**Group Project Individual Report - 13017861**

**Role Description:**

The description of my role in the group changed and was added to dramatically as the year wore on. Initially my role involved broad-spectrum research for more complex features I also was involved in communicating with my team members to balance our gameplay. Once our game was balanced out I became a sort of writer to create some more non-critical narrative based items for the game. Later, as it became clear the original stuff I was working on would no longer be needed and I ended up having to help organise and focus the group to keep the project moving forward at whatever pace our members could afford. At the end of the project I became an important part of what I will refer to as Operation: New HOPE that myself and Matthew Buckley decided to perform which involved working simultaneously on complimenting parts of the project to get the best product that we could out with what time frame we had left. In the last weeks of the project my role changed again to bug fixer and visual acquisitions which included fixing various glaring bugs that were present in the project and acquiring assets for some of the areas that were lacking decent depth which were namely the menu screens and buttons.

**Background Work / Research:**

**Networking** – This research I did at the beginning of the year for the Networking portion of the game involved checking multiple sites for server hosting and their ability to integrate into unity. I found many sites that would host the servers for us for free we just had to create the link into them. Although I did also find that we could create our own ability to host a server from Unity Technologies (2018). This approach wouldn’t have been too difficult due to it not needing to be a huge server and only needing to handle at a maximum of 4 characters however this would have required a lot of extra coding for both sides of the server as we would have to code both host and client sides of the server and would require a load of extra debugging so in the end I decided if I was going to add the feature into this project I would most likely do it with services that would do it for us. An example of one of these server hosting services that I researched comes from Unity (2018) itself and they have varying packages of varying costs these costs correspond to either certain packages from standard professional and pro or the cost can be adjusted on sliders depending on how many people are expected to use the game. This latter option would require calculating how many people we expected to play the game and then choose an appropriate selection on the slider however, should we overestimate the number of players we would end up over paying for the service or if we did the opposite and underestimated the number of players we would have to readjust the package purchased. The reason we decided to add the Networking into the game was so that the player could choose to play in coop with up to four players and these players would be able to have separate characters that could act as a team to traverse through the dungeon and try to make it to the boss to get new cards that can be added to their decks. An additional reason that caused this to end up being cut from the game was due to it deviating from the original idea of the game too much as we initially intended the game to be single player with multiple heroes that would all be controlled by one player per turn however, after we rearranged the game to only include one hero it would have required extra balancing to then add in up to 3 others in one map so that the game didn’t end up too easy.

**Unity Tutorials** – Another form of research I performed at the beginning of the year was to find any tutorials to help me understand the unity engine as we have never used this engine before as part of our course and I have never used this engine before at all. My research began by checking out various videos both on YouTube and the unity website that show the user how various basic features of the engine work this research allowed me to grasp the very basics of the unity framework and learn some interesting features such as how the building of the games works in engine and how to acquire extensions to be able to develop and release for other platforms. I also learned some basic game creating things like how to use assets from the asset store effectively by first checking through the store for an item that is of interest to you and the style of your game, downloading it and then importing that asset into your game and linking up the controllers for the camera and player successfully. I also learned how to create GUI’s so that I could create a main menu for our game that consists of two buttons that take the player from the title screen into the game, an options menu or out of the game altogether. While the current main menu is simplistic the player can use it to navigate the game and as it is only a minor part of the game it can be changed later for a more complex GUI.

**Deck Balancing** – The background work here was done as a group and involved us meeting up at the beginning of the year and creating physical versions of the decks that we wanted to implement into our game. We decided to balance the game at the beginning of the year so that it could be gotten out of the way early and at the time we were still drafting our idea and figuring out what exactly we wanted to do. So, to make some progress we decided that what we were going to make would involve cards and that making the cards balanced and not overpowered was an important factor. To make sure our game was balanced we relied on using our physical copy of our game and using it to test multiple scenarios that we intended our players to get stuck in like having multiple enemies, multiple enemies with minions, bosses, bosses with minions and a series of fights in a row. The aim of these sessions was to get the player to a stage where every fight was difficult but with enough skill and card management the player would be able to barely get through the fights so that when we got around to making expansion cards and deck building the players would be able to find new playstyles by making new decks.

**Lore Master** – The background work I performed here mostly involved coming up with narratives for the classes and characters we had decided to create. This too was largely done at the beginning of the year whilst we were still forming our idea. I ended up creating narratives for 3 of the classes that we had created I uploaded one of them to GitHub and the other 2 were written up but weren’t uploaded. I had fully intended these back stories to be eventually included into the game in a similar way that so many other card games do, as short sentences on the cards themselves or as bios on character sheets. This would only be a minor addition to the game like the GUI but would build a story background and narrative which otherwise would be a crucial element missing from our game. An addition that I would like to add when the game has reached a more complete state would be narrative sections activated by certain key items that unlock more backstory for the players to tell them about the universe and the characters that they play as and eventually culminate by finding the object their class seeks in order to unlock the final ending for that character, this would allow players to feel more engaged with their chosen classes and feel more compelled to try out other classes and discover the truth that the game holds. This narrative idea is inspired by so many roguelikes that already exist like Enter the Gungeon by Rubel, D. and Sodman, B. (2016).

**Equipment Cards** – Another part of the project I worked on very early on in the project was to include a form of card that could be equipped to the player character. Unfortunately, this too got cut when there was a problem that forced me to have to transfer to some other part of the project once again. The idea for this feature was to have the player draw equipment cards and be able to place them into 1 of 2 slots next to them for a cost which would then enhance their damage or defence. I managed to get quite close to finishing this feature before it being scrapped I had created the slots and was around halfway through programming the section that would allow things to be placed in them. The only parts left once this section was finished would be to define the equipment cards that could be placed into the equipment slots which could easily be done by adding in an isEquipment Boolean to the card prefabs. Another addition that would then need to be added would then be a visual design change to the player HUD that would allow the player to see where the cards were equipped and if any are currently equipped in those slots. When I was building this section of the game I used multiple YouTube tutorials as a basis to build on some of these videos were of games that were not dungeon crawlers or card games but were instead to be adapted into the type that we needed for our game instead.

**Shuffling Algorithms** – The work I did surrounding shuffling algorithms was a part of the card system that I developed for the game. The research that was involved to complete this section of the project included considering certain algorithms that regular card games use for shuffling. I found from multiple sites that the most commonly used shuffling algorithm is called the Fisher-Yates shuffle which even the card game by blizzard called hearthstone uses. The algorithm involves putting all the elements into an array and then drawing randomly from that array until no elements remain. Using this I found multiple sources for how to add this algorithm into our game and I decided to go with an approach that makes the algorithm essentially an add on that can be input into any point in the game that we want. We just call the shuffle algorithm add on it takes the information we give it and outputs an answer.

**Drag and Drop System** – The drag and drop system was created with some help from another student called Oskar Dubas who left the group around halfway through the year. The drag and drop system is major part of the card combat system of our project as it uses scripts that allow us to click and drag cards that appear in the hand and use those cards on our playing field. This system is one of the first ones developed at the beginning of the year and was completed early on. The system was originally tested with normal playing cards that could be taken from a certain point on the screen and placed into the designated play are which would then designate them as used cards. Once we had finished implementing the basics it was extended so that any card that was not placed within the play zone (instead being placed elsewhere) would return these cards to their original position. Once the extension was completed the Drag and Drop was combined with the hand system so that cards could be selected from and returned to the hand.

**Udemy Tutorial for Card Setup** – To write the card system for the game I used a tutorial from Udemy (2017) this tutorial contains the necessary information to create the basic system for the card game. The features added to our game via this tutorial includes adding in the upgraded card prefabs that package various resources into an easily usable prefab, another feature added includes adding in the card previews that activate when you hover over a card and some custom designs were also created for the card game. Some of these features were left out of the final project like the upgraded system for the cards as it meant switching over our current system, which I did get halfway through but was stopped and had to move onto something else. This part of the project was not a solo effort however as it required myself and assistance from Oskar for this section however, even with the two of us we didn’t end up completing the 15 hours of videos necessary to complete the whole Udemy tutorial. Instead we completed the sections that were most necessary for us to complete as the whole tutorial encompassed everything we needed for a standard card game and if we had continued we would not have had enough left over for the other members of our team to add to the game. That being so we did intend to finish a lot more of the Udemy tutorials however each one required some changes and debugs and once Oskar left it became an insurmountable task to perform on my own.

**Deck Population** – The work required for the deck population to work involved two different parts to effectively mimic a deck to work. The first part involved populating the deck with the cards we had created, this part proved simple as all that had to be done was the cards were shuffled using the shuffle plugin described earlier and then loaded into an array of a fixed size. So, if the array size was 40 it would continue loading the cards until it hit that number. Once the population was sorted out the drawing was easy as all we had to do was take the top card from the array and then remove it from the same array. The second part of the deck building was working out how to physically represent the deck in the game which was done by creating a cuboid shape and placing it a certain measurement through the scenery the code would then move the shape along the Y axis every time a card was drawn so the deck appeared to be getting smaller despite no change in size occurring.

**Hand Building** – The work done for this section involved creating the code for the hand so the player could draw to and use from it. The creation of this section involved creating several slots for the cards to go into these slots can be increased or decreased depending on balancing. The slots are empty until they are filled with a card asset in which case the asset will be placed into the space where the slot is designated. The emptiness of a slot is defined by a marker that was chosen using unity’s own markers and serves no other purpose than to define the area in which the slot is located in the card area of the game. When creating the slots, I decided to make it so that for the slot spacing to work only the first and last positions need to be defined and the code will work out equal distances between the two points given. Next it had to be made so that the deck could draw into the hand I had defined however, that is where my involvement with this section ends and I passed the rest on to Matthew.

**Learning and Adapting the Card Assets for use in the game** – As I was not the one who worked on creating the new card assets from the Udemy tutorial and instead opted to perform another task instead I only ended up partly helping in their creation. Once it became clear that changing the game to use these new assets instead of our old ones I started to change all the code we had created for using the old cards into the new cards by going through our new assets and understanding what the new ones did then I would have to edit the old code so that they would use the new prefabs instead of the old ones. I got about halfway through this change until I had to abandon it as I had to create the action point system instead and as we already had card assets that worked it wasn’t as high a priority to finish the changes so they were instead uploaded to a separate bitbucket branch.

**Action Point System** – The action point system consists of two separate parts, the code itself and the visual representation of the points. The action points are a key part of the game as it allows the player to use cards from their hand, move to different points during battle, draw cards, perform weak attacks and equip cards to increase damage. The player gets four action points as standard per turn however this number can be increased with the use of cards that specify the increase of action points. The code specifying the actions points was created very early in the year however it was never tied to anything until the end, the code that is included not only specifies the standard number of action points but also contains a reset per turn and the ability to either add or subtract action points. When the number of action points the player has reaches zero the player will no longer be able to perform any actions that requires them. In future this system could use and update by changing the current action point code to be used as a part of separate functions similar to the ones created by Matthew for different status effects. Using this method would reduce the amount of reused code and allow changes to the game to be made much easier especially when balancing. This is an upgrade that I have started to implement but due to time issues I reverted to the older definitions of the action points as the upgraded one would take more time than we currently have left. However, the partially completed code has been uploaded to a separate area of bitbucket. The second part of the action point system was to get the visual representation to be displayed on the players screen. The visual representation uses 2D assets that are royalty free from the internet, a few were created so that if the other classes were to be added then we could use different assets of different colours for each of them. The current visual representation includes the assets with the number of action points written in them in future I also hope to update this as well I would like the visuals of the gem used to either crack or fade as the number of action points is reduced.

**Documentation Write-up setup, Options and research** – This background work that I have completed involves the setting up, running and managing of the group report. I also performed some research into this section for the best place that would allow all of us to edit and add to the report as simply as possible. The results of this research led me to two different possibilities that would allow us to easily co-write the report, the first of which was using Google Docs to set up a word document on my university google drive and then share that document with the other members of the team via email. The second way was to use a website called overleaf that is a free writing website that allows the creation of professional looking documents in a relatively easy manner the website also allows for easy sharing and real-time collaboration as well-meaning multiple people can edit the document at once. The downside to using overleaf is it means you must learn to use the LaTeX text editing language to write even simple paragraphs of text. For this reason, we decided that having to learn the language for writing in overleaf would take an amount of time that we didn’t have and instead we decided to stick with the Google Doc approach. The Google Documents layout was setup by me and which I downloaded and made use of available addons to clean up the overall look of the document.

**Operation: New HOPE** – This change to the project is a major overhaul that was initially proposed by matt and after a vote we agreed to take it forward. It’s an ambitious project that involves a whole load of changes and overhauls that alter most of the games features. In order to make it seem more of a group effort and to highlight the importance and difficulty of the tasks we were agreeing to do I decided to dub it as New Huge.Overhaul.of the Project.at the End or New HOPE. The main aim of the project was to switch it from a 3D game to a 2D game, we decided that this would be a good idea as it meant that the game would involve less need for animations and less need for character models so we could instead focus on other things and not have to spend so long searching for models and integrating them. To change our game, we had to first put everything from the map layout from a 3D version into 2D, myself and matt transformed various parts of the game to 2D I was responsible for various parts of the UI and matt focused on the map. Once this part was complete matt came up with a list of various tasks that needed to be ticked off before we were finished. This was a big list as it was a very ambitious project and to get through the whole thing we needed everyone working at capacity and moving from a completed task and straight into one that needed to be completed.

**Buttons** – Towards the very end of development we decided to switch from using the placement buttons to perform actions such as drawing, basic attacking and ending the players turn so instead I made some UI buttons that could be clicked on to run the code we wanted to instead. To make these buttons we first had to turn off the controls for the mouse that were attached to the enemy selection code, myself and matt did this by creating an exception in the tags that checked if the clicked item was a button or an enemy. Next, I made the scripts that would refer to each button and decide on what they would do individually, some of these were easy like the draw and end turn button however the attack button took a lot longer and required creating a basic attack card prefab and adding a clone to the hand whenever the card was called.

**Bug Fixes** – During the end of the development I also spent a lot of time fixing bugs that occurred by linking items together and getting things in the right order. There were some potentially game breaking bugs that occurred within the game quite a few of which were fixed by myself. These bugs included but were not limited to AI bugs, Graphical bugs, Deck bugs, Hand bugs, UI menu bugs and bugs with the player action buttons.

**Graphical Creations** – For the write-up sections of the project to better explain the project and how it works I also created multiple diagrams with various tools and software so that we could better explain to readers how the project worked. These diagrams were created using software like StarUML and paint of which I already have some knowledge in.

**Detailed Description Activities:**

My activities in the group in the beginning involved mostly providing ideas and watching videos on learning and using unity. To which I created a basic GUI that we would use as a home screen to our game. While these were not the only tutorials I watched and I used many others to learn the ins and outs of unity, the GUI tutorial was the only tutorial at the beginning was the only one that ended up contributing to the project. I was also responsible for coming up with our contingency plans, the original main objective and the original aims which the project should achieve for the presentation. The main contingency plan involved having the main and most important parts of our project worked on by multiple people at once and was used right up until the point which one of our group members dropped out and for half of our group it proved a very effective of getting things done however for the other half it ended up not helping in the slightest. The original aims and objectives were agreed on by all members of the group and represented very real and achievable goals by our group at that time in the projects lifespan. After this my work mainly focused on the research of things that were never implemented due to problems in other areas.

For instance, In the beginning we intended to have multiplayer included into our game in which I checked many websites and presented my findings to the group on what I had found which led us to agree to use a service that we would not have to program ourselves. However, after a few months in it became obvious that we needed to focus on other parts of the game that would otherwise go unfinished as problems began to arise and needed to be dealt with quickly. Thus, I moved more onto the mechanics side of things where we were trying to get the main battle system up and running.

At this point two of us were working on the battle system and as mentioned above due to the contingency plan we were meant to keep in touch and meet up on a regular basis. Unfortunately, as mentioned earlier on our side of the group the contingency plan fell apart and after a long time passed with no word from my co-creator I was forced to improvise and guess what hadn’t been completed this led to creation of multiple parts of the game including the base for the Hand, Deck, Shuffling and the original drag and drop system. So, for this part of the project I researched multiple tutorials and websites to come up with the code that was used to create the hand, deck, shuffling and the drag and drop system mechanics of the battle system. As mentioned earlier, the exchange of code and updates were meant to be maintained throughout the creation process. However, after constantly trying to get a read on the situation it became clear to me that communication would continue to not be effectively maintained, thus these mechanics were the only ones I knew of that at that time that were not being worked on at all so I worked to finish them as best I could without any knowledge of the other members code.

Eventually after a while we ended up re-establishing contact with this team member and working on the code we had for both the drag and drop system and the creation of the main card system. As my team member had created a large part of the card system already it was up to me to help and advise them on the code that had been created up to this point. We began by using the Udemy tutorial that had been purchased by that member to add parts of the new card system into the game. After working on this code together for a while the team member ended up dropping out of the course and I was left to finish what was left. This led to a few issues which were understanding and adapting our current usage of the card prefabs to a completely new one and finishing the parts of the project I had previously started to create as I had not finished them yet. Firstly, I focused on completing the Hand, Deck and Shuffling that I had assigned myself which took a few weeks to finish. Finishing these sections required only a few additions of code at that time for it to work with all of the code completed by my side of the game. This code was then handed over to Matts side of the game and incorporated into one, this point was around mid to late February and I then moved onto changing the card assets into the new and updated card assets.

As I wasn’t the one who made the updated assets and it was one of the first things Oskar created before I jumped on board and helped so I spent around 2 weeks trying to figure out what the assets were trying to do and how they would be called and what changes/ extensions would be needed for our existing code to work with the new assets. After the 2 weeks I had only understood a small amount and updated the code slightly but at this point I was made aware of another missing feature of the game that was not being handled by anyone.

This missing feature was the action points system that is a core part of the game we have designed as most of the things that the player can do requires the use of action points and so is an integral part of the whole game. The actions that are meant to be covered as part of the action point system involve Drawing cards, playing cards, equipping cards, moving and attacking. When starting the system, I noticed that at the beginning of the year we had already set up the starting steps of the system. So, I extended the existing system and added the checks we needed to the beginning of existing functions that needed action point checks and subtractions so that they could work. I also looked through the internet to find some royalty free artwork that could be used to visually represent the action points the player had remaining. When searching I found some gem artworks we could use of different colours and shapes which I thought would not only come in handy when creating our action point display but allow us to use a different colour for each class and possibly use the other shapes for other class related things. Once I found the artwork I started to put together the visual display by adding text into the foreground of the gem prefab and using some code to display the current number of points remaining.

I completed the task of creating the visual display and next I was supposed to test the display for bugs however, it was at this point in the year my computers main hard drive decided it was going to break and I was forced to spend time fixing and reinstalling everything back onto my computers back-up hard drive, which also breaks depending on what is run on it. At this point I also discovered that my last few uploads to bitbucket were not registered for some reason by bitbucket luckily, I managed to find a back-up that worked, recover all my old files and then send them to Matthew for uploading to bitbucket in my place. The downside to all this was that due to having no money to fix my computer I ended up managing the write-up sections for the project whilst waiting for a temporary fix to be made to my computer this fix took only a few days to apply but renders my computer unreliable to use until I can afford to fix it. The write-up sections can be written using websites specifically designed for writing and sharing between groups and all changes are stored on the website to the risk that my computer would screw it up was relatively low. After some research into different group document websites I decided to use the universities google drive to create the group report and then download some extensions to make the layout look clean and professional. Finally, during the end of the project I was majorly involved in operation New HOPE. This operation involved changing a lot of the game to reduce the work and increase the overall look of the game. This change meant first turning the map element from the game from a 3D to a 2D one which my first part was to turn my AP system into 2D. This entire section took me a week however I performed many tasks in conjunction with this one which lengthened the creation process of this part. Next whilst I waited for updates from my other team members I created an animated damage text that is set to activate when a player or enemy takes damage. The text shows numbers that appear, bounce up into the air and then disappear as they come down. I then also began creating the Health bar for the player that would display visually the players health these too were cut due to time issues or better ways being devised. Near the end it became clear that we needed to apply some polish to the areas we had so that we could showcase them off successfully and for this we split off into separate tasks that involved adding in numerous things that would allow us to show off the gameplay that our game was to include.

When it came down to the final few weeks of the project myself and matt worked tirelessly to create a polished product we could present at the very end. This included adding many minor additions and changes to the product as well as many fixes for glaring issues. My contributions during this part involved linking parts of the product together such as health, attacks, damage taken, AP costs, drawing cards, updating the UI menus and even adding in buttons to polish up the look of the project overall. When linking the products features I ran into a lot of problems with things that we hadn’t linked at all so that the player could see their progress including things such as the health of the player to their health number, their attack to their attack text or their Action points to the action point counter. Once I had linked these up for the player and the enemies we had some semblance of a polished game. I then focused on adding in some clickable buttons to the game to replace the debug buttons and to make the player field look more interesting and give the player some idea of their options. To add in these buttons the controls were changed and the scripts were added for each button, however I still had no visual design for them until I found some royalty free art on OpenGameArt.com that had some buttons that fit the theme of the game perfectly so I created some prefabs out of them. Next, I decided to focus on and update the UI menus I had created at the beginning of the year and make them look a lot more professional and fitting. These menus were updated by including some nicer looking art for them which I reused the buttons I created for the game and found another royalty free art background from OpenGameArt.com to put behind the buttons. I then resized all of the screens to display in the correct size and placed all the new assets in each of the menu files reordered the positioning of everything in the files to make them look neat I also added a credits page by using animations to display the names of contributors and I also learned and used a sound editing software I’ve never used before to create a sound effect for use during the credits.

**Learning Opportunities:**

Some of the learning opportunities that have been afforded to me during the duration of this module includes having to learn unity with no prior experience. Despite having no prior use of unity as the University has only just started using it on my course and in prior years the only engine we used was the unreal engine either version 3 or 4. Having never being required to use it before for any assignments on my course and being taught only unreal any time that the choice was offered to use any engine of my choice I always chose Unreal as I had learned more about it. The same can be said for the other members of my team so during this module we all agreed to choose to use Unity to learn how to use for the future. I also learned the theory behind implementing games with a multiplayer element with the research I performed at the beginning of the year into adding in LAN and server code into our game. I have also learned some basic graphic design when I was creating our menus and buttons as well as knowledge in sound design software when editing a sound clip made from multiple clips and added that into the game.

Another learning opportunity afforded to me was trying to organise and manage a group that throughout the year had some problems with at least one member at any one time of the project. During the beginning to the middle of the year a few of our project members had some problems staying connected with the other members of the group and while this was no fault of their own it was a problem that caused a lot of problems due to months of zero communication between members, it was during these months that no work was done and we fell behind on our plan which also in turn ended up being the main reason for most of our cut content. It was at this point that I decided to take an active approach and persistently tried to communicate between the members of the group and our supervisor forcing regular updates and progress by as much as our group could and while it was slow the progress we did manage to make got some work completed. Eventually due to continued efforts we managed to close the gap slightly and our game entered a playable state unfortunately by that time we had lost quite a lot of what we wanted the game to be.

I also had to learn to adapt to various situations after being bounced between different parts of the project. The reason I think that this is a learning opportunity worth mentioning is that while a lot of people end up having to work on multiple areas in the lifespan of their projects I ended up having to abandon certain section I was working on during various stages of their development. Most of the time this was halfway through the section but sometimes it was earlier or later than the midway point. These reasons were usually for the same two reasons that either we would no longer need that content as it was cut due to not enough time remaining to complete everything or the other reason it stopped was my attention was required on another more important part of the project. I have learned from all this switching around to check in with my other project members often when completing a major task as at any point the task can be either redundant or cancelled and the sooner that I know that the quicker I can move onto something that might be completed.

**Reflection:**

Under reflection of the project I have found that my development over the course of the project has been more focused on managing than creating, although I have added my fair share to the project. I have learned more about managing members and tasks more effectively which includes keeping track of members activities, informing members what tasks need to be completed and what tasks each member should be assigned to. The problem myself and the team had at the beginning of the year was that the project management took a hit when 2 of the team were otherwise indisposed and we started to fall behind so with the help of the team supervisor I learned that I had to take some initiative to keep the project moving. Also after one of our other members left the group and the course I had to rearrange all my work to account for the loss of the member on my side of the project and bring in help from another member of our group at certain points to try and rebalance the losses. My development in this area has increased over the year and has also taught me how to manage based on the workload and reliability of other members in the group. What this means is that as the year has gone on the capabilities and reliability of the other members has been made clearer to me, which has served well for the organisation of the tasks since the middle of the year these tasks have been coordinated by myself and Matthew since then so that everyone has a task to perform and new tasks are assigned by priority once that member completed the current task they were assigned. Another personal development has been learning to develop new skills for a new engine that I have not previously used before this development will come in handy in the future as the more experience with other engines that I can have the better as it can help when applying for jobs in the games industry. Over the modules duration I have developed other personal skills but the ones I have mentioned here have been the most developed over the course of this year.

My reflection on the projects final delivery shows that whilst the project didn’t start very smoothly as the year wore on we managed to pull it back to a degree where it was in a playable state, even if we could not pull it back completely and finish everything that we set out to achieve. I can safely say that had we not had the severity and majority of problems that we did we would have added at least 80-90% of what we set out to if not all. Although factoring in that we were using an engine we were unfamiliar with and one that I consider to be inferior to unreal this number could also have ended up in the 70-80% completed area. The amount we have managed to claw back from losses we suffered is commendable especially since at a few points this year for whatever reason we have been limited to a one or two-man group. These occurrences were sometimes for quite a few weeks as well an example of one of these harder times was in the middle of the first term where Matt, Oskar and Anthony were all indisposed for various lengths of time and different reasons which meant that I had to keep plugging away alone until the others returned. Another factor that caused some time to be lost was the loss of a member completely at half term which reduced us to an odd number of members making it more difficult to keep our contingency plan of two members per major section going. The most instrumental point in the downfall of the project was losing a valuable team member early in the year, at that point the project became a two-man team at the best of times and we struggled to make up the workload with the team that we had and some members attitudes to the work didn’t help at all.

**Peer and self-assessment:**

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| --- | --- |
| Team Name: | Boss-Eyed Cyclops |
| Name: | Geraint S. Franklin |
| Amount allocated out of £10,000:  £4,575 | |
| Justification:  The justification that I can give for giving myself this amount is that while I did not get as much done as I would have liked to within the final product most content that I worked on has been cut or research discontinued, I have however taken a lot of initiative when it comes to organisation and research. What I mean by this is that at the beginning and end I researched lots of different approaches the team could take for varying subjects and during the more difficult times I tried to keep the team together, moving forward on something and helping other team members wherever I could. The things I did contribute to the project weren’t done so at regular intervals more so that they were done as they were completed. Finally, during operation New HOPE I was a key part in the organisation and execution of the major overhaul of a few of the main features of the game and the changes we made to change the game from 3D to 2D as well as taking charge during the write-up process to make sure it was completed. | |
| Team Member:  Matthew Buckley | Amount allocated out of £10,000:  £5,175 |
| Justification:  I think that this team member deserves the most praise for this project than most of us as they were the most valuable performing member of the group providing the initial framework for the AI, the initial idea for the game, the dungeon map, the character models and integrating all the rest of the groups work into one project which meant understanding and adapting different styles into one. Finally, during operation New HOPE this team member was a key part and instrumental also in organising the tasks that needed to be complete and then creating the schedule that we needed to stick to successfully pull it off as well as contributing their necessary parts. I have learned through the end of the year additions that myself and this team member work well together and it might have suited the project better in the long run. | |
| Team Member:  Anthony Roberts | Amount allocated out of £10,000:  £250 |
| Justification:  I think that this team member performed underwhelmingly throughout much of the year and has contributed extremely little to the group project this includes one task given to them at the beginning of the year, this was a task that was only supposed to serve as a placeholder and was eventually cut anyway. Not only has this team member not performed well during the project but they have also missed a lot of discussions between team members on tasks to be completed. I also feel that this team member has not taken the initiative to actively help the team out by undertaking or even acquiring knowledge about any available problems in the project instead waiting to be informed of tasks assigned to them. Finally, during operation New HOPE this team member managed to complete one additional task to help with the ambitious transition that was put forward, but even at this point they had to be constantly reminded to complete work and missed the deadline of the part they were working on by two weeks, what they had was also unfinished. Additional: In order to justify this score a little more I feel I need to say that as a team we gave this member many chances to change and contribute that they did not take. | |

**References:**

GameArtForge, (2012). *Gems - Set 01*. [image] Available at: https://opengameart.org/content/gems-set-01 [Accessed 24 Mar. 2018].

Rubel, D. and Sodman, B. (2016). *Enter the Gungeon*. Austin, Texas, U.S.: Devolver Digital.

StumpyStrust, (2014). *UI Button and Extra*. [image] Available at: https://opengameart.org/content/ui-button-and-extra [Accessed 2 May 2018].

Technologies, U. (2018). *Unity - Manual: Network Clients and Servers*. [online] Docs.unity3d.com. Available at: https://docs.unity3d.com/Manual/UNetClientServer.html [Accessed 28 Mar. 2018].

Udemy. (2017). *Learn To Code Trading Card Game Battle System With Unity 3D*. [online] Available at: https://www.udemy.com/learn-to-code-trading-card-game-battle-system-with-unity-3d/ [Accessed 2 Feb. 2018].

Unity. (2018). *Unity - Services - Multiplayer*. [online] Available at: https://unity3d.com/unity/features/multiplayer [Accessed 28 Mar. 2018].

Vagner. (2012). *Mammon Angel of Darkness*. [image] Available at: https://opengameart.org/content/mammon-angel-of-darkness [Accessed 2 May 2018].