



## JISC Project Quality Plan Template

*This document defines the quality expectations the project must achieve and how they will be met.*

### 1. Quality Expectations

*The JISC programme manager completes this section defining the standards and level of quality expected to be achieved by the project.*

The project will deliver the eLearning Tool(s) as specified in their proposal and refined in the JISC project plan document in line with following standards/guidelines:

- JISC (draft) Open Source Policy May 2004
- JISC (draft) Software Quality Assurance August 2004
- JISC Project Management Guidelines December 2003
- Release versions of development and final code are to placed with <http://sourceforge.net/>
- CETIS project page be maintained to communicate development progress and mapping of software to the ELF (eLearning Framework). <http://www.cetis.ac.uk/>
- Software should meet the high level functional specification as specified in the project plan.
- Software should be robust, maintainable and extendable (see JISC (draft) Software Quality Assurance August 2004).

#### Tolerances

- Cost – project must be completed within agreed grant.
- Time – project must be completed by 31<sup>st</sup> March 2005.
- Scope – given the short time scale of the project the scope of the deliverable (i.e. eLearning Tool(s)) may be narrowed to ensure completion on time and to budget. Any changes to scope must be agreed with the programme manager and documented via the change control procedure.
- Quality – project must adhere to the standards as defined for open standards, open source and software quality

### 2. Acceptance Criteria

*For each of the main deliverables of the project criteria for its acceptance / completion are defined.*

Successful completion of an external evaluation of the projects software outputs and development process.

### 3. Quality Responsibilities

*List of who is responsible for monitoring and ensuring quality for deferent aspects of the project?*

The four main partners involved in software development for Assis are Hull (Robert Sherratt), Strathclyde (Niall Barr), Icodeon (Warwick Bailey) and Stanford (Rachel Gollub). The person identified in brackets is responsible for quality control at the appropriate site. Due to the discrete nature of the software to be developed by Assis, each partner will be responsible for their own testing and

configuration management. The outputs of the project will also be subject to peer review by the major partners in the group

## 4. Standards and Technologies

*Referenced list of standards and technologies to be used by this project.*

Java/Javadoc/JSR 168

Macromedia Flash

IMS QTI v1.2 and v 2 item specification

IMS Content Packaging v1.3.1

IMS Simple Sequencing v1.0 with bug fixes and implementation fixes to Sequencing behaviour based on SCORM 2004 v1.3.1

W3C SOAP v1.2

W3C WSDL v1.1

OASIS WSRP v1.0

Apache Axis

UML v1.4

RELOAD v1.3

## 5. Quality Control and Audit Processes

*Description of the process to be used to control project quality and enable auditing.*

Each software development workpackage will initially produce a requirements analysis adapting the MoSCoW prioritisation technique from the Dynamic Systems Development Method (DSDM). This enables the development effort to identify and implement each function according to its priority. All partners will be required to alert the Project Manager of problems which will be held in a centrally stored issue log. The core work with QTI for Assis is being undertaken by Strathclyde. They are ideally placed to ensure the quality of the QTI related project outputs having participated in the QTI v2 specification process and are hosts of the CETIS Assessment SIG.

## 6. Change Control and Configuration Management Processes

*Description of the process to be used to manage change and configuration management.*

Change control will be managed by the University of Hull requesting regular updates from the major partners, logging changes requested and/or agreed. The agreed changes will be reflected in an updated workpackage plan and the change log will provide a clear audit trail. A Sourceforge project will be created for central configuration management to track all the project deliverables and each partner site will run their own CVS system locally.

## 7. Quality Tools

*List any tools to be used to help ensure quality.*

Partners will be using manually created tests and JUnit (<http://sourceforge.net/projects/junit>) tests and test suites to check the functionality of each component. Icodeon will be making extensive use of exemplar sequencing practices published by the Learning Systems Architecture Group at Carnegie Mellon University. For quality testing, where appropriate, the following tools will be used: Apache Ant ([ant.apache.org](http://ant.apache.org)) for project build, configuration and deployment, Apache JMeter (<http://jakarta.apache.org/jmeter/>) for performance testing and in line Javadoc commenting for code documentation. A limited form of Design by Contract using Assert statements (introduced in Java 1.4) will be used by Strathclyde. Where appropriate the results of the quality test will be included in the final documentation of each component of Assis. In addition to the quality testing of the partners on the discrete tools and services they are developing, linkage testing will be carried out as part of the software development workpackages as required by the partners involved. The results of these tests will be documented and included as part of the workpackage deliverable.

Compliance testing has yet to be considered by the QTI version 2 working group, and no effective form of compliance testing for QTI other than testing with large sets of items designed to identify problems, that have passed both DTD/Schema validation and visual checking has been demonstrated. The nature of QTI is that comprehensive or automated compliance testing is not feasible, however practical compliance testing – testing example items and items generated by other systems is possible and will be carried out. Items to be used for testing will be checked against the QTI version 2 schema using a normal validating XML editor such as XMLSpy.