# **ESS System Development Methodology Report**

## **Using ‘Scrum’ Project Management**

For this project, team 50CC has been tasked with managing, designing and developing an online game. Accomplishing this task will require a large amount of planning and a thorough analysis of what we will be creating in order to understand the requirements of our system. To do this we need to adopt a methodology to follow in order to manage our workload and ensure our progression through each stage of the project.

## Scrum Project Management

The system development methodology we chose to use was Scrum, which is a form of agile development. As a team we initially agreed that we wanted to utilise the principles of agile development very highly in our project, because it encourages fast and flexible responses to change, allowing us to evolve our system throughout the development stage and beyond.

Scrum development focusses on smaller teams and is defined by a set of project events and artifacts which allows the team to review and track finalised and forthcoming work. Scrum teams do not have a team leader but instead opts for the team to act as a unit to solve problems and delegate work. Each member of a Scrum team has their own strengths which allows for work to be allocated to those with experience and expertise working in specific ways.

## Scrum Events and Artifacts

The Scrum Events and artifacts are the key components which drew us to this methodology. These components are what allows Scrum teams to efficiently plan and log all work for the project.

Scrum events are built around the event known as *the sprint*, which is a specific time period in which assigned work is completed so that it can be reviewed. The sprint is good because it allows the team member to focus on their deliverables because the whole team is aware of what the others are working on and understand how their work fits into the system. Sprints are planned during the *sprint planning* event, in which the team meets to determine what needs to be achieved and how the team will accomplish this by diverging the work between the team members while maintaining communication to ensure the system works successfully. During the sprint, team members engage in daily *stand-ups*, which are short meetings which allow for the team to maintain transparency. Each team member demonstrates the progress they have made, what they plan to do next and any obstacles for this. Following the sprint is the *sprint review*, in which the team demonstrates that they have completed the work during the sprint so it can be reviewed by the team.

Scrum artifacts focus on creating a *product backlog*, which outlines all of the system requirements which is used to create timescales for deliverables based on their importance and relevance to the current development stage. This is what allows us to break down each stage of the project into smaller pieces so that the team can work efficiently. This method is also used during sprints to create a *sprint backlog*, which focusses on the specific deliverables outlined for the sprint during the sprint plan.

## How we will use Scrum

Many of the events and artifacts translate effectively into our current working plan. Each week begins with a sprint plan, in which as a team we delegate work based on looking at our backlog, which consists of our work breakdown structure, activity network and Gantt chart. Our sprint consists of a week working on our tasks which we have distributed throughout the group based on each member’s strengths which we analysed using the Belbin self-perception model. During this week we have stand up meetings where we discuss our work and any difficulties, which allows the group to ensure work is completed during the development cycle. At the end of the sprint we review the work done to ensure it meets the criteria set and that it meets the standards of the project requirements. If work is unfinished or not up to par, then it will fall into the next sprint to be finished and work will be balanced accordingly so that the team does not fall behind. We are very happy using this development cycle as it has been successful for us so far, and now we can begin implementing more Scrum principles into our development which will help us manage our work more efficiently.