Retrospective Project Plan and Reflection on Final Project (Micro-Project 4) - Feedback Loops

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1 Introduction

For each micro-project I had planned some things in advance. Other stuff was planned as the project developed as I did not want to be static with the planning but dynamic. I was not sure if the plan for each project was going to work and hence why prototyping was done. This allowed me to plan dynamically.

In general the planning went quite well in terms of getting everything done that needed to be done. The time management did not go very well for the level design project but went well for the other projects.

The feedback loops for this project started subconsciously. They started from micro-project 1 and was present in other projects before this one. In this report I will discuss the feedback loops in the data and level design that lead to the final projects submission. I will also speak about redoing the level design as I was not pleased with micro-project 3 and wanted to make it better for the final project.

2 Retrospective Project Plan

2.1 Micro-Project 1 - Data Design

The requirements for this project was to focus on level design in a game with a turn based combat system. Such as how one set of data could affect another when a player attacks an enemy. For this project I wanted to make the data design interactive for the player. For example instead of the enemy always defending when the player attacks, the enemy makes a choice according to their stats such as health.

The way that I prototyped was almost like breaking down the project into tasks. This allowed me to achieve the goal of having interactive data design. It was broken down into three main prototypes and I had planned to work at least 2 hours a day on the prototypes.

The first prototype was to get a very basic turn based system done. I had planned to get that done in about 3 hours and it took approximately that long. From that I realised I could dedicate a lot of time to make interactive data design. The second prototype then added onto the first by introducing a simple enemy AI. This is where the data design started to get a bit more complex and interactive. I dedicated at least 4 hours to testing this AI too make sure the enemy was almost thinking like a normal person according to what their stats are in that moment. The final prototype I tried to balance the attacking and defending for both the enemy and player according to their stats as well as introducing a special ability. The rest of the time that I had left was used for this. I spent the majority of the time on this which was about 5 or 6 hours.

The main risk that I was worried about was making the data design too complicated. I was trying to avoid this as I did not want to spend a lot of time debugging code. I wanted to spend as

much time as I could on the data design. I thought making the data design complex would give it depth by making it interactive and so that is what I tried. This was achieved and the risk did not occur.

The main milestone that I set was to have done something to the prototype at least everyday. Whether or not it worked was not a worry. The focus was to get an idea working within a couple hours and seeing if it was usable. I made this my milestone as I knew if I test a lot of ideas I could rule out what was not going to work. These milestones were achieved.

I felt that I planned quite well for this project and so felt very confident with the final submission.

2.2 Micro-Project 2 - Communication Design

The tasks for this project were to communicate the data design from the first micro-project.

My goal for this project was to create simple but effective communication design. In terms of simple I wanted to use a minimal amount of words and just create the communication design through visuals as people remember and prefer visuals to reading lots of words.

I approached this by using the idea of making the design enhance the mechanics of the turn based system. The mechanics were attack, defence and the special ability. But with those came the data design. I had dedicated at least 2 hours again and to try and split the communication design into achievable chunks. If they needed to be worked on or reconsidered I then addressed it after trying that idea. I had again used prototyping to quickly test what seemed to work and clearly communicate the change of the data. These prototypes had been almost been my tasks again.

The concern for this project was that I was not very good at drawing things so I was worried that I would not be able to create an asset that clearly indicates what is happening in the moment-to-moment game-play. Knowing that this would take more time than I wanted, I set aside time to make quick prototypes of simple drawings that to me everybody knows and to see if it would clearly communicate what the data was doing.

For the milestones I set a simple one as I knew that what I wanted to do for the communication design required art that was clear and communicated what was happening to the data clearly. The milestone was to create simple stuff so that I could make good communication design. I also wanted to prevent getting into the mindset of using the communication for game feel. I felt that I achieved this and it resulted in more time to make better communication design.

Again, I felt that with this project I had planned well and this resulted in this project being a success in terms of the design choices made.

2.3 Micro-Project 3 - Level Design

This was the project where I felt that I had failed with planning. It took much longer than I thought it would take and the level design was not good.

I had planned to make one level that teaches the player all the mechanics they can use on the platformer. I set 5 hours to try and make the combat system and the movement of the player right. This was where the issues started. I needed these to work before I could make the level. I had never made a combat system with melee weapons before but thought that 5 hours was enough. I then planned to use the rest of the time that I had by designing the level. I thought that I needed the

code to work completely in order for the level to have good level design, as without the melee system the level would be non-playable. This was correct in a way but the way I planned for it did not work.

Risks. The risk was that if I did not get all the mechanics working at the same time, the level that I had planned to design would not work. This was a bad idea as now there was a higher risk to reward than if I had just separated some levels to teach the player the attack and movement mechanics. This was noted after the project had been submitted.

For this project I wanted to make a level where the stuff that had been put in it was there for a reason. In the past I never really understood level design so I would just put stuff in the level at random and not think about. I wanted to do the opposite with this project. I wanted everything to have a reason for being there. I felt like I had done that but my approach was wrong. I should have done what I did in project 1 and 2. Split the tasks into achievable chunks that lead to something that was complete.

3 Retrospective Project Plan and Reflection on Micro-Project 4

3.1 Retrospective Project Plan

For this project I knew that I had to redo the level design. I was quite happy with the feedback loops that I had for projects 1 and 2 so I focused on the level design again. Knowing how long it took to do one level from the previous project I planned accordingly. I set the tasks into achievable chunks that then came together to form the level design.

The risk to reward was now better as I only focused on that task chunk and then used that chunk to form the next chunk. There was the risk that the previous chunk was not done well, but the level design for each chunk was simple movement. This then allowed me to make a final chunk where the player would use all of the simple movements from the previous chunks. The idea of putting the tasks into smaller chunks of movement prevented this risk from occurring.

For milestones I just wanted to get good level design done. I wanted each level to represent and show the player a simple mechanic and then add more mechanics that they can use in the next level, and then finally putting all those mechanics into one level for the player to make use of what they have learnt.

3.2 Reflection

I changed the level design entirely as for micro-project 3 the level design was not implemented well. Instead of having just one level where the player needs to figure out all the mechanics I split it up into 3 levels for the player to get used to the jumping and then the attacking and finally using the jumping and attacking to fight enemies on a final level before the turn based level.

Starting with level 1. Level 1 shows the player the jump and 2D movement mechanics. I needed the design to show that the player can jump, jump and move and that they need to use the jump and move to dodge enemy projectiles. I placed platforms higher than the player so that they need to jump to it and made gaps between platforms so that the player knows they can move and jump at the same time. I then had an enemy near the end where they would throw a projectile and if the player got hit they would respawn a little bit further back so that they could try again. from

testing this seemed to show the player the jump mechanic well.

Level 2 shows the player the attack mechanic. I wanted the player to make use of the jump mechanic before and then add the attack mechanic to it. I did this by just adding an enemy and allowing them to throw projectiles at the player and if they hit you, you respawn at the start of the level. The idea of the design was to get the enemy to use the jump from the previous level to avoid the enemy attacks and then using the attack mechanic on that enemy. From the testing done it showed that the player knew what they needed to do.

Level 3 then combined both these mechanics into a single level. The player needs to use these mechanics to kill a bunch of enemies to progress forward. From the testing it appeared as though the player knew what they needed to do to finish the level. This final level then lead to the turn based level.

In terms of the level design I was much more pleased with this outcome as the player knew what they needed to do in order to finish a level, and they also knew where they needed to go as I kept the levels simple.

Feedback Loops:

The feedback loops were mainly used in micro-project 1. They were used for the data of the player and the enemy in the turn based level. If the player or enemy reached a certain health value their stats would change. For the player if their health got below 15 and was greater than 5 their attack value would increase by 1. For the enemy if this health range occurred, the enemies defence would increase by 1. These are negative feedback loops. I used negative feedback loops as from engineering I knew that negative feedback loops provide reinforcement and balance to a system. If the health was 5 or below the enemies defence would then increase by 1 again. This is a negative feedback loop as I thought it would provide balance to my turn based system.

The last thing in terms of feedback loops for the turn based system is the players special ability. The special ability has a chance of attacking the enemy for a significant of damage. I viewed the special ability as a comeback system. There are those moments in games where a player might fall behind and if the player manages to pull something off with chance involved it is a good feeling. The negative feedback loop is used again as the more the player attacks the higher the chance of the special ability attacking the enemy. As the enemies health decreased the special abilities chance of attacking increased.

In terms of the level design and feedback loops they were all positive. I did not want the player to be punished when learning a new mechanic. If the player was hit by a projectile they just simply respawned a little bit further back instead of dying and restarting the whole level again. This allows the player to learn and prevents them from feeling annoyed when learning a new mechanic.

4 Conclusion

The planning that was done for the first 2 micro-projects went well however the planning for micro-project 3 did not go well. I noticed how long level design was taking me and implemented a new plan for it in micro-project 4.

The feedback loops that were implemented felt like they were doing what they needed to do

and that was to provide balance to the turn based system and to not penalise the player to heavily when learning the mechanics in the level.

Appendices

There are still some bugs in the level design. The levels don't have colliders at the end. The sprite that I used for the player does not remain in the center when you enter the game. I was not sure why this happened but if the sprite gets too close to a collider they can move to the other side of the collider and then the player is stuck or they fall underneath the level. If this occurs pressing escape takes you back to the main menu.

I was getting a object reference error but when I clicked on it it showed a graph script that I assumed was a part of *"Unity"*. I could not figure out why this was happening and I assumed that's why the health bar would not decrease when hit by enemies and increase when picking up health.

The last thing is that on the third platform level the enemies are not patrolling as it seems they are getting stuck on the platforms collider.