

Method Selection and Planning

Group 9

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Outline and justification of teams software engineering methods:

When choosing the type of software engineering methods, we looked at Plan-Driven Methods and Agile Methods. Plan Driven methods are designed for set requirements whereas Agile Methods allow for requirements to change or be added to during the project. We chose to use the Agile Methodology because our requirements were likely to change and also because our work could easily be broken down into clear and equal sprints. This would allow us to identify if a given piece of work was behind schedule or did not align with our requirements.

We have divided our development into weekly sprints, which begin with a planning meeting. With these planning meetings we have been starting off with a scrum where all the members of the team report on what they have done in the last week, what they are going to do in the meeting/coming week and what risks/problems they anticipate running into. This is so we as a team can stay informed and connected as we work on differing parts of the project.

We used GitHub to develop and host our website as well as create a plan on what needs to be done, what is currently being worked on, and what has been completed using the Projects feature in GitHub. This means that we can easily track what each person has been assigned to do, and what else needs to be worked on. We also used GitHub, to create and easily share our code for the project, so that when working on the project we have access to the latest version of the code. This is a great thing to use since it aligns with the Agile Methodology as it allows for design improvements via refactoring and fast iteration.

We also set up a private Discord server to ensure we had a way to communicate with everyone in the group. This allowed us to be able to see what we have agreed upon in the past, for example meeting dates and locations. We also used this to share relevant links, files and images which we could refer back to at a later date.

We decided that it would be useful to use a whiteboard to better express what we were thinking the UI of the game would look like. We were originally going to use google whiteboard, but since it was being discontinued, we chose to use Canva.

Outline to teams organisation:

The approach our team chose to take for organisation was to split the workload across the whole group, with multiple members working on each section. This was done to increase the bus factor of each section of the project, therefore reducing the chance of failure due to absence.

In total there are seven members of the team, with two dedicated members for documentation and two dedicated members for implementation. In addition to this, the final three members of the team are flexible and are assigned to elements of both documentation and implementation; whilst being able to cover part of the workload of any of the dedicated members, if absence occurs. This is done to enable all group members equal workload, which prevents members being left out or taking too much work on as well as providing redundancy in the case of a team member being ill or otherwise unavailable.

We have had a minimum of two weekly meetings, one at the start of the week to allow us to set any goals or objectives. As well as one at the end of the week to allow us to check in and see how we are doing in regard to these and what needs to be done over the weekend. In some cases we also had midweek meetings to allow us to discuss various topics as a group. This has enabled constant communication between group members and allowed monitoring of how the project is progressing. Also, equal workload distribution has been made easier due to these, with task assignment being frequently adapted to suit the needs of the group.

During frequent periods over the course of the project, members working on the same tasks have online or in-person meetings to discuss and work on those tasks. This enables better communication and distribution of work, with a lower risk of conflicts between assigned members. It also allows members to work in parallel more efficiently, as various topics on the task can be discussed, improving the quality of work.

To summarise, the advantages to the team that this organisation of work brings are: a reduction of workload on individual members which in turn keeps morale of the team high and reduces the risk of select members with a higher workload coming across problems accrued from a build up of stress. In addition, this allows members to take time off in event of external circumstances, due to the increase of bus factor.

Systematic plan for project:

Project Organisation

Delivery Team: Our delivery team consists of: Antonio Tiron, Toby Rochester, Ethan Spiteri, Henry Sanger, Remi Shaw, Lewis Ramsey and Will Timms. Antonio is the team leader, Ethen is the second in command and each other team member is assigned particular tasks.

Customer: The Customer is Tommy Yuan. Discussion was undertaken upfront with the customer and involved the creation of a requirements specification. **[add something on further discussions?]**

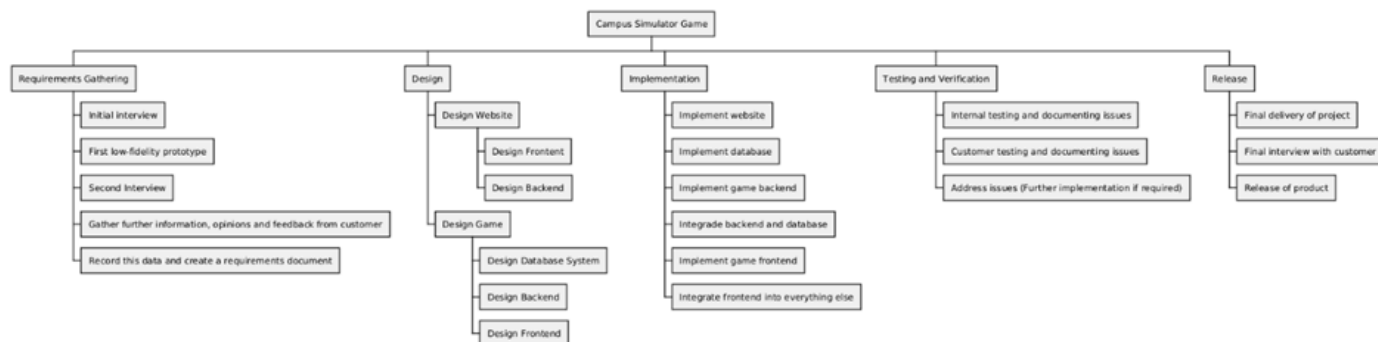
Resources

The client requires the use of Java 17 as the programming language. Ultimate submission needed to be in a zip file named team-9.zip. The zip file needed to contain: url1.txt, Req1.pdf, Arch1.pdf, Plan1.pdf, Risk1.pdf, Impl1.pdf, the code and the executable JAR.

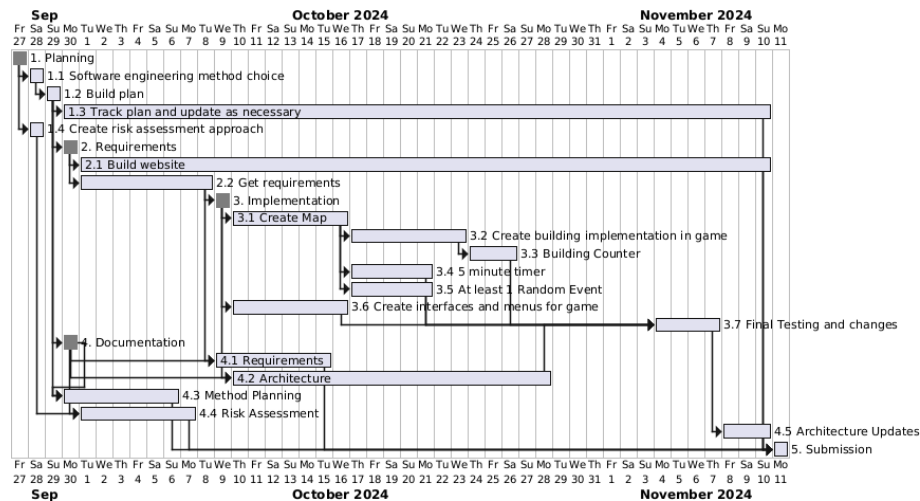
The customer's requirement included that the game should "load reasonably quickly on the user's machine" which was assumed to be a PC running Windows 10 or better.

Project Schedule

The work can be broken down into the following activities which have been identified using plantUML.com. The activities are as follows:



Tasks were then allocated to team members in the form of a Gantt chart. An example for one of our plans:



In particular, this identifies the key tasks, their starting and finishing dates, as well as task priorities and dependencies.

How the plan has changed over the duration of the project

Overview: The initial plan was high level and based on our first views of what was needed. Once we had interviewed Tommy, we were able to add more items to the plan and to move tasks between people. Where we assigned more than one person on a task, those people would agree between themselves how to achieve the joint task. (We could not assign tasks to more than one person on GitHub, so named one person as lead.)

Development of the plan over the project duration: Meetings were held twice a week, Monday and Friday. The first meeting (in week 0) was about meeting each other and understanding how each of us worked best. We used this meeting to understand the scope of the assessment and the tasks involved. We also agreed the timing of when the meetings would happen and booked a room and set up a Discord.

In week 1, we identified the tasks needed for the website, which could be created before we had a detailed understanding of the client specification. By week 2, we had agreed on the use of the GitHub site after looking at the project brief. We also used this time to brainstorm the interview questions needed for the project specification. At this stage, we only knew the deadlines for the project, and meeting schedules, but did not have a task list or allocation to people.

Week 3 involved finalising the questions for the client requirements meeting and then, after the meeting, converting these requirements into tasks. These were then agreed to by people and put onto GitHub. At the end of Week 4, we reviewed together the implementation and this provided us with the chance to check that our timing for the project was still ok. We concluded that we could carry on as we had planned.

Week 5 involved reviewing the website and the first drafts of the buildings, and allowed us to review how we were developing against the plan. At this stage, we realised that we needed to speed up in order to be able to deliver on time, and focused attention on the key tasks. We reported to each other as to what was the current state and what was needed to finish.