Deliverable F: Initial Prototypes and Further Plans

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Group C-P1

Contents

Introduction

This deliverable talks the initial prototypes, which will mainly focus on the back end of the project, consisting of important aspects of the project that will make the simulation more immersive. We have split the prototype into three sections that when combined form a comprehensive prototype. The sections are labeled as follows: Environment, which focuses on the surrounding city and what all users will notice immediately upon starting the simulation. The Non-player characters, this section will focus on the movement of objects in the simulation. And the last section which is labeled as Banners and Audio, anything users hear and specific models that need to be created for the project is under this section. This deliverable will also be going over client feedback from meeting two, and from other sources.

Referenced Problem Statement

Mine's Action Canada needs a VR experience that demonstrates the dangers of using killer robots in warfare, and the potential consequences that come with it. The experience needs to provide an emotional connection that displays fear, concern, and hope.

Client Feedback

This section will focus on the feedback from the client in the second meeting and from the TAs.

Client Meeting 2

This meeting was shorter than anticipated, although all the information was still important; The biggest feedback was that it should be simple and focused on the environment, our initial story ideas had a lot of technical aspects to it, which would be great to add, although it is true, we may not have the time to implement those ideas.

TA Meeting

The meeting with the TAs was to check the progress of the project, and the biggest piece of information we were given is to get started earlier, unfortunately the group was not ready to get the prototypes started earlier so, concerns of not being able to make a proper prototype came up. The other suggestion was that the clients may be underestimating what can be accomplished.

Preliminary Environment Prototype
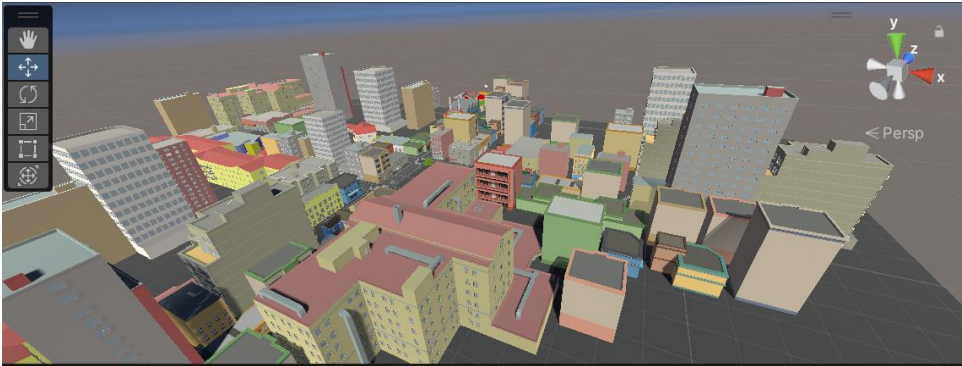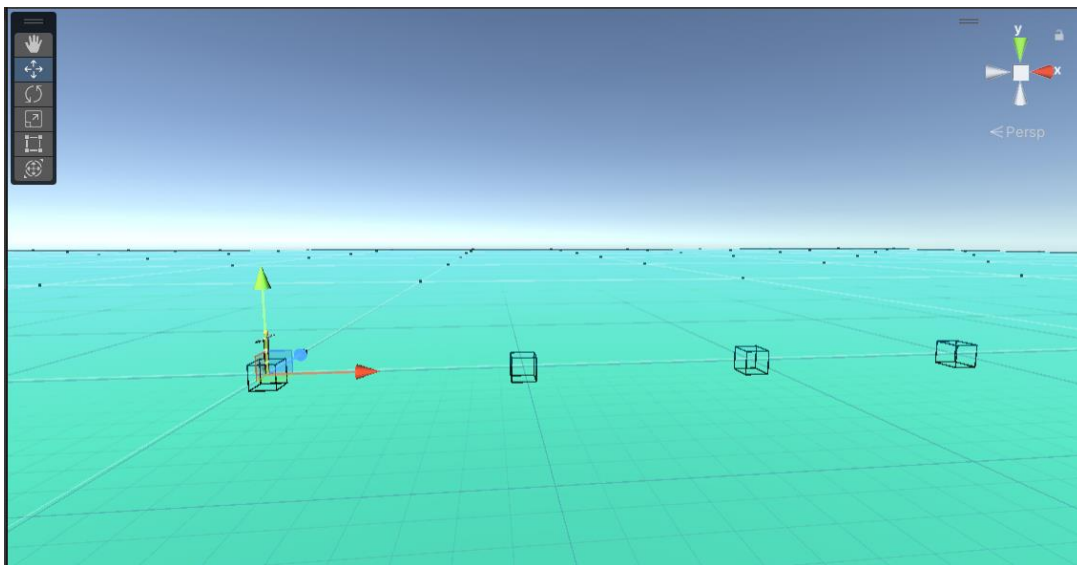
Test User Feedback:

- City layout is diverse and distinct.
- Not enough detail
- Square makes planning for entities much easier.
- Seems like you are in a city and not empty space outside the map.
- Urban feel
- Add more realistic aspects like lively objects and roads outside the map.
- Add a more colourful and varied ground.

Testing

- making sure entities can travel easily and seamlessly through traffic by running trials through the ai pathing system.

- Testing that every angle within the city feels like a city by examining different alleys and such to make sure the player can't escape accidentally or break the immersion.

- So far, no ways to escape have been found, but detail must be added to maintain the immersion of the client when viewing the experience.

Non-Player Character Movement Prototype

The goal of this prototypes is to create a basic NPC that moves along a path given to it. The results of this prototype will make applying NPCs much easier and faster in more comprehensive prototypes.

Test User Feedback

- Model could use improvement.

Testing the NPCs

- The NPCs need to be able to walk smoothly in the path desired, which means that the ground need to have proper Rigid-Bodies and Colliders associated with components.

- The NPCs also need to have the correct origin to function properly, not doing so will cause out-of-place movement that won't look good in front of users.

- Proper Nav Mesh is required for pathfinding and giving the NPCs an area that is Walkable, and objects that are not Walkable.

- NPCs also need scrips associated with movement of the character. The script also works with the animation of the motion. From testing a good speed for this kind of environment would be a speed from 0 (standing still) to 5 (jogging) any higher and the NPC would be sprinting or otherwise impossible speeds.

Initial Audio and Script Prototype:

This is a prototype of the sounds that will be used in the simulation. The sounds will include ambient city background noise, a loudspeaker which will follow a script that helps set the tone of the simulation and describes what's going on. It will also include one or two gunshots in the distance and the sound of drones to show what a dangerous environment it is. The initial audio prototype will be a dialogue script of the simulation.

Ambient city noise plays for the entire simulation

Sounds of drones flying overhead

Loudspeaker: Attention citizens, this is an announcement to inform you that curfew will be at 22:00 tonight instead of 23:00. Please make sure you and your family are safe at home by this time or the robots will assume you are participating in criminal activity.

Please show any robots your registration and do not resist if asked, resistance will be treated as rebellion and responded to as such.

Remember the robots are your friends, they are here to protect you so long as you follow the rules.

A sharp bang from a sniper is heard

Loudspeaker: Please do not resist, resistance is futile, we are here to help

Testing Audio

- Testing that a recording of the entire audio is within the simulation duration at the desired pace

- The audio needs to start at the correct times in the simulation

Testing Plan For Second Round of Prototyping

Test ID	Test Objectives (Why)	Description of Prototype used and of Basic Test Method	Description of Results to be recorded and how these results will be used (How)	Estimated Test duration and planned start date (When)
1	Audio test	The first prototype will be a dialogue script and it will be tested by being given to different users for feedback, future prototypes will in include the technical testing	The results will be all feedback from users written down for later reference	1-2 hours to implement 1-2 hours max to test
2	Continue to improve on the NPCs	The NPCs need to be implemented into the system, because the user had little to go off previously the biggest concern was the look of the NPCs, so this prototype will focus on implementing and the appearance of the NPCs	Results will be recorded using user input, and confirming the over all functions work well.	1-2 hours to implement. 1 hour max to test.
3	Banners and Propaganda	This modeling of the banners and other potential forms of	Result will be recorded and	1-2 hours to implement.

		propaganda that will be implemented. To test the effectiveness of these models, users will also be used to confirm.	written down, as the test continues	1 hour max to test.
4	Implement prototypes into one system. Running all at once.	The prototypes in question will be closer to a full systems test, high fidelity. Previous systems will be used to make this work. The test methods will be as follows: a user test, where users will look around. And a functionality test, to make sure each section is working, in a simulation of the final product.	The results will be recorded as individual users use the system.	2-6 hours to implement. 1-3 hours to test.

Wrike Updated Snapshot

Conclusion

In preparation for the next set of prototypes, the next client meeting will happen, and the tests will happen once each prototype is in a stable position. So far, the prototypes are showing clear and solid results with little to change on the plan, with the biggest change only occurring with the high-fidelity prototype, which will be pushed till next week.