Assignment 3

## Motivation

The motivation behind undergoing this project has multiple reasons.

Firstly, collaboratively working on this project taught teamwork skills. The team had to organise themselves, schedule weekly meetings, outline expectations, and coordinate each other to be assigned to working on specific tasks. A sense of trust and reliance was built upon the group members, and the group were expected to respond to any messages sent within 24 hours. This project also fostered a sense of management and organisation through the use of Trello and Microsoft Teams, and more.

Secondly, this project had practical value in creating a game. Learning the theory behind game design is much different to participating in its creation process. The team learnt how to use Unity, create assets, and use various sorts of tools such as Trello and Microsoft Teams to their advantage of creating a cohesive game.

Thirdly, the project taught valuable I.T skills and imparted important knowledge about the industry. The team familiarised themselves with Unity, Blender for the development of the assets and mechanics, and Visual Studio Code in coding the scripts for the game. Nathan and Long provided valuable key insights into the nature of game development for the rest of the team and personally taught the rest of the team how to use the various functions within Unity.

## **Goals**

Firstly, a goal of this assignment is to complete as much of the work as possible before the final deadline. This might mean making adjustments to some of the workload that’s expected from each member of the team, simplifying work in order to be more efficient, or involving some Extended Viable Features into the Minimum Viable Features, which actually did happen.

Secondly, another aim of this assignment is to maintain and facilitate the organisation of the team. We have established a system of accountability among our teammates, in which we need to inform the rest of the team if we cannot attend a meeting, or complete an allotment of work. If we do not meet these standards, we are prompted by our teammates to catch up on prior meetings. However, if even this is not met, then the tutor is informed, and then the tutor decides how to handle the situation.

Thirdly, at its core, this is a learning assignment. Therefore, the goal of this assignment is to learn as much as possible about networking with teammates and having potential access to their network, learning about coding and how to practically transform that into creating a game, and familiarising one self with game creation softwares such as Unity.

## **Aims**

Firstly, the overarching aim of this assignment is to create a functional 2.5 D platformer game. The idea behind this is that there is meant to be an explorer who initially starts in a village and then is lead to a Castle in order to plunder it for treasure. It is for this reason, that the title of this game is: “Plunderer.” Inspiration was taken from Mario, the Metroidvania Series and Hollow Knight, which informed some of the stylistic art and mechanic decisions that we agreed on during the development of the game.

Secondly, a more specific aim is to collaborate with the rest of the team to create authentic and original assets to be used in the game. Programs such as Unity and Blender have been utilised for this purpose. Additional concept art has also been produced in order to assist with this goal by providing a reference point for how the assets should be created and modeled after.

Thirdly, we want to consolidate the coding architecture and optimise it for the purposes of having a smooth and responsive game. This will involve tinkering in Visual Studio Code and editing the Unity “scene” that was pushed to Github.

## Scope

Throughout the course of the assignment, the group did experience scope creep, as well as scope contraction.

Firstly, considering we had a multitude of ideas regarding itemised implementation, certain traps, enemies types, and other levels, we had to push it to the Extended Viable Features (Efs) in order to optimise work completion by the deadline.

Secondly, scope contraction did happen throughout the course of the assignment. This lends itself to windfall, since we had to zero in on our scope and be more specific with what the group wanted for the final product of the game. For example, we simplified the amount of traps we were using and limited it to just 2, for each level that we were going to create.

## Challenges and Learning

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| --- | --- | --- |
| Easy Tasks | Hard Tasks | Unexpected Obstacles |
| Writing the report for the assignment | 3D asset creation | People not attending meetings |
| Organising and collaborating with the team | Approximating each individual’s work and justifying it | Work not being able to be assigned due to member absences |
| Attending weekly meetings | Integrating mechanics and verifying whether it works with existing code | Re-organising work allocation and expectations due to time restrictions |
| Recording the achievement of milestones on Trello weekly | Making sure everything works together on the website | New ideas and scope changes. (Changing from a Knight returning to his Castle to an Explorer plundering treasure) |

## Expected Challenges

There were a few challenges that the team were anticipating:

Firstly, there was deadlines and time restrictions that we always had to consider if we wanted to finish the assignment on time. This meant sometimes we needed to expedite the completion of work and combine more parts for each team member to complete. Whether this has been effective or not will be determined by the end of the assignment, but so far it has worked.

Secondly, there was changes in the scope which changed the nature of the project. For example, changing the protagonist from a Knight to an Explorer can affect the types of item abilities, or the stylistic appearance the game may have, which will influence asset creation. This has worked out perfectly and the team is steadily producing assets, writing the report, and doing the necessary coding to ensure a completion to the assignment.

Thirdly, a team member or two not attending has also been anticipated. In order to adapt to this, we have assigned extra work to each team member and we have subsumed the roles of the other team members who were not able to take a more active participatory role in the assignment.

## **Developing New Skills and Knowledge**

Throughout this assignment, invaluable skills and knowledge have been acquired. Not only has the team familiarised itself with Unity, but also with vital communicative services such as Microsoft Teams in order to organise a team. The team also has been involved in keeping organised on Trello, adopting the principles of Kanban in the completion of work milestones and objectives. Overall, the team developed key holistic insights about creating and manufacturing a game and developed valuable social, practical and technical skills involved in its creation.

A vital discovery the team made was that pushing commits to Github can cause merge issues and can corrupt work. In order to avoid this, the team should inform the other members before they make a push in order to correct any potential file corruption issues that may arise.

## The Changes the Project Has Went Through

As explained above, there were scope changes made to the assignment which involved replacing the Knight character with an Explorer character, forwarding changes to the minimum viable features and the extended viable features, work optimisation due to unexpected work delays, and more.

Overall, the project has progressed productively and the only preparatory measure I would take if we had our time back would be to clarify terms of the assignment as soon as possible to avoid future confusion. For instance, there was some uncertainty regarding the timetable, and the whole group created group-centric timetables despite the fact we only had to focus on individual timetables, and to fit them into a timetable used for the group as a whole.

## Timetable Realism

The timetable was fairly realistic. It didn’t approximate so much that we would have struggled to put in all the hours, but it was not so low either that we had to make sure our time was maximally efficient.

The current times associated with each completion of the milestones had some generous overestimation, but again, it had room for flexibility and wasn’t too much to where it would have been unrealistic to meet the project estimations. However, considering the project has progressed more and the team has seen how closely the amount of work we put in matches what is contained in the timetable, I think the team would have lowered their approximated hours by a small margin. But again, it was more or less fine.

## Have the Tools & Technologies Worked as Expected?

The Tools & Technologies we employed worked as expected. These were Microsoft Teams and Trello for communication. For the software and design side of things we used Unity, Blender, and we used Visual Studio Code in order to create the scripts necessary for the functioning of the game.

Specifically, a key risk was a lack of familiarity with these design programs and a failure to meet work milestones. However, due to team collaboration and diligence from the team members, we have been able to overcome this obstacle to produce high quality content. However, it was mostly risk free as it related to the communication and design technologies we used.

There was a few issues with merging files through Github after we pushed to the main branch. However, considering we collaborated with each other and kept a close eye on what was being pushed and when, we could normally handle whether a file corruption issue or merging issue occurred. We then promptly fixed it.