# Digital Technologies Semester 1 Task 3 – Creating a Computer Program

## Self-Evaluation – Ethan van Bruchem

In this project, Tom Tang and I made an RPG game titled Pixel Dungeon 64, in which the player controls his avatar on the screen by moving with the WASD keys and attacking monsters with the [1] [2] [3] keys. I chose to use the [1] [2] [3] keys for attacks instead of pressing a button in the Actions panel, because the buttons weren’t working, and so I simply did a quick fix and assigned the attack function to the [1] [2] [3] keys, taking in different parameters for each key.

Each action that you do in the game consumes MP, for example moving costs 1 MP per square of movement, and attacks cost 1-3 MP depending on what you attacked the enemy with.

The HP, MP, and XP bars were updated every game tick (100 ms) in the MainGameLoop() function, but they used an excessively long and unnecessarily complicated method of finding how much to fill the bar of HP, MP, and XP: whether to show |==========| or |=========-|. To do this, I checked each case for what percentage of health they had individually and used that to set the string. There was probably a quicker way to do this, but it worked, and there were other things that didn’t, so I never made it smaller (the game worked fine with the longer code). Likewise, for the rest of the JavaScript, there was no real specific order that the functions were written in, and so it was hard to navigate the 1500-ish lines, when looking for a specific function. Thankfully, Visual Studio Code had a useful feature that some other code editors did not: Find / Find + Replace. I used that function a lot when typing the JS.

Tom was much better than me at doing the pixel art, so he did all the pixel art. However, as we originally overestimated how large we could make the project, so he made way too much pixel art, when only about 1/3 of the pixel art was actually used. (If we decide to expand the game further in the future, we still have all of the extra pixel art there.)

This project was originally planned to be massive, and have multiple floors (3 or 5 probably), each floor with different enemies, an unlimited number of enemies in each room, instead of a maximum of just 3, and different weapons which you could find and equip. However, we realised after a couple of weeks that our project was too ambitious, and so we reduced the size, so there is now only one floor with 9 rooms, a maximum of 3 enemies per room, 3 weapons that you can buff, and a non-original soundtrack which you had to press a play button to play.

However, overall, given the amount of time we had, I don’t think that we could have done much better. This project is one of those projects where there is always more to do, and if we had another term or semester, we could make it of a saleable quality. I think that we did exceptionally well on this project, and I am pleased with the fun project that we have as a result. Overall, I give myself 5/5 for this project.