**Individual Report**

For this project our first decision as a team was to work out what we would make for the project and determine its scope. We decided on creating “Trapped in Hell” we then fleshed out the details in order to gain a better understanding of what we all wanted the project to be. After fleshing out the idea and determining a better idea of the projects scope we then went onto creating the Game design document, we used this to note down the general ideas for the game outlining key features and mechanics. This then lead onto creating the Spread Sheet this document was about displaying all of the different features that we planned to implement in the prototype build of the game, and a rough estimation of the completion times for these features. The next and final part of CW1 was creating a presentation briefly outlining the idea for the game and the features that we intend to implement.

At this point we decided that the team would be benefitted greatly by a Trello board (our backlog) similar to ones that we had used in another assignment in order to accurately follow the sprint plan and to be able to see the progress of others easily without the need to meet up as often, allowing a lot more autonomy for each member of the team.

I then moved onto my first task which was programming the movement for the player, I found this to be a simple task as I was able to program the character to get the inputs from the horizontal (a, d) and the vertical (w, s) inputs and then apply this data to its rigid body causing the player to move. Although this feature did have a bug associated with it which we referred to as the “Player Rotation” bug, this bug occurred if the player would hit another collider he would end up rotating uncontrollably. I later fixed this bug by doing some research and realising that the rigid body component came with a method of freezing a certain axis and by doing this to the “z” axis which served no purpose within our game I was able to fix the bug.

The next feature I implemented was to program the attack for the character, I decided to get the arrow key inputs for this in order to allow the player to shoot in four directions. This feature came with three major bugs:

* Projectile indestructible - Projectile isn’t destroyed on collision with enemy
* Multiple projectile instantiated – when multiple inputs are pressed that are all instantiated.
* Projectile infinite lifespan – projectiles that have been instantiated have an infinite lifespan.

These bugs were easily fixed within the next build of the project. The first of these “Projectile indestructible” was fixed by simply destroying the game object after all the collision effects had occurred. The second bug “Multiple projectile instantiated” was fixed by changing the “if” statements previously used to now using “else if” statements in order to prevent multiple from spawning even if multiple inputs were pressed. The third and final bug “Projectile infinite lifespan” was also easily fixed by adding a lifespan to the object within its start.

My next task was to program the health script this was a very simple as the health was incorporated into the related scripts, mostly just as a variable for the character and the two enemies. Another task I had was to program the pickups for the game, the pickups were a big step for the game as their implementation lead to the limitation of ammo within the game so the player could no longer fire forever with no negative effects. The next task I had to complete was the creation of the ammo changes, this meant changing the colour of spray bottle on all iterations of the character in order to show the change, although in the final build of the prototype this feature was broken due to the incorporations of the animations. The following task was to program the different ammo types to the game this added a whole new layer of strategy for our game because it now meant that we were able to incorporate different levels of damage that can be inflicted to the enemies based on which ammo is used as well as allowing the enemy to be immune to certain types of ammo.

Another task that I had was to program the boss for our game, the boss script was one of the more complex scripts within the game as the boss has multiple phases to him based on the damage that has been done to him, the boss also gets progressively more difficult the more damage you inflict by lowering his reload time allowing him to shoot much faster than he originally could.

The next tasks I had focused around projectiles for the game, the first of these was integrated the projectiles for both the player and boss into the project after they were created and replacing the temporary art that I had been using up to that point in order to test parts of the program. The second and final task was to program the projectile to actually work using its new sprite and checking that no glitches occurred upon the transfer from the temp projectiles that had previously been programed and had the bugs previously talked about.

My final individual task was to do the debugging and testing for the project to allow me to find and fix as many bugs as possible and to test that the game was actually fun and balanced so that the user could enjoy it. This task lead to decrease in the boss’s reload time when damaged as I realised that the boss was too easy to defeat without this feature.

The final task of the project required the whole team to come together once more and produce the working build of the project, this part involved a lot of last minute tweaks to the project in order to make sure everything was running correctly and was the way we wanted it to be in preparation for CW2.