Progress Report

- Increment 3 -

Group #3

Please use this template to describe your progress on the group project in the latest increment. Please do not change the font, font size, margins or line spacing. All the text in italic should be removed from your final submission.

1) Team Members

- Grace Brill (FSU ID: KGB19A | Github ID: kbrill25)
- Elias Diez (FSU ID: EAD19F | Github ID: EliasADU)
- Jason Graham (FSU ID: JG19M | Github ID: JasonAGraham)
- Miguel Malayto (FSU ID: MAM18N | Github ID: mizai125)
- Santiago Ruiz (FSU ID: sr19w | Github ID: santiruz)

2) Project Title and Description

Owl's Omen

Owl's Omen is a first-person 3D parkour game, which is being developed in Unity using the C# programming language. The gameplay revolves around the ability for users to launch off surfaces by clicking on them. Levels are located in one centralized area, with many interconnecting paths and routes. The user's objective is to complete delivery routes within a certain time constraint while being pursued by flying enemies that can track the user. The game environment is interactive, including elements like dialogue and surfaces that affect player mobility and speed.

3) Accomplishments and overall project status during this increment

Elias:

Accomplished all goals for this increment, of those, only the Post Processing and level changes were kept as it was found that the momentum carry-over to ground made the game feel like it was on ice. Overall the project is great and most if not all requirements have been met, with one of the main lacking parts being general content / level design, as it is a very time consuming endeavor and not a critical functional requirement.

Santiago:

Accomplished almost all the goals for this increment. I was unable to put time into level design because of a roadblock in the enemy model. The enemy model was having an issue where it was able to go through walls, so I had to use a specific body type that made me stuck for a while. Also little attributes of the model from the Unity store didn't allow me to use specific functions and caused a big hiccup. Overall though I was able to fix patrolling and chasing mechanisms by making them dodge

obstacles and go around them if confronted by them. I also fixed the damage modifier by making it do more or less damage based on the amount of enemies that are chasing the player. I was also able to add a search light for the enemy that is white when patrolling and red when the enemy is alerted. I finally was able to fix the issue where enemies would go through each other so now enemies collide instead of going through each other.

Miguel:

Accomplished almost all goals for this increment other than level design due to time constraints and more time spent on functionality. Objective list was implemented and the waypoint marker was modified to work with multiple waypoints. Overall, the UI is basically completed since we don't want to clutter the HUD with unnecessary elements and only keep important ones. I'm satisfied with the contributions I made to this project as it was a learning experience as someone who's never used Unity before, and a personal enjoyment.

Jason:

Most of my goals I accomplished. I finished the save and load systems for ingame that save the players position and level. I tested these and are happy how it works and find that it will work perfectly if we split the levels by scene. I also added the main menu to every scene and got it working with everyone and added a level selector on the main menu. This will make it where a player can play any level they want and will make it easier to test each level.

Grace:

Features

- Implemented the jump boost for players that are not already jumping.
- Implemented a unidirectional slow down.
- Implemented a teleportation feature.
- Refined the "feel" of the different surfaces that affect player motion.

Initial Scope and Functionality Proposed

- Overall, a good portion of the goals in the initial scope were accomplished.
- As Elias mentioned, we did not accomplish the level design, which would have required more time and there were pressing features to be implemented that were prioritized.
- I also was unable to fully complete and refine the dialogue system I had been working on during the late stages of increment 1, but that was also a matter of prioritizing other more important features.
- I am pleased with what all I was able to accomplish throughout the course of this project. Having never worked on a game development project, I went in knowing very little and was able to learn a lot of valuable skills and make meaningful contributions.

Describe in detail what was accomplished during this increment and where your project stands overall compared to the initial scope and functionality proposed.

4) Challenges, changes in the plan and scope of the project and things that went wrong during this increment

Elias:

It was difficult to figure out how to implement Post Processing, specifically changing Post Processing during runtime. This was solved by using a volume (a physical "container" of PostP) that can dynamically change its influence, then making it contain just bloom. This process was slightly more complicated than may appear so it took a while to fully implement it, especially due to some conflicts with our rendering pipeline.

There was a change in plan after testing out the momentum conservation in ground, after it was implemented it was tested with some players and found to make the place too difficult to control, which went counter to the precise aim the rest of the game's design emphasized, and so it was scrapped. A full suite of levels was also not implemented due to the time consuming nature of level design, and so a singular prototype level is instead available right now.

Santiago:

It was difficult for me during this increment to figure out why enemies were able to go through each other and why they were able to go through walls. I had to re-invent the entire enemy movement system that I had before and use velocity and add physics to the enemy to make him move. I was altering a position of the enemy that was absolute so it could go through walls, which is what we didn't want. Plus with different bodies not being able to be used or activated because of the unity version, it took me a while to figure out the solution of making the model work the way I wanted it to. I had to get rid of the convex mesh render on the enemy model, which I didn't know didn't allow for a rigid body to be attached to the enemy model. Once I removed this attribute on the model, I was able to apply a force on the body. The next issue I faced was that when applying force on the model it would shoot past the player and start rotating in circles, so I ultimately had to look up and find a math formula function that could counteract the force applied. This was a very difficult increment for me but once I figured out how to make the model move with the new way we wanted it to, it was smooth sailing, but it was very time consuming.

Overall I am very happy with the turnout from this project. I learned so much about game development and just AI in general. Working with an object that you created and watching it interact was very fun. I had a blast on the project.

Miguel:

It was difficult to figure out how to get functionality working with multiple objects in this increment. I had to modify the DistanceToGoal script and hard code in the same function 3 times to work with 3

objects, since I couldn't figure out a more efficient way of doing it. The objective list was also complicated when working with multiple objects. I had to figure out how to make sure the player was within distance and only interacted with the object once, and apply that to multiple objects. Playing around with different scripts, the issue somehow ended up solving itself. This increment felt harder than the last one due to having coded the scripts without reference, since I couldn't find anything that provided what I was looking for.

Jason:

In this iteration I found it very difficult to get the save and load functions to work. It took a while to find out how to move the player properly and reload the scene at the same time. The next issue I had was getting the main menu to work in all scenes. It wasn't as easy as copying and pasting because the new scenes were different builds of our testing scene. This made it hard to transfer the main menu easily.

I changed the scope of the ingame audio and settled for only music. Audio in unity is very finicky and I do not know enough to add it in fully to meet the requirements of a full game. Another area I had trouble with was the loading. Since I attached the saving and loading to the player I could not figure out how to load it from the menu so I added the new feature of a level selector.

Grace:

Challenges and What Went Wrong

In this increment, I did initially struggle with developing the teleportation feature. It was mainly issues with the collider and properly detecting the collision. I went about detecting the collisions and implementing the collision detection differently than I had in previous increments. I was able to resolve this issue by creating a script called TeleportScript.cs and making 2 gameobjects: one to represent the location where you enter the teleport and another to represent the destination location. Ultimately, the script was added to the entrance location and took in the teleport target gameobject and player (character controller) as arguments. When a collision was detected, the player's location was moved to that of the destination's location.

Additionally, I was unable to fix the bug with the dialogue system. I spent some time working on it, but after a certain point, I decided to focus more time on the teleportation feature, which was more interesting and impactful to the project.

Changes to the Scope

As mentioned above, the initial scope included a fully built out dialogue system and levels, which were not fully accomplished. There is a basic dialogue system in place, but there are some minor bugs and opportunities to improve the UI. Additionally, we were unable to complete the levels because we focused more on implementing features. For me, I spent more time on building surfaces that affect player motion because it was a higher priority than level building.

Please describe here in detail:

- anything that was challenging during this increment and how you dealt with the challenges

- any changes that occurred in the initial plan you had for the project or its scope. Describe the reasons for the changes.

- anything that went wrong during this increment

5) Team Member Contribution for this increment

- Elias:
    - **Progress report:** Same as increment 2.
    - **Requirements and design document:** Same as increment 2, expanded some class diagram boxes.
    - **Implementation and testing document:** Post Processing mentioned in Execution based testing. Level prototyping in execution based nonfunctional testing.
    - **Source code:** SlowDownMode.cs expanded to include Post Processing effects.
    - **Video or presentation:** See section 6 denoted by Elias.
- Grace
    - **Project Organization:** set up the 3 Google documents and moved relevant content from increment 2 into the 3 documents.
    - **Progress report:** Sections 3 and 4.
    - **Requirements and design document:** Sections 2 (Surfaces affecting player motion, dialogue system, and teleportation), 3 (paragraph about surfaces that affect player motion), and class diagram (see color coordinated portions of the chart for my individual contributions).
    - **Implementation and testing document:** Section 2 (Surfaces affecting player motion, dialogue system, and teleportation), 3 (paragraph about player movement) and 4.
    - **Source code:** Same files as increment 2 in addition to the following new files: JumpBoost.cs, SlowdownUni.cs, and TeleportScript.cs.
    - **Video or presentation:** See section 6 denoted by Grace.
- Jason
    - **Progress report:** Accomplishments and challenges.
    - **Requirements and design document:** Same as increment 2 and Level Selector.
    - **Implementation and testing document:** Level selector, save/load game, and pause menu.
    - **Source code:** Added LoadMenu.cs.
    - **Video or presentation:** See section 6 denoted by Jason.
- Miguel
    - **Progress report:** Sections 3, 4, and 5.
    - **Requirements and design document:** Section 2 (HUD Elements) and class diagram (see color coordinated portions of the chart for my individual contributions).
    - **Implementation and testing document:** Section 3 (Waypoint Marker and Objective List).

    - **Source code:** Minimap.cs, InsideMinimap.cs, DistanceToGoal.cs, InteractGoal.cs, InteractGoal2.cs, and InteractGoal3.cs.
    - **Video or presentation:** See section 6 denoted by Miguel.
- Santiago:
    - **Progress report:** Santiago Sections 3, 4, and 5
    - **Requirements and design document:** Parts 4,5 of section 2. Section 4 - Use Case Diagram Enemy and description of enemy. Section 5 - Class Diagram, Enemy and Health System. Red part.
    - **Implementation and testing document:** Parts 5-7 of section 3. Section 4.
    - **Source code:** Player Health System Script, NavPoint Script, Enemy Script.
    - **Video or presentation:** See section 6 denoted by Santiago.

6) Link to video

Santiago: https://youtu.be/IbVjp7YZtNc

Elias: https://www.youtube.com/watch?v=alqkoqs4acQ

Grace: https://www.youtube.com/watch?v=H6E5Tzxd7H4

Jason: https://www.youtube.com/watch?v=lFlujXL3GNM

Miguel: https://youtu.be/NKLMezDeF80