FMS Development; (3) Interfacing and embedding within SHELL. Figure 3 illustrates the management structure.
- Project Academic Directors (PADs) will be assigned to lead each sub-area, the Project Co-ordinator will interface between the PADs.

- A Project Management Group (PMG) consisting of the PADs and project staff (listed in Appendix A) will be responsible for overseeing strategy, operation and monitoring of SHELL-FISH. The PMG will meet at least every two weeks.
- A Project Advisory Group (members listed in Appendix B) will be established to monitor the project and to provide advice and guidance to the PMG on project: Strategy; Operation; Promoting; Monitoring; Evaluation; Linkage to other interested parties e.g. ILT and LTSN; Reports to HEFCE.
- The Advisory group will meet at least three times during the life of this project.
- An external evaluator will be appointed following consultation with JISC.

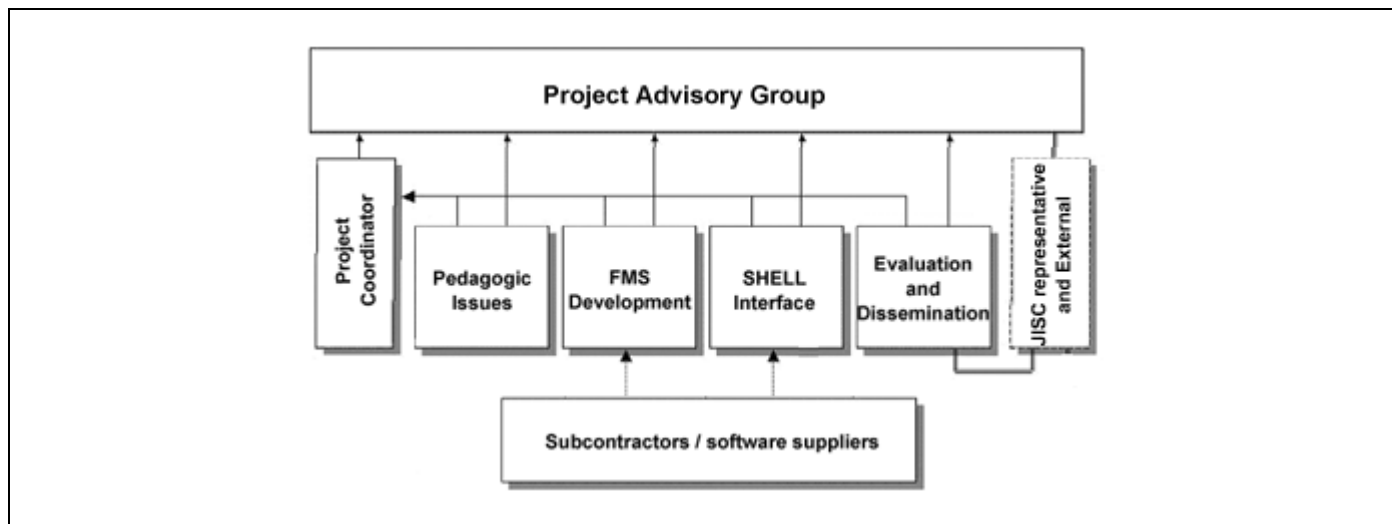


Figure 3. Project Management Structure.

### B.1.2. WP2 Definition of Feedback Themes and Associated Resources

This WP will be led by the Pedagogic Issues PAD.

- This WP is responsible for defining the feedback themes, sub-themes and relevant resources. Examples of themes are critical analysis, using other authors' work and written communication conventions : each of these themes will consist of sub-themes. It is the sub-themes that the teacher will be selecting to annotate the assignment.
- It will be necessary to identify a range of existing resources and group them into a set of resource materials to link to each sub-theme as learner tracking of access to this material is a requirement of the project. This material, hosted by SHELL-FISH, may be linked to external resources which will require identification by the project.

### B.1.3. WP3 User Focus

This WP will be led by the Pedagogic Issues PAD.

- A Learner User Group will be established.
- A Teacher User Group will be established.
- Input relating to the FMS user interface will be obtained from teachers.
- The FMS user interface will be agreed.
- Input from both learners and teachers on format of annotated script will be obtained.
- Wherever possible, resources will be developed in a range of formats to engage new users by accommodating their preferences. For example comment banks developed for electronic use will be made available as a printed feedback sheet with tick boxes, and as a word processor document for teachers to edit and copy. Each resource will indicate the benefits of simple steps towards full use of the system, and will signpost the user to further resources.
- The format of annotated script will be agreed.
- The format of the action plan will be agreed in terms of assessment criteria, feedback comments and extension exercises, where extension exercises are linked to feedback comments, these extension exercises become learning development interventions that may be evaluated through the automated assessment process.
- SHELL-FISH will be piloted and evaluated with learners.
- SHELL-FISH will be piloted and evaluated with teachers.

#### **B.1.4. WP4 FMS Design**

This WP will be led by the FMS Development PAD

- An FMS Interface design based on feedback from the teacher user group will be produced.
- A document translation facility to allow assignments to be imported into FMS will be designed and implemented.
- A methodology to include relevant themes and sub-themes within the FMS interface will be developed.
- A methodology to allow linking of themes and sub-themes to resources highlighted in the Learner Action Plan (internal resources) will be developed.
- A document upload fingerprinting system will be designed and implemented.
- A tracking methodology to monitor usage of internal resources will be developed.
- Linking of internal resources to external resources.
- Hosting of the FISH component of SHELL-FISH, including local resources
- A facility to allow the user to append new subject specific theme and associated resources will be developed.
- The capability to allow users to select and install new themes into their FMS will be developed.
- Host the Annotated Assignments
- Host the Learner Action Plans
- Output notification for the Annotated Assignment and Learner Action Plan to the User Portal will be developed.
- Output updates to Learner's Feedback Record will be developed.
- Output updates to Module Feedback Record will be developed.
- All user facing outputs will comply with the W3C WCAG WAI Level AA.

#### **B.1.5. WP5 FISH to SHELL Data Interface**

This WP will be led by the SHELL Interface PAD.

- The data specification to allow FMS to update the User Portal (to allow learner access to Annotated Assignment and Learner Action Plan) will be defined.
- The data specification to allow the FMS to update the Learner Feedback Record will be defined.
- The data specification to allow the FMS to update the Module Feedback Record will be defined.
- The FMS development will be carried out in accordance with the SHELL recommended format and include data fields detailed in the CETIS IMS LIP specification. (Within the context of the SHELL project a simple CSV format has been devised and the transforms for this to convert to IMS-LIP have been implemented through a Transform Manager).
- Facilitation of the implementation of the FISH plug-in

#### **B.1.6. WP6 Dissemination**

This WP will be led by the Project Co-ordinator. A range of dissemination activities will occur with the main targets being:

- 1 dissemination for awareness;
- 2 dissemination for understanding;
- 3 dissemination for action.

The key principles which will drive the dissemination activity include:

- starting the dissemination process early by involving users in testing for the SHELL-FISH user interface and creating the databases of feedback comments and resources;
- involving the LTSN Subject Centres in creating a database of feedback;
- using a variety of methods to reach end users, including a recognition that time spent with end users is crucial to effective embedding;
- working with existing networks such as the LTSN and the JISC RSCs.

The outcomes of the project will be available to institutions within the SHELL network and all higher education institutions, FEs and schools through existing partnership networks. Institutions will be encouraged to take up the project outcomes because the best practice will be 'packaged' to include:

- best practice collated from a range of departments, faculties and colleges;
- case studies of the use and implementation of this best practice;

- implementation strategies and staff development resources.

Dissemination processes will also endeavour to include:

- the publication of academic papers;
- the publication of features in the popular educational press, for example THES, TES and Education Guardian;
- the development of a web-based community for sharing generic and subject specific comment banks and extension exercises, associated with existing teaching and learning websites for higher, further and secondary education;
- workshops at learning and teaching conferences;
- inset training at schools;
- incentives for users to develop resources such as comment banks and extension exercises.

## B.2 Project Timetable

WP	Activity	Month Number						
		1	2	3	4	5	6	7
<b>WP1</b>	<b>Management</b>							
	PMG Meeting	■	■	■	■	■	■	■
	PAG Meeting		■					■
	Reporting			■		■		■
<b>WP2</b>	<b>Themes and resources</b>							
	Themes spec.	■	■					
	Sub-themes spec	■	■					
	Internal resources	■	■	■				
	External resources	■	■	■				
<b>WP3</b>	<b>User Focus</b>							
	Establish groups	■	■					
	Interface design		■	■				
	Script design		■	■				
	Action plan design		■	■				
	Pilot with learners				■	■	■	■
	Pilot with teachers				■	■	■	■
	Evaluation				■	■	■	■
<b>WP4</b>	<b>FMS Design</b>							
	Design interface		■	■	■			
	Document translation	■	■	■				
	Themes into FMS	■	■	■				
	Tracking				■	■	■	■
	Linking resources				■	■	■	■
	Hosting				■	■	■	■
	User portal interface				■	■	■	■
	Accessibility				■	■	■	■
	Output to user records				■	■	■	■
<b>WP5</b>	<b>FISH/SHELL interface</b>							
	Agree portal data specs	■	■	■				
	Agree record data specs	■	■	■				
	Consultancy	■	■	■				
	QA	■	■	■				
	Implementation				■	■	■	■
<b>WP6</b>	<b>Dissemination</b>							
	Project website	■	■	■				
	Create linkages	■	■	■				
	Internal publication			■	■	■	■	■
	External publications				■	■	■	■
Case studies								

Table 1. Project Timetable

### **B.3. Project Deliverables**

SHELL-FISH will deliver:

- a Feedback Management System plug-in to SHELL linked to resources and an action plan
- an FMS user interface;
- a database of feedback ;
- a set of resource materials;
- a document translation facility;
- a document fingerprinting system;
- development of data specifications for updating feedback records;
- an e-Learning Tool for teachers to create feedback and an learning plan in the form of the Action Plan;
- the facility for the creation of an individual record of achievement;
- the facility for the creation of a module record of achievement;
- case studies of the use of automated feedback and assessment.

Each deliverable will be inter-operable and accessible.

### **B.4. Risks**

This project is primarily an innovative blending of existing but discrete technological applications to create a pedagogically driven framework for student feedback. For this reason, and because it is a short-term project it is expected that the risks it will face will be minimal. Frequent user testing and evaluation will be used to ensure that the project does not deviate from its intended outcome.

### **B.5. Outcomes related to JISC community**

The functionality provided by SHELL-FISH will assist the JISC community in the creation of an E-Learning framework. It actively promotes links between schools, colleges and universities and supports learning across different organisations.

SHELL-FISH will illustrate the capabilities of a robust e-Learning tool but this project will not just demonstrate a principle. It is one of SHELL-FISH's underlying themes to become embedded within the institutions involved in the SHELL partnership. SHELL-FISH can be adopted easily by future users of SHELL.

### **B.6. Relationships to Technical Framework**

The proposal builds explicitly on the very successful technical infrastructure developed by the JISC 1/01 SHELL project. Members of the SHELL technical team will act in a consultancy capacity in the proposed project, thus ensuring consistency of technical approach. By using existing team structures the project will be in a position to make the early start required.

SHELL-FISH has identified an effective approach to e-learning practice which is also an example of effective practice in learning, teaching and technology. The FISH plug-in is an innovative, open standards-based e-system to support learning and teaching and the project will enable the sharing of resources and practice across communities.

### **B.7. Relationships of tool(s) to priority list**

The existing tools which are in use in the various educational settings e.g. OLAAF<sup>8</sup> are successfully supporting learners within a specific subject related context, but the main challenge is to enable such tools to become inter-operable and re-usable in ways which the user can easily recognise.

Currently available feedback tools are either open-source but not mapped to international standards, or are commercial products. At present there is not a feedback tool that allows easy creation of feedback comments (both generic and subject specific), records feedback at an individual and modular level, allows the creation of feedback profiling and supports the evaluation of learning development interventions. SHELL-FISH will promote both good and innovative practice in the area of feedback to learners and help embed the promotion of and recording key skill development across the learners education career.

---

<sup>8</sup>OLAAF Project (2004), <http://www.bbk.ac.uk/olaaf/>, Accessed 24/06/04

The SHELL-FISH project will map the FMS and associated data outputs to international open standards and specifications such as IMS LIP and Enterprise, UK LEAP, and will employ the import and export of data using the ioNode test bed. As the outputs will be open source and royalty free the SHELL-FISH project will enable institutions to exploit a technology that provides a critical teaching function.

In order to maintain credibility with users, the project will ensure that both learners and tutors perceive access to be seamless, whatever is happening technically “in the back-room”.

### B.8. Use cases articulating learning and/or teaching context

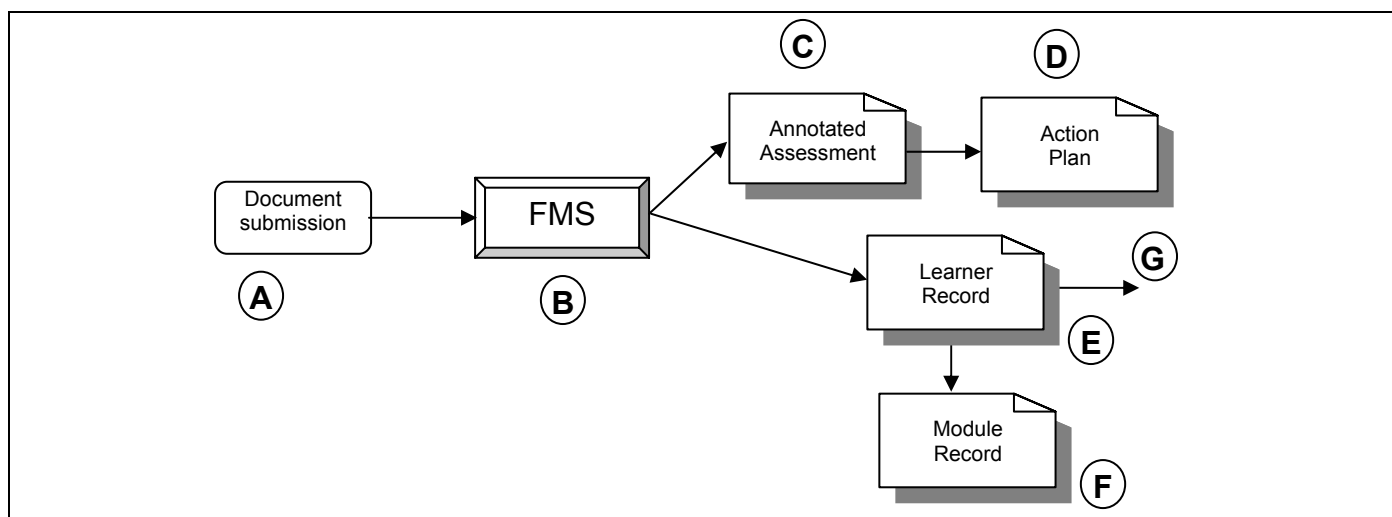


Figure 4. Use Case scenario for SHELL-FISH

Learner's Perspective		Teacher's Perspective
I submit my assignment using my portal page	A	I am notified that an assignment has been submitted
I am informed that my assignment is being assessed	B	I open the assignment in the FMS and assess it. I annotate the assignment with feedback
I receive email notification that my assignment is ready for review and I download the annotated assignment from my portal page	C	On saving the annotated assignment the annotated version is created automatically
I receive email notification that my action plan is ready for review and I download my action plan from my portal page and review and undertake the suggested tasks.	D	On saving the annotated assignment the action plan is created automatically
I am able to review the issues raised from this and other assignments from my learner record	E	I am able to review the issues raised from this and other assignments from the learner's learner record
	F	I am able to review the issues raised from all the learners undertaking this module.
	G	I am able to review changes in the student's performance, evaluate the impact of action plan tasks and use this evidence to improve the tasks

Table 2. Use Case scenario for SHELL-FISH

### B.9. IPR and sustainability issues

Project outputs will be made available, free at the point of use, to the UK HE, FE and school communities in perpetuity, and they will be disseminated widely by the project in partnership with JISC, and through other e-learning network organisations.

Software components of the deliverables will be released under appropriate open source licences to ensure that they be freely shared with organisations and communities with which JISC has close working arrangements. All software that is developed will be made available free of charge to the education community in perpetuity and all code developed will be made available through open source models. Outputs will be licensed under an Open Source agreement that promotes their reuse.

The project will undertake, subject to available funding, to continue the extension and enhancement of the toolkit according to IMS LIP and Enterprise specifications and other appropriate standards, and continue to make such developments available to the JISC community.

### B.10. The use of Commercial Software and Subcontractors

Due to the time constraints of this funding call it will be necessary to use commercial subcontractors to ensure successful completion of this project. It is proposed to use two commercial organisations:

- ETL Solutions Ltd, a software provider to the SHELL project who would supply the Transformation Manager Software and advise on the plug-in capability of the existing infrastructure
- ICO<sup>3</sup> Ltd, a University of Plymouth Spin Out company with experience in the creation and delivery of Management Systems, are well versed in interoperability and accessibility standards. ICO<sup>3</sup> have a proven track record with both over 400 commercial and academic clients and have experience of working organisation such as The National Disability team, TechDis and SEDA.

## C. Budget

<b>C.1. Staff costs</b>			
<b>Person / Organisation</b>	<b>Role</b>	<b>Time on project</b>	<b>Cost to project</b>
A Ballisat	Partnership coordinator	0.4 FTE	£9861*
Dr D Croot	PAD Shell Interface	0.4 FTE	£9861*
Dr G Crust	PAD Pedagogic Issues	0.4 FTE	£8347*
Dr A McDermott	Research Fellow	0.5 FTE	£7003*
Dr N Witt	PAD FMS Development and project coordinator	0.4 FTE	£8347*
ICO <sup>3</sup> Ltd	Subcontractor	70 days @ £350/day	£28788**
ELT Solutions	Subcontractor	5 days @ £290 /day	£1763**
		<b>TOTAL staff costs</b>	<b>£73970</b>
			* includes on costs ** includes VAT
<b>Item</b>			<b>Cost</b>
<b>C.2. Equipment and consumables</b>			
IONode test-bed			£2670
Hosting of SHELL-FISH for three years			£4500
Consumables			£1000
<b>C.4. Travel &amp; subsistence</b>			
Meetings with JISC			£1000
<b>C.5. Dissemination</b>			
Dissemination activities			£4000
<b>C.6. Evaluation</b>			
User group setup			£1000
User Evaluation			£5000
Academic design and feedback group			£6000
External Evaluation			£2000
<b>TOTAL cost to JISC</b>			<b>£101140</b>

### C7. Institutional contributions

The University of Plymouth will be providing relevant IT equipment, office space and associated infrastructure. Support and assistance will be provided by Education Development Services.

#### Contact Information

**Dr Neil Witt**  
**Senior Lecturer**  
**Institute for Science Education**  
**University of Plymouth, Plymouth, PL4 8AA.**

e-mail: **nwitt@plymouth.ac.uk**  
tel: **01752 232417**  
fax: **01752 232406**  
secretary: **01752 232408**

**Appendix A - Key personnel**

(Names and brief career details of staff expected to contribute to the project, including qualifications and experience in the area of work proposed and evidence of any projects of similar nature successfully completed.)

## **Neil Witt, BSc(Hons), PhD, FRIN, ILTM**

*Role in SHELL-FISH: Project Academic Director – FMS Development and Project Coordinator*

### **PRESENT EMPLOYMENT**

**1995-present Senior/Principal Lecturer in Marine Communications and Telematics**, School of Earth, Ocean and Environmental Sciences, University of Plymouth.

**2001-present Director, ICO<sup>3</sup> Ltd.** A University of Plymouth spin-out company and providing Internet solutions for SMEs, microcompanies and the academic sector ([www.ico3.com](http://www.ico3.com)).

### **TEACHING ACTIVITY**

Current teaching and learning activities span all three years of the undergraduate and taught MSc programmes, giving a teaching load of approximately 14 hours per week. Also Director of the Faculty of Science Summer School.

### **RESEARCH DETAILS**

Coordinator of Communications and Learning Technologies Research Group (<http://www.colt.org.uk>)

National TechDis Associate funded through JISC, advising HE and FE on Web accessibility issues.

Member Advisory Board – SPACE Project.

Project Evaluation – Minerva Project

Research funding and project management - 35 funded projects, total value = **£697,267**

(8 European funded projects value €136,675 (£86,105); 14 Externally funded projects, value £482,444; 12 Internally (UoP) funded projects, value £141,042).

### **Selected examples**

1. Witt, N.A.J. and McDermott, A.P. **University of Plymouth Teaching Fellowship, £5000**, 2003.
2. Witt, N.A.J. **TechDis Associate award** Joint Information Services Committee (JISC) via the Technology and Disabilities Information Service (TechDis), **£2000 p.a.**, 2003.
3. Jervis, J., Belt, S., Witt, N.A.J. and external collaborators **On-line assessment and feedback (OLAAF)** FDTL £249,000 (University of Plymouth, **£31,000**), 2002.
4. Witt, N.A.J. **Evaluation of software tools to produce SENDA compliance**, Joint Information Services Committee (JISC) through the Technology and Disabilities Information Service (TechDis), **£5000**, 2002.
5. Witt, N.A.J. and Stone, M. "**TAMAR 2 – Targeted Modules for the Marine Sector**", European funded project sub-contracted from WEGEMT, **€48,000**, 2001.
6. Stone, M., Jelling, A., and Witt, N.A.J. "**SPAT - Promoting Effective Student Transfer and Progression through Partnership**", HEFCE, **£239,000**, 2000.

### **SELECTED PUBLICATIONS** – from a total of 47.

1. Witt, N.A.J. and Sloan D., (2004), Access as the norm, not an add on Times Higher Educational Supplement, ICT in Education, 20 April 2004, pp 14-15.
2. Witt, N.A.J. and McDermott, A.P. (2004) Web site accessibility- what logo will we use today? British Journal of Educational Technology. 35,1 pp 45-56.
3. Witt, N.A.J., Phipps, L., and McDermott, A. (2003) Web Accessibility, Proceedings of 4<sup>th</sup> ILTHE Conference, Warwick, UK, 2-4 July.
4. McDermott, A.P., Witt, N.A.J. and Chudley, J. (2003) Continuing Professional Development needs for the Marine Industry. Proceedings of 6<sup>th</sup> UICEE Annual Conference on Engineering Education, Cairns, Australia, 10 - 14 February, pp301-304.
5. Witt, N.A.J. and McDermott, A.P. (2002) Achieving SENDA compliance for an academic website: An art or a science? *Alt J: Special Edition 'Access All Areas*. University of Wales Press, pp42-49.

**David Croot, BA, PhD, FGS, ILTM**

*Role in SHELL-FISH:* Project Academic Director – SHELL Interface

*Substantive post:* Teaching Fellow and Principal Lecturer in Physical Geography, University of Plymouth.

*Current Responsibilities directly associated with this proposal:*

- Seconded to work part-time on JISC MLEs for Lifelong Learning (1/01) SHELL project 2002-2005 as Standards Team Leader (0.1fte 2004/5). Responsible for development of specification for inter-operable e-ILP between partners. (Internal evaluation reports available online at <http://www.SHELLproject.net>). External (programme) evaluation reports from <http://www.JISC.ac.uk>.  
Also responsible for developing strategy of bringing in local schools via 14-19 Pathfinder Project.  
Led more than 10 national workshops and presentations on inter-operable progress files/e-ILPs in last 2 years.
- Member of JISC 1/01 MLEs for Lifelong Learning Support Group
- Trustee of national Centre for Recording Achievement (CRA) 2001-
- Institutional Correspondent to the CRA (2000-
- Member of CETIS Learner Information Packaging Special Interest Group (LIPSIG), and Enterprise SIG.
- Lead researcher and author of consultancy report for Southwest Regional Development Agency “Scoping and Feasibility Study for a SW Centre for Recording Achievement and Personal Development Planning”, 2003-4.
- Chair, UCAS New Initiative on Progress Files Group(1997-
- Author, JISC-Infonet pack on inter-operable Progress Files (due September 2004).
- Verifier (external examiner) for City and Guilds Personal Development Award, levels 2 and 3. (Plymouth Pilot), 2004-

*Previous experience:*

Project Manager for FDTL-funded **Extended Learning Environments Network (ELEN)** pilot in Plymouth;

Manager LTSN GEES-funded research project on **issues of learner transition from pre-HE to HE** 2000-2003 (evaluated by H Silver. Available on <http://www.gees.ac.uk>).

Researcher and developer **Baseline Assessment Project** (Funded by Science Education Enhancement & Development (SEED).1997-2000 Development and implementation of on-line skills assessment tools for students entering Science and computing. (Evaluated by SEED evaluation team).

## **Adrian Ballisat**

*Role in SHELL-FISH: Partnership Coordination*

### **Qualifications:**

Pg Dip Business Studies (South Bank University) 2000

CNA Cert FE/HE 1984

Dip Creative Photography (Derby) 1972

### **Additional information**

Member of the Society of Educational Consultants (SEC)

Member of the BIPP (British Institute of Professional Photography) Education Committee

Chair of the Soundhouse Trust (Music Education Trust)

Member of the Board of Trustees, Barefoot Project (Arts Education Trust)

External Examiner for all Art and Design Access provision validated by Open College Network South-West (OCNSW)

Member of OCNSW Quality Committee

Chair of the Plymouth Partnership LSDA Citizenship Advisory Committee

### **Recent full time employment**

1997 – 2002 Plymouth College of Art and Design, Director of Curriculum

1994 – 1997 Plymouth College of Art and Design, Higher Education Co-ordinator

### **Recent Projects**

*Transition Management Project – (Project Manager)* funded by the Devon and Cornwall Learning and Skills Council this three year project is focused on the development and testing of various interventions to assist learners transferring from one stage of learning to another. The project involves 6 Secondary Schools, 2 FE Colleges and Training Providers.

*14 – 19 Plymouth Pathfinder Project – (Project Manager)* – funded by the DfES, the Plymouth Pathfinder Project is working with 17 Secondary Schools, 2 FE Colleges and the Training Provider Network. The project focuses on: building partnerships, development of advice and guidance materials and the implementation of Individual Learning Plans to support learner progress across the 14 – 19 phase of education. An ILP User Group has been established which is currently piloting various models of electronic and paper based ILP's with around 800 learners across the city. The project works closely with a range of other initiatives within the city including the University of Plymouth HEFCE/JISC funded SHELL Project and the HEFCE Aim Higher Initiative. Through the project a new City and Guilds Qualification has been developed that provides accreditation for areas of personal development.

### **Other relevant information**

2004 – Careers Council Conference for Devon and Cornwall; 'Managing the Future – building foundations for success', Workshop Leader – 'Growing an ILP'

2003 – Connexions Conference; 'The use of research to inform project interventions'

2003 – GOSW 14 – 19 Conference: Pathfinder Workshop

2002 – PCAD; 'Structure of Art and Design Education in England'

## **Glen Crust BSc PhD Dip Couns. ILTM**

*Role in SHELL-FISH:* Project Academic Director – Pedagogic Issues

*Substantive post:* Learning Development Adviser and Careers Adviser, University of Plymouth.

*Current Responsibilities directly associated with this proposal:*

Developed computer-aided assessment and feedback for undergraduate geography programme at university of Plymouth

- Ten years experience of developing learning in HE and FE students and teaching staff through individual tutorials and counselling, through facilitating and directing work with student groups, and through curriculum development. Detailed practical understanding of a broad range of students' experience of learning.
- LTSN workshop facilitation: automating assessment and feedback
- Substantial teaching and assessment experience in HE (Open University, University of Plymouth, College of St Mark & St John), public and private sector FE, and UK and overseas secondary and teacher education.
- Ten years experience of developing students' and graduates' career management through individual interviews and counselling, through facilitating and directing work with student groups, and through curriculum development. Detailed practical understanding of the role of self-regulated lifelong learning in graduate professional development.
- Two years teaching in a rural West African secondary school. Excellent practical understandings around issues that influence the sustainability of education development, and the benefits of developing technologies that are, in users' experience, appropriate.

**Anne McDermott, BSc(Hons), PhD, RMN (Qualified)**

Role in SHELL-FISH: Research Fellow

**Research Details**

Member of the Communications and Learning Technologies Research Group ([http:// www.colt.org.uk](http://www.colt.org.uk))

Witt, N.A.J. and McDermott, A.P. (2003) *University of Plymouth Teaching Fellowship, £5000.* .

**Professional Experience**

**Research Fellow – 2002 - present**

- *LearnerAid: An investigation into student needs and staff perceptions of the necessary skills of learning.* (University of Plymouth Teaching Fellowship Award funded project).
- *MINERVA - Promotion of Open and Distance Learning - Information and Communication Technologies in the field of education.* (EU funded project).
- *Auditing of online materials to achieve compliance with SENDA* (University of Plymouth Learning and Teaching Fund project).
- *Appraisal of accessibility software tools* (University of Plymouth Learning and Teaching Fund project).
- *Using Outlook shared folders for student reflection (e-reflection)* (University of Plymouth Learning and Teaching Fund project).
- *An illustrative guide to demonstrate the concepts and processes in bringing web-based materials in line with SENDA legislation,* (GEES funded project).
- *Student Progression and Transfer Project (SPAT)* (HEFCE funded project under the FDTL initiative).

**Part-Time Lecturer** Short-term contract for University of Plymouth Faculty of Science Summer School.

**Research Assistant/Project Worker - 1998-2002**

1. *TAMAR II - Targeted Modules for the Marine Sector* Learning environment design for website (EU funded project sub-contracted from WEGEMT: Learning and Accreditation Issues in Online Training for Engineers in the Maritime Transport Sector).
2. *Probabilistic Rules Based Design of Passenger Ships (ROROPROB)* Data coordination, quality control and updating for project website (EU funded project sub-contracted from WEGEMT).
3. *Added Value Network Concerning European Shipping (ADVANCES)* Data-mining, questionnaire development and report writing for the project. (EU funded project).
4. *Targeted Modules for the Marine Sector (TAMAR)* Data co-ordination and quality control for website (EU funded project sub-contracted from WEGEMT: Learning and Accreditation Issues in Online Training for Engineers in the Maritime Transport Sector).
5. Data collation for a key skills assessment (funded by University of Plymouth).
6. *Key to Key Skills* - online project by Sheffield Hallam University and Leeds Metropolitan University. Part of multi-disciplinary team testing and evaluating project (funded by Sheffield Hallam University).
7. Updating Short Courses in International Shipping and Logistics – Market Research. Postal survey data collection and analysis.

**Selected Publications – from a total of 25**

1. McDermott, A. P., Stone, M.A.J., Palmer, J. and Williams, R. (2004) *An investigation into the management of Information and Communications Technology supported learning in Higher Education.* Proceedings of the Education Participation Globalisation Conference: Key Contexts for Education and Democracy in Globalising Societies, Prague, Cz, 22-25 May. ISBN 80-86742-05-9
2. Witt, N.A.J. and McDermott, A.P. (2004) *Web site accessibility - what logo will we use today?* British Journal of Educational Technology. 35,1, pp 45-56.
3. McDermott, A.P. (2003) *The management of ICT based or supported learning in higher education.* MINERVA, EU Project number 100564-CP-1-2002-1-CZ-MINERVA-M, Doc ref D3.6A, June 2003.
4. McDermott, A.P., Witt, N.A.J. and Chudley, J. (2002) *The marine engineer, continuing professional development and Internet based learning: the prospects for integration.* The Proceedings of The Institute of Marine Engineering, Science and Technology, Part B Journal of Marine Design and Operations, No B.1, pp31-38.