WS22 Code wizards

Prop Clash 14/12/2022

INTERIM DEMO

Denitsa Asova
Janna Elghabaty
Omar Khaled
Bassant Elnaggar

Task Progress

Functional Minimum

Player Controller:

For the player controller we used the new Input System of Unity. For the movement, both hunters and props use the common WASD button control. The mouse movement controls the rotation of the player around its y-axis and the camera pitch. Since we decided to use the Rigidbody component for movement and wanted to have more control over the gravity, we implemented our custom gravity - we can control the min and max applied gravity, the gravity fall increment as well as the gravity fall increment time. Another reason for the custom gravity implementation came from the fact that using the Rigidboby's own gravity resulted in a very slow descend of the player after he jumped. Also since we want to detect stairs and slopes in our scenes and have a realistic ascend/descend, we are using a slope gravity multiplier. By pressing Shift, our player can run. With Space, he can jump. Double jump is not allowed, but we have Coyote jump, Buffered jump and also accumulate jump force, if we hold the button for a certain time. Hunters can attack by pressing F and props can duplicate into a scene object with the Left mouse button, and leave a clone of themselves with the Right mouse button.

1-1 hide and seek/kill game:

We focused on implementing the core functionality of hunters and props but for a 1-1 point and round based match. It has only one round which lasts for 5 minutes. Hunters can attack and according to our defined game rules, which will be explained in a following section, gain points. Props can duplicate and clone themselves into scene objects again according to some rules which give them points. They also have health and after they die, they get respawned at a random place in the scene.

Low Target

Prop Player can change the prop throughout the round

At the beginning of the round, the prop player gets assigned a random object from the scene. Throughout the round, he can change to a number of different objects that are scattered around the level.

Prop Player can create duplicates of oneself as decoys

The prop player can also leave a certain number of decoys of his current prop. They disappear after a some time and have a limited amount of health. If a hunter kills a clone, he loses points and the prop player receives points.

Desired Target

One mode with one theme

We created assets for the Spooky theme. We implemented a basic point and round based mode with respawning. In it we have the following rules:

- If the hunter kills the prop, he receives 100p.
- If the hunter kills a clone of the prop, he loses 50p.
- For every killed clone, the prop receives 25 points.

These rules are not final and more will be added but we wanted to test the synchronization of all data between the players.

Player (Hunter)

In this part we present the progress regarding the hunter.

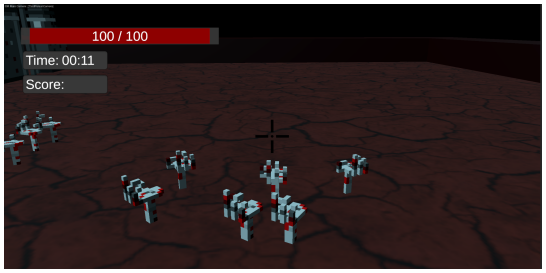
- A hunter has a first-person POV.

- A hunter has walking and running animations which are synchronised for all players.
- A hunter can attack by pressing the F button. The attack is a close-ranged one. A short ray is shot through a crosshair visor that is placed in the center of the screen.

Player (Prop)

In this part we present the progress regarding the props.

- A prop has a third-person POV.
- A prop can point at props at the scene and has a visual indication of which objects he can change into.
- A prop can press left click and change to the prop he is pointing at.
- A prop can leave clones in the scene which get destroyed after some time.
- A prop can only have a certain number of clones in the scene at one time.
- A prop can not change to a prop he is already having.
- A prop will have a distinct look “Currently a red glow” if he stays as the same prop for a long time.
- All of these features are synchronized through the network and can be seen by all clients.



Networking

For the networking we are using Unity's Netcode for GameObjects. We have a dedicated host and all other clients connect to it. Currently we support only a LAN multiplayer. We use the ClientNetworkTransform which synchronizes the position of the owner client to the server and all other clients allowing for client authoritative gameplay.

Level Design

We used our own models created wtih Magica Voxel to start with the Spooky scene. To have a map-like structure in our level, the scene is divided into 2 parts separated by gates.

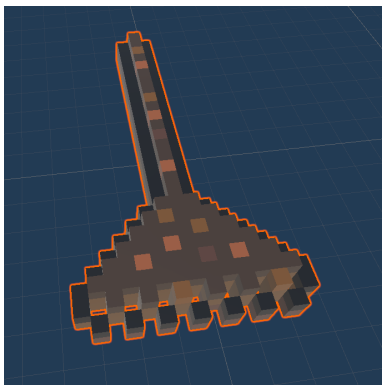
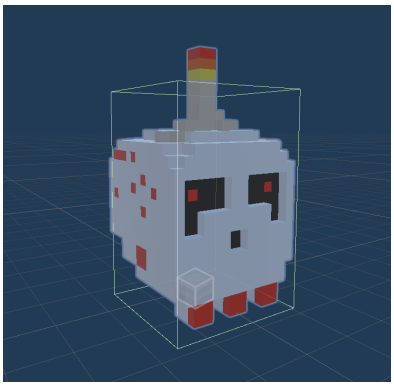
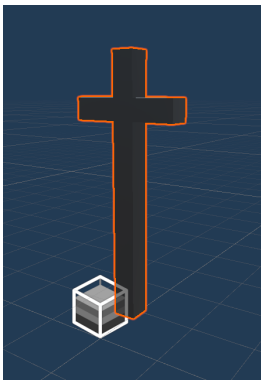
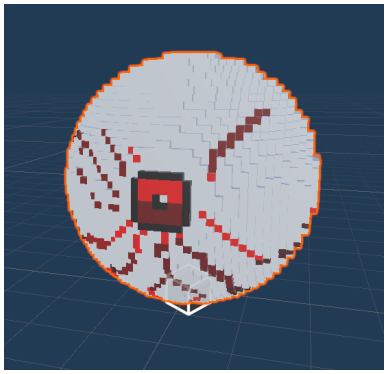
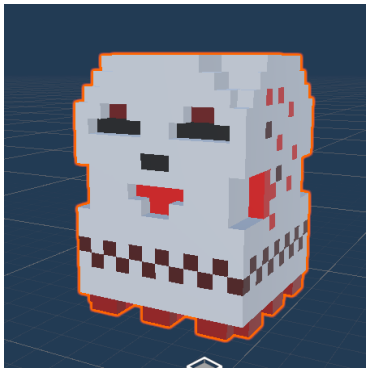
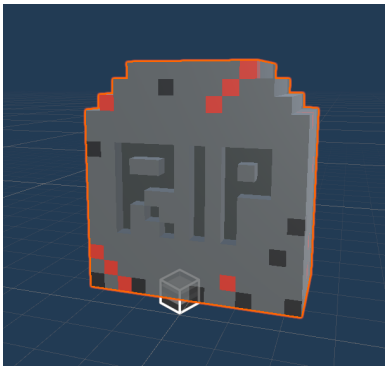
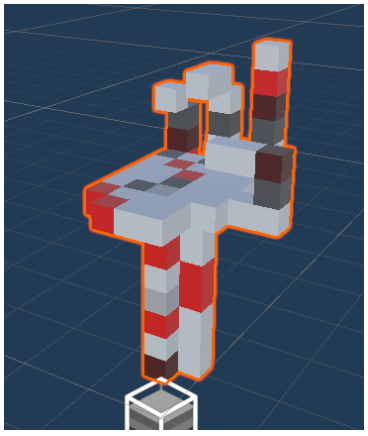
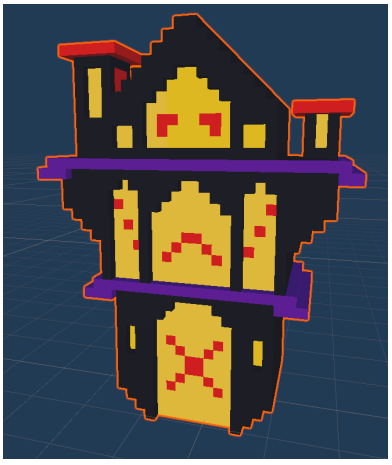
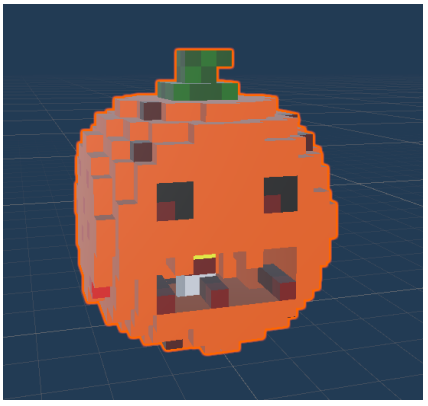
The parts look different from each other. The lower part provides a being in a "Friedhof" experience, while the upper part is taking us to a ghosts house, where we can see ghosts moving around, witches brooms, and enjoy the halloween vibes. To induce the spookiness in the theme, we used Unity's particle system to add some gravestone smoke and fire on the gates and candles. Also, we added a red moon effect to the scene. We tried to adjust the size proportions and weights of the models to have realistic effects.

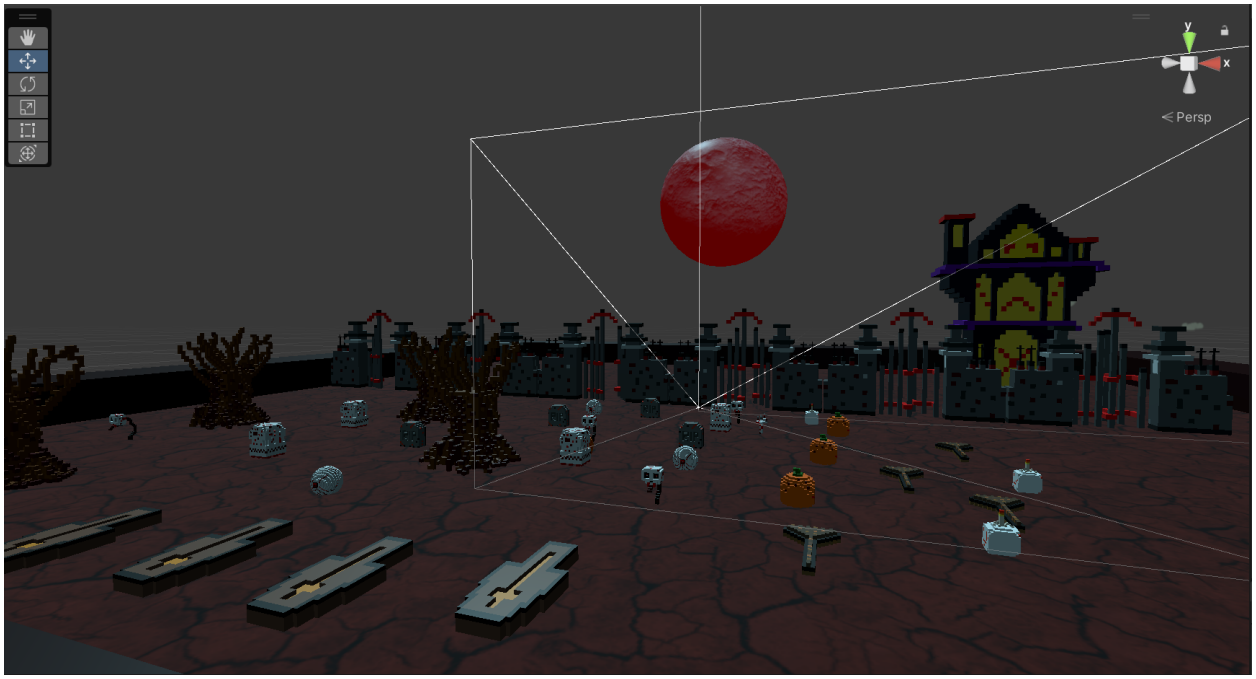
The figures below show how how our scene currently looks.

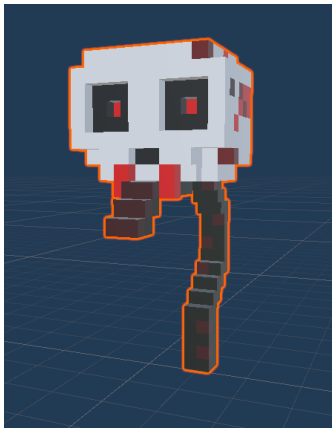
Modeling and Arts

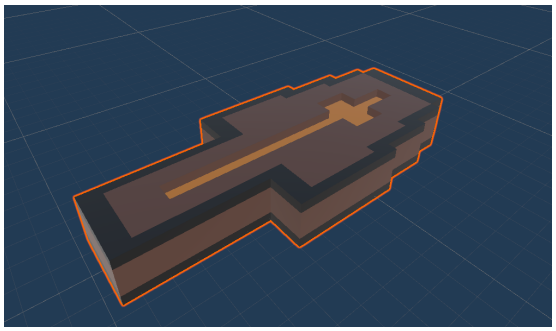
We needed to create models from scratch that fit into our spooky pixel scene design. Thus, we modeled a spooky house, gates that would separate the scene into two partitions, ghosts, pumpkins, witch brooms, and many more!

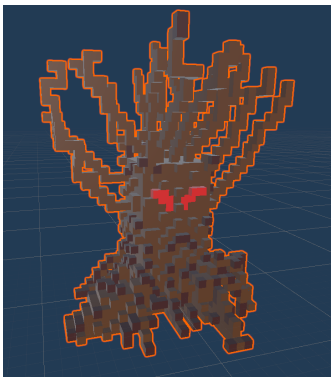
The figures below show the models currently in use.







RIP








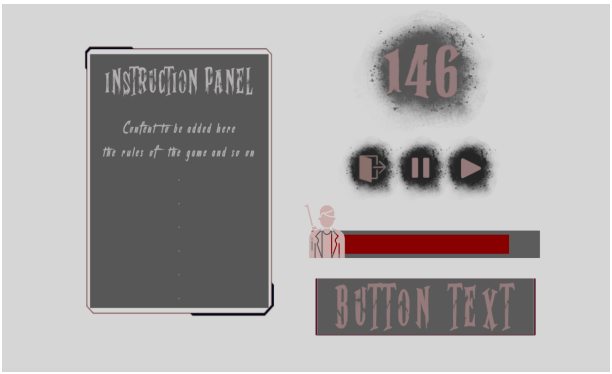




UI Design and implementation

For the UI Design we tried to find common fonts, panels, and buttons to match our different themes. For this milestone we included the following components to be in the UI:

- Start panel
- Game over/winning panel
- Login panel (Server, Host, Client)
- Pause/resume/quit action buttons
- Health bar
- Score



Future Plan

We will focus on the following aspects for the future milestones:

- Having a full game cycle with more and refined game rules
- Improving our level design
- Adding more modes and themes and changing the UI design respectively
- Improving the first-person POV by adding the hunter’s hands and weapon
- Adding more animations for the hunter and also having more avatars for him
- Including different abilities for both type of players, as well as collectables to make the gameplay more interesting and challenging