**Group Challenges.**

Some of the group challenges was small things like communicating effectively between the 6 of us, the divide of jobs as most people were doing the coding side of the project. Towards the end of the project, we discovered that Leo had issues with not being able to play the music due to an unforeseen issue with Apple Macs and LWJGL, which is a known user issue, there were small graphics issues I had encountered over time, but I just put those down to rookie errors. Some of the errors I encountered was the sizing of the files, how big the image was, whether the background of the image was erased and see through, having to shift a differing 72 slides for player character and enemy sprites, as generated sprite sheets were harder for the programming side to handle.

**How the Challenges Were Addressed.**

Starting from the top of the last paragraph and moving downwards, some of the ways we combatted the communication issues, we put a time sheet of sorts in so that each group member can list down times they are not available, but also meeting times can work around those times so it is easier to structure, the issues with Mac and LWJGL is a known problem and isn’t fixable yet, so we had another group member do the recording of the project for Part 2 of this assignment. The graphical issues I had were easy to fix, it was just more tiny issues, like having the 16 bit sprites not sized up so that when implemented that can be scaled down and still keep their shape and not distort, I had to change some of the positioning of the player character to lining up properly with the jump animation, or not deleting the background layer to make them transparent, while also missing some slight squares, but those were cleaned up immediately after I was notified about them.

**Learning from the Challenges.**

Most of my side of this project had been dealing with new skills and experiences involving photoshop, as I do not have any background in Art or Animation, designing characters, character sprite sheets, background, foregrounds. There was a lot on my plate that I did not realise when too much was too much. In the later weeks, Hamilton jumped on to help with some of the art aspect, that being the background and fore ground for the game. I learnt a lot during the character design phase of this assignment, as learning how to try to move the character for the animations was a little hard to figure out. Configuring the enemy sprites so white boarders were not showing past the black board I had set out for the characters.

**Project Plan Refinements.**

The scope we had for the project was quite large at first, but that may be due to 5 of the 6 did not have any game development experience. We had a slightly larger scope for the assignment, but over time and figuring out just how much work was head of us, we narrowed the scope of our assignment, leaving mostly just the main core of the product that we had already discussed. It left us with a good framework to get a product out in a short amount of time, with limited knowledge and developing skills along the way.

**Timeline Refinements.**

The changes I would have made to the timeline, I would have kept it very much the same as to how we had it, I would have added someone else to the design team, so the work could be split a little more evenly, allowing for more time to fix other things wrong with the project, due to the possibility of the design work for the animation side would have been done a little earlier making it easier for the rest of the group. other than that minor adjustment, I would not have changed much in timeline for this project.

**Risks and Unexpected events.**

A very unexpected event was the flooding of one of our members houses (Connor) that set us back quite a bit as we waited on graphics a little longer than what the group really wanted, the biggest risk I had was along the lines of learning Photoshop by myself, trying to design characters and then create them by myself was hard work, the biggest risk I took there was not really knowing what I was doing week in and week out, I had a rough idea but I’m generally better with someone to bounce ideas off until an idea comes to fruition, or whether the team would accept my low levels skills with no background in the subject