



Summary of **Individual** **Contribution**

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Table of Contents

1.0 Description of Job Role	4
2.0 Work Carried Out	4
<i>2.1 Preparation and Pre-Iteration 1 Work</i>	<i>4</i>
<i>2.2 Iteration 1</i>	<i>4</i>
<i>2.3 Iteration 2</i>	<i>4</i>
<i>2.4 Iteration 3</i>	<i>5</i>
3.0 Deliverables Contributed To	5
4.0 Evaluation	6

Summary of Individual Contribution

1.0 Description of Job Role

At the start of the project I was assigned the role of Lead Software Developer after requesting that my role be software-focused. I made this request as I have had some experience in developing software before.

It was decided that my role would be to both oversee and organise the implementation of the software, and lead the development effort from the front by producing critical code elements and integrating code produced by other team members. It was also my responsibility to manage the online version control system used by the team, GitHub. This included managing the creation and merging of code branches throughout the project, managing the issue tracking platform to track features and bugs, assigning issues and features to other team members and performing code review. In order to complete this role effectively it was necessary to regularly communicate with the Project Manager (PM) to discuss the implementation schedule and the software progress, the Lead Software Tester (LST) to discuss the results of testing and any issues or bugs found, and the Specialist Software Developer (SSD) to coordinate their development efforts with the wider software.

2.0 Work Carried Out

2.1 Preparation and Pre-Iteration 1 Work

Prior to the start of iteration 1, time was spent deciding how the team would work and what program should be developed. In this period I contributed by estimating the feasibility of different ideas based on my prior experience with Java, and when a product was selected, coming up with a broad strokes design of the different code modules. At this point I produced the first draft of the Software Design Diagram. I also contributed by running an internal company training session, with the aim of getting the team familiarised with Java programming. This also gave me a chance to assess the team's strengths in terms of programming ability. The materials used in this training session are included in the submitted documents under Internal Training Materials. This training session also included introducing the team to the online version control system, GitHub.

2.2 Iteration 1

At the start of iteration 1 I worked closely with the PM to get the GitHub online versioning and issue tracking systems prepared to manage the coding process. The content of Iteration 1 was broken down into two main sections; the data structure and the XML handling. Following on from the work done in planning meetings, I delegated the work of creating the different data structure elements to different members of the team, who I organised approximately into programming pairs. I then began work on the XML code. Throughout the course of iteration 1 the team produced the full data structure for a digital lesson in our platform, and I produced the XML parser and writer that allowed conversion between XML and the data structure. Integrating the two units of code was simple, as both were planned ahead of time. I then produced a simple bare bones GUI to allow the LST to test the new code. Testing the XML parser proved to be extremely useful, as the open ended nature of XML leads to a wide variety of potential problems. Together with the LST and the contracts and documentation manager we produced the parser requirements spreadsheet in order to keep track of the XML requirements. During iteration 1 talks were ongoing regarding the Project Wide Standards, and after several meetings between representatives from all teams, myself and the head of software for Wave Media came together to formally write up the specification decided on by the teams and produce an XML schema. This is available in the Project Wide Standards documentation.

2.3 Iteration 2

The primary focus of iteration 2 was the creation of media handlers. I delegated the audio, image, multiple choice and answer box handlers to several programming pairs in the team, and

concentrated my own efforts on the video handler, one of our sale modules. I also dedicated some time to improving and adapting the XML code to keep up with adjustments occurring in our product due to our agile methodology. During this time I also kept the GitHub and issue tracking up to date, organising team members where necessary with regards to branching and merging, tracking issues and performing code review to ensure the quality of the code being produced was high. Finally I worked on producing the back end and rendering code for the learn easy application (RunTimeData.java and Renderer.java) and integrating this with the code produced by the GUI team in order to meet our target of demonstrating the key features of the Learn Easy application to our customer at the end of iteration 2. This release 1 demo went smoothly and all media handlers were integrated successfully in time for it, including advance preview copies of our purchase modules. Following this we received the final versions of the purchase modules, and I worked on integrating these into our software so that LST could test them.

2.4 Iteration 3

During iteration 3 I increased my programming time where possible to accommodate the increase in complexity, and arranged with the SSD to divide the coding effort into two teams. His team would continue to work on the Learn Easy application, whilst my team would focus on the Teach Easy application. I delegated tasks to members of my team. I worked on realising the properties pane system (PropertiesPane.java) and on creating the more extensive back end to allow the editor application to work. This foundation work would be important to allow other group members to add functionality to the editor software. I also worked on implementing support for mouse control for object selection and manipulation, page and object addition and deletion. Iteration 3 also saw further changes to our data structure in order to better integrate it with the editor. This led to a full re-write of the XML parser code, taking it to version 2 and implementing a handler based system. Towards the end of iteration 3 I worked with the GUI team to integrate the final user interfaces for both applications, also integrating the features of Learn Easy that were produced by the SSD's team. I then created the back end code to enable the demonstration log in screens to function. Finally to finish the iteration and the coding process I worked closely with the LST, SSD and PM to fix known bugs and issues and implement finishing touch features, bringing the coding portion of the project to a close in time for the release 2 demonstration (sales presentation), where I worked with the LST to produce and perform a full demonstration of both software applications.

3.0 Deliverables Contributed To

Deliverable	Contribution
Source Code	My main contribution to the project; Facilitated and managed the production of the source code throughout. Integrated code modules frequently. Produced a large volume of code.
Sales Presentation	Scripted and performed the product demonstration in conjunction with the Lead Software Tester
PWS	Attended all PWS meetings, produced the formalised PWS document in conjunction with the head of software at Wave Media.
General Design Specification	Contributed the software specific elements of the GDS in the form of a Software Design Specification and associated Software Design Diagrams.
Iteration Reports	Produced a summary of the software implemented for each iteration.
QA Manual and Metrics	Produced my section of the QA Manual. Contributed to the description of the project methodology, specifically regarding software implementation.

Figure 1 - Contribution to deliverables.

4.0 Evaluation

I feel that my contribution to the project was considerable, but highly focused on software development. I believe I was a key member of the team but regret not being able to contribute to other aspects of the project. One area in which I feel I could have improved is delegation of work, as I was often quick to take on tasks which could have been completed by others. I could also have improved by utilising more process in managing the coding, such as more formalised code reviews. However overall I still feel the implementation of the software was managed well. I also feel that by engaging heavily in the project wide standards process I aided my team and showed a desire to contribute to the project beyond what was required of me.