

## ***Method Selection and Planning***

In the first assessment we felt that scrum worked well therefore have decided to have the same structure as last assessment. Any changes in this document from the last assessment will be underlined.

Our chosen software development model is Scrum. We believe Scrum is the perfect fit for us for a few reasons. The first is that Scrum can easily adapt to changes in requirements. It is important we can adapt to changes in requirements because we are not creating a critical system where the requirements are stable and predictable, we are creating a game for a customer where they could change their mind of what they want halfway through the planning or designing of the game. We may also realise that a certain requirement is unfeasible so we would have to change that requirement to satisfy the customer. If we were using a different, more planned model then the change in requirements could be a harder challenge to overcome.

The second reason for choosing Scrum is because development of a project is done in 'sprints', of up to a month in length. This is ideal for us because we are working towards very specific deadlines that cannot be overrun, so having a method within which each 'sprint' or iteration takes a few weeks is ideal for our deadline.

We have also chosen to use Scrum as it relies on daily meetings to monitor progress and plan for the next period of work. We felt that regular meetings and communication would keep our team organised and would ensure we kept to deadlines. We also believed that making sure that everyone always knows what they are doing and can freely ask for help would lead to a good quality product with well-organised documentation. Since we are busy students and cannot always meet every day, we have one big weekly meeting, as well as short meetings during practicals and regular communication both in person and via social media.

## ***Development and Collaboration Tools***

We are still using the same development and collaboration tools as in the previous assessment. We believed these helped us a great deal in communicating with each other effectively. Therefore, we will be using the same methods as last assessment so the below tools and how we use them haven't changed. In particular, Facebook will provide a useful platform for us to discuss the development of the product when we return home over the Christmas holidays.

### **Facebook:**

All team members have an active Facebook profile and therefore we have set up a group chat in order to keep in contact with each other at any time throughout the project. This is vital for easily arranging meetings with each other and for quickly following up any queries.

### **Google Drive:**

We have chosen to use Google Drive to store and share all files we are using for our project. This is convenient since all team members have Google accounts. Google Drive is an excellent resource as it allows multiple people to edit the same file at once, so it allows a group of us to be editing while participating in a Skype call to aid organisation. Google Drive also allows us to see which

group members create and edit files, as well as keeping a log of all edits made by each team member, which helps us monitor the work of each of us to ensure that workload is being shared fairly between us, and that each of us is pulling our weight.

### **Skype:**

We are using Skype to hold group calls to allow for better communication and organisation when group editing a file, and to hold meetings when we cannot all meet in person.

### **GitHub:**

We will be using GitHub during the development process as a means to share code between each other. This will be particularly useful during the Christmas holidays, where we plan to begin writing the code for our game. Another reason we are using GitHub is to ensure changes and errors are easily trackable and reversible, using version control. This is essential, as if multiple people are changing files at the same time and something in the code gets broken, it is easy to find the cause of the problem and revert to a working state. GitHub also allows people to work and change their local repository while offline, which could prove to be useful.

## ***Language and Platform***

In order to produce our game, we will need to select a programming language along with a platform with which to implement it in. We decided to avoid dedicated game engines such as Unity. While they can be used to produce 2D games, we felt that it would be a hindrance to use Unity as we would have to schedule a significant portion of time to allow us to acclimatise to the user interface and how games are structured in Unity, as well as learning how to code in C# or Javascript.

We settled on implementing our game using Java, through the Eclipse IDE. We chose this as we had all already had experience with Java and Eclipse itself to some degree. In addition, Eclipse is an easily accessible platform, as it is installed on all computers in the computer labs, and is a free to download software so we can use it on our home computers. Furthermore, there is a Java library LibGDX, which can be used to create 2D games. We have decided to use this library as it is a well-documented, open source library with a lot of flexibility. In the end, we decided not to use Tiled as a method of creating our maps, as we determined that there was little point in using it during the development process. Due to the way that we designed our rendering algorithms, there was no need for a grid-based map generator.

## ***Team Organisation***

In the team organisation section, we have made some changes to the structure of the group, as a result of Assessment 2 deliverables. These changes have been detailed below, with each paragraph explaining the reasoning for the assignment of tasks.

Kim Miller took on the role of scrum master. She will be responsible for running the meetings and making sure they are on task and productive. We thought this would be a good fit for Kim as she is an organised person. After the first assessment we feel that Kim is the right person to carry on

being the scrum master as she was good at organising the team for meetings and making sure that everyone has a task.

Kim Miller will continue to be the scrum master, as we felt that she did a good job ensuring the group was working to schedule and ensuring everyone had a task to do for the previous assessment. For this assessment, Kim took on the job of writing the GUI report and heading the testing report.

As we stuck to the schedule and everything went as expected, we had no problems with Edward Hathaway continuing the role of project planner. For this assessment, Ed will do the majority of the coding for the game, specifically rendering objects, as he had experience with using LibGDX.

Due to unfamiliarity with LibGDX, we decided that Thomas would not be the lead developer for Assessment 2. Instead, he would help Ed with coding, with regards to algorithmic design. In addition, he will be responsible for creating any sprites that Ed will require, including animation sequences.

Michael Rothery will be acting in a supporting role for both Ed and Kim. He will help with developing additional algorithms should Ed require them and perform testing to alleviate the workload on Kim.

Christos Wild will also support Kim with regards to testing the code that Ed writes. He will also proof-read the documentation that Tristan produces and help with any other odd jobs that the rest of the team might need doing.

Tristan Owen will writing and updating the majority of the documentation required for Assessment 2. This will encompass updated versions of the requirements document, the risk analysis and the methods and planning documents.

## Systematic Project Plan

ID	Task	Predicted Duration (days)	Earliest Start Date	Latest Finish Date	Prerequisites
Assessment 2					
8	Plan Review	3	11/11/2015	14/11/2015	-
9	Update Requirements	7-11	14/11/2015	25/11/2015	8
10	Update Risk Assessment	4-7	14/11/2015	21/12/2015	8
11	Update Methods	7-11	14/11/2015	25/11/2015	8
12	GUI Report	5-8	25/11/2015	04/12/2015	9
13	Architecture Report	10	25/11/2015	05/12/2015	9
14	Familiarisation	8-10	25/11/2015	05/12/2015	11
15	Implementation	<u>30**</u>	05/12/2015	<u>09/01/2016</u>	10,12,13,14
16	Testing Report	<u>10-14</u>	<u>01/01/2016</u>	<u>15/01/2016</u>	10,12,13,15
17	Website	3	09/01/2016	12/01/2016	8
18	Review	5-8	12/01/2016	20/01/2016	ALL BUT 17
Assessment 3					
19	Selection of New Product	5	20/01/2016	25/01/2016	-
20	Change Report	7	25/01/2016	01/02/2016	19
21	Update Previous Reports	7	25/01/2016	01/02/2016	20
22	Implementation	11	01/02/2016	12/02/2016	21
23	Update Testing Report	7	01/02/2016	12/02/2016	21
24	Website	3	25/01/2016	12/02/2016	20
25	Review	5	12/02/2016	17/02/2016	ALL BUT 23
Assessment 4					
26	Selection of New Product	5	17/02/2016	22/02/2016	-
27	Change Report	7	22/02/2016	29/02/2016	26
28	Implementation	30	29/02/2016	30/03/2016	27
29	Update Testing Report	12	29/02/2016	30/03/2016	27
30	Project Review Report	23	30/03/2016	22/04/2016	28
31	Website	3	22/02/2016	22/04/2016	26
32	Review	5	22/04/2016	27/04/2016	ALL BUT 31

\*\* These days include the holiday break where we agreed that we would try to do a bit of work but not rely on this time to finish pieces of work.

Assessment 2 Critical Path: 8, (9/10/11/12/13/14), 15, 16, 18

Assessment 3 Critical Path: 19, (20/21), 22, 25

Assessment 4 Critical Path: 26, 27, 28, 30, 32

