



# **Software** **Implementation** **Report**

*Iteration 1 Implementation Report*

# Document Control

Editor	Version	Date	Update
Alistair Jewers	0.1	18/02/2015	Data Gathered
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# Software Implementation Report

## 1.0 Introduction

Iteration 1 was focused on the creation of the digital lesson data structure and the XML components to convert this data structure to and from the XML file format. Time was also devoted to developing the XML specification. Iteration 1 was designed to be smaller than other iterations, and was primarily used to establish a code base which the team could further expand.

## 2.0 Target User Stories

- 'As a teacher I can provide any number of students with access to a lesson I created previously'

This user story requires the definition of the digital lesson (XML) file format. It also requires the teacher to be able to convert the data of their lesson into a digital lesson file, and by extension the ability to convert from a digital lesson file into the application data structure. Hence in order to satisfy the requirement the data structure and XML format were both defined, and the data structure and XML reading/writing functionality was implemented.

- 'As a student I cannot edit a lesson'

This user story does not require any direct implementation to realise, as it is simply a function of the design of the software. However it was kept in mind whilst writing the XML classes, in order to ensure that the XML Handling functionality could be used in both a teaching scenario, where editing is necessary, and in a student scenario where editing the file is undesirable.

## 3.0 Features Implemented

Feature	Author(s)	Relevant Classes
<b>Data Structure</b>		
Abstract Data Object	Alistair Jewers	PageObject.java
Text Data Object	Daniel Berhe & Jake Ransom	TextObject.java, RichText.java
Image Data Object	Sam Raeburn & Sam Hall	ImageObject.java
Video Data Object	Alistair Jewers	VideoObject.java
Audio Data Object	Sam Raeburn & Sam Hall	AudioObject.java
Graphic Data Object	Lewis Thresh & Calum Armstrong	GraphicObject.java

Multiple Choice Data Object	Alistair Jewers	MultipleChoiceObject.java
Answer Box Data Object	Sam Raeburn & Sam Hall	AnswerBoxObject.java
Page Data Object	Alistair Jewers	Page.java
Lesson Data Object	Alistair Jewers	Lesson.java
Lesson Metadata Objects	Alistair Jewers	LessonDefaultSettings.java LessonGradeSettings.java LessonInfo.java
<b><i>XML</i></b>		
Parsing from XML to Data Structure	Alistair Jewers	XMLParser.java
Writing from Data Structure to XML	Alistair Jewers	XMLWriter.java
General XML Handling	Alistair Jewers	XMLHandler.java
Basic XML GUI for testing	Alistair Jewers & Sam Raeburn	Iteration1DummyUI.java

*Figure 1 – Features implemented in iteration 1*

## **4.0 Timing**

The software implementation portion of Iteration 1 took place between 26<sup>th</sup> January and 15<sup>th</sup> February 2015. This short iteration ran to schedule, with the first few days dedicated to in house java training sessions. Coding began in earnest on 2<sup>nd</sup> February.

## **5.0 Review**

The implementation portion of the iteration was an overall success. The data structure was fully realised and integrated with the XML elements, which were shown to be able to convert XML to data and vice versa largely correctly. Testing began on schedule.

## **6.0 Work Carried Forward**

Some work was carried over to run in parallel with Iteration 2. This was largely broken down into two areas; fixing bugs identified in the testing of Iteration 1, and continually refactoring the XML and data structure to keep up with the developing design of the product. This was important as the development process utilised an agile methodology, and the feasibility of any aspect of the product design was consistently reviewed.

Carrying bug fixing tasks forward to the next iteration was also a planned process, as in order to meet the strict time restrictions of the project development needed to continue in parallel with testing, bug fixing and refactoring.