

# Senior Independent Project: 3D Game Design

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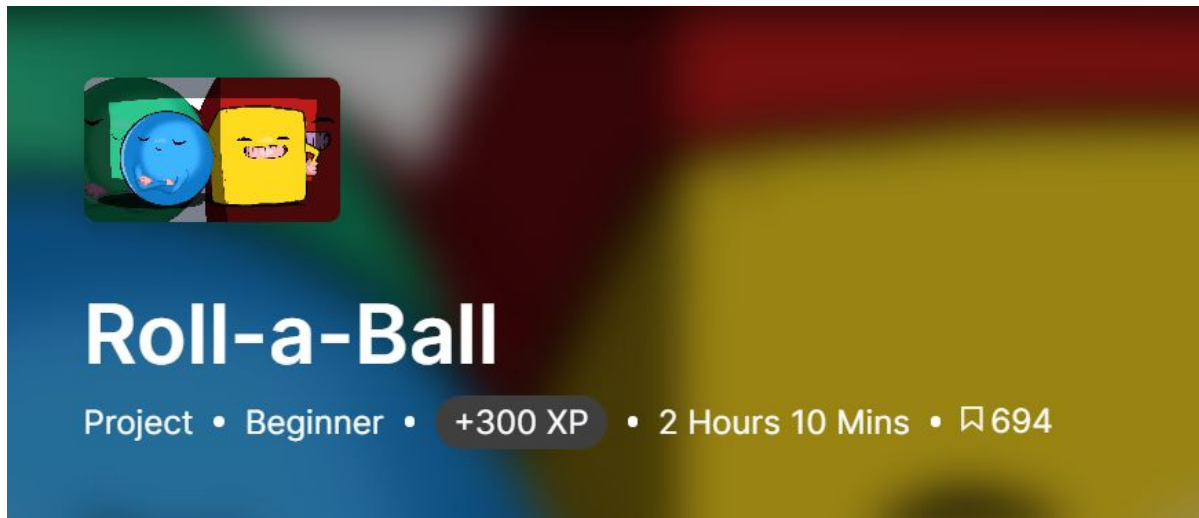
# Phase 1: Getting familiar with the programs

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## Part 1: Unity

## Roll-a-Ball Tutorial for Unity - 9/2/20

- Introduced to scripting, movement, and UI in Unity
- Learned the basics on how Unity works



Hour counter: 0 + 2.5

## Made “The Floor is Lava” - 9/8 to 9/11

- Finished the first level of The floor is Lava
- Implemented player controls and coin system.
- Added lighting to make the graphics more interesting.

See “9/8 - The Floor Is Lava.mp4”

Hour counter: 2.5 + 2.33

## Started player control for new game 9/25

- Changed Input System to the default input system, with movement based on WASD keys
- Player can switch between three cameras
- Started on the UI and NPC interaction.
- Imported animations from Mixamo.

See “9/25 - Basic  
Player Control.mp4”

Hour counter: 4.83 + 6.5

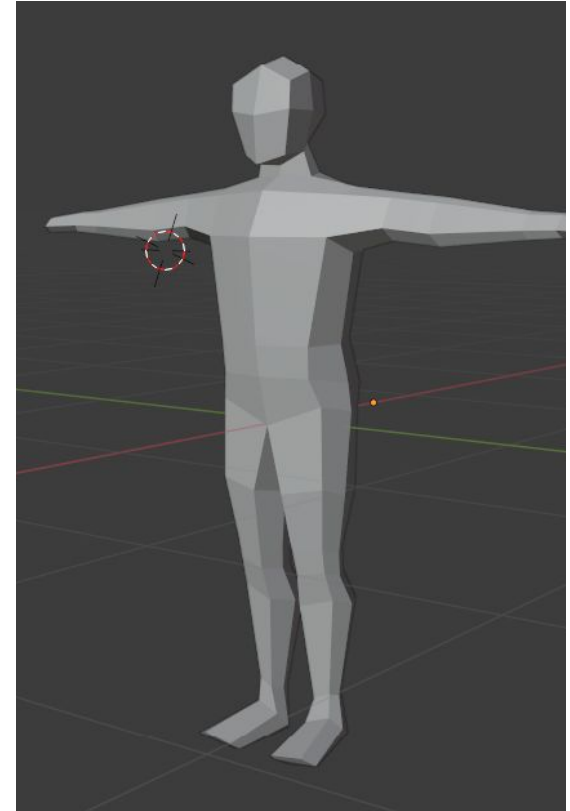
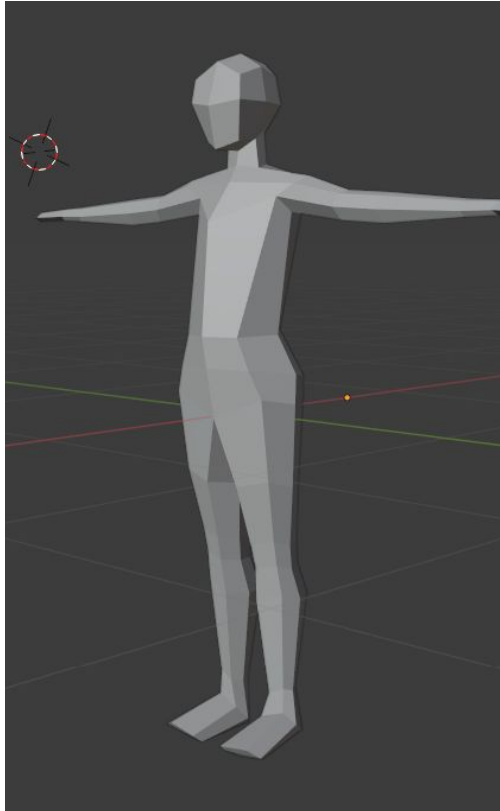
# Phase 1: Getting familiar with the programs

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## Part 2: Blender

## Made low-poly base person models 10/15

- Used references to make low-poly models that look humanoid
- One model is more feminine, the other is more masculine



Hour counter: 11.33 + 3

## Made npc - Cynthia 10/16

- Original character for the space station game
- Added clothes - basic materials and additional objects
- Added subsurface scattering to skin

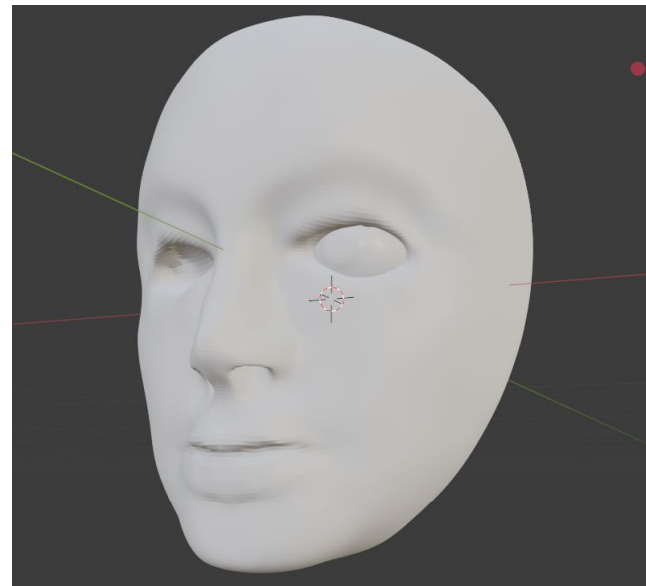
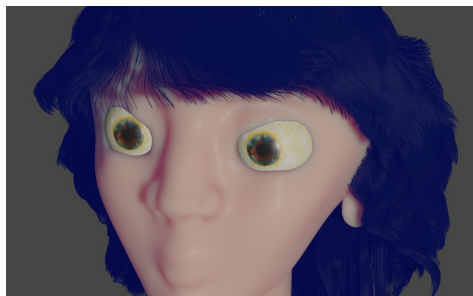
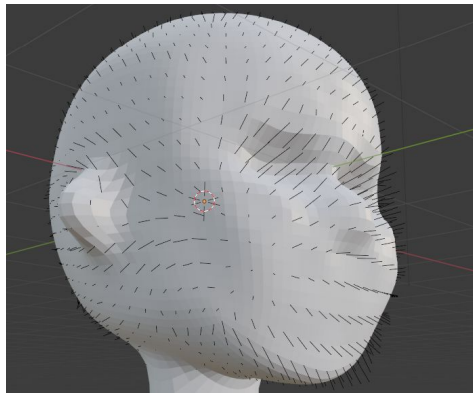


Hour counter: 14.33 + 1.5



## Sculpting faces - ~10/21 to 10/23

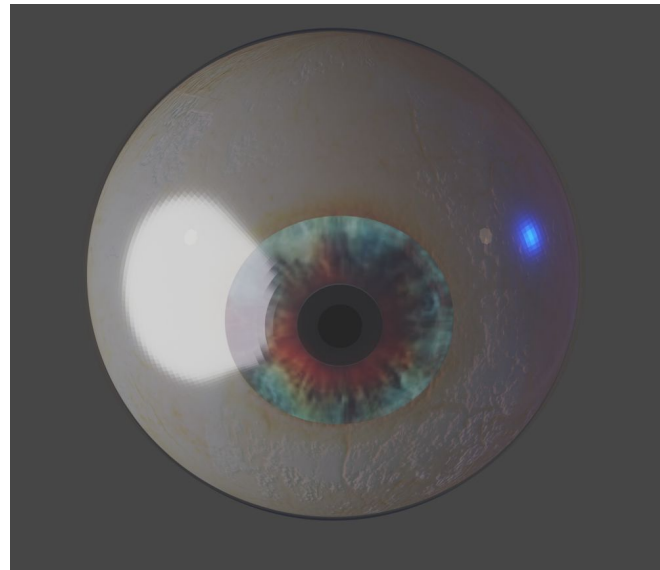
- Learned how to use Blender's sculpting system
- Decided against doing too detailed of a game because of just how long sculpting took



Hour counter: 20.83 + 4.5

## Hourglass and eyeball - 10/21

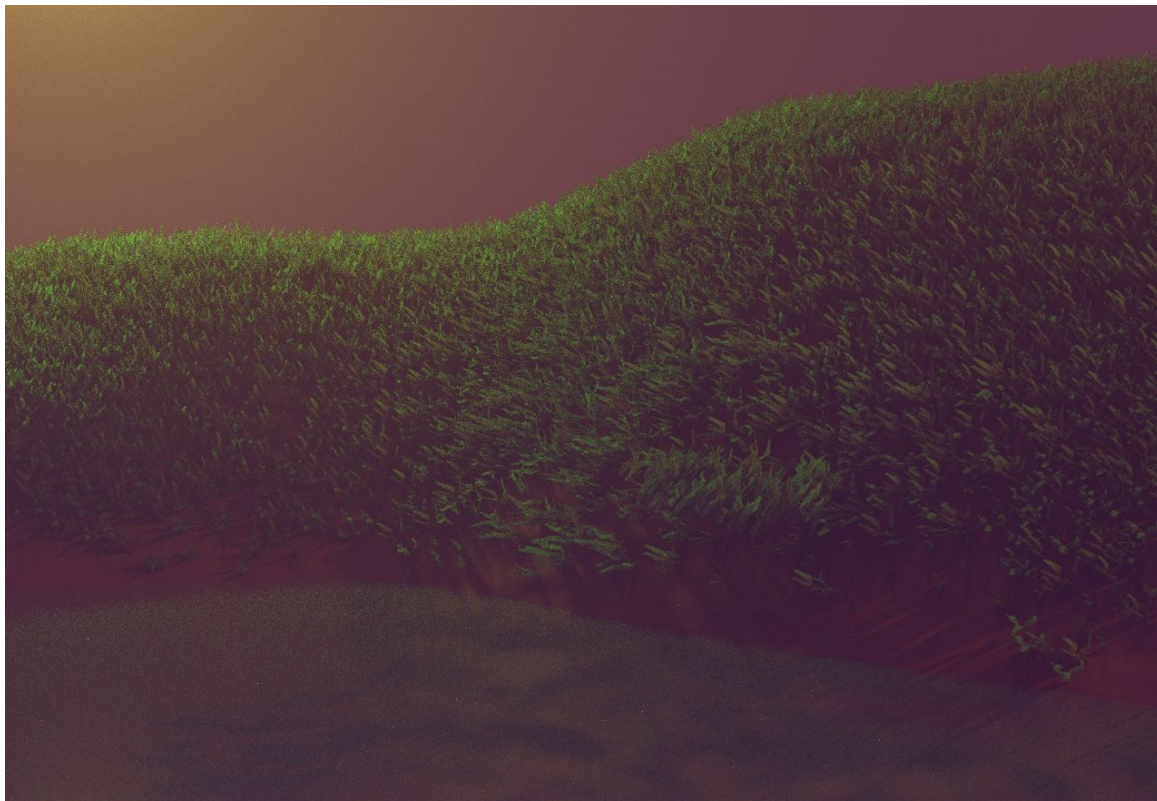
- Learned how to use Blender's node system for materials, especially glass
- UV mapping of different shapes (sphere versus hourglass)
- Learned how to make bump maps for the wood and veins of the eyeball



Hour counter: 15.83 + 5

## Field of grass - 10/23

- Learned how to use Blender's particle system to make varied clones of an object (in this case, blades of grass)



Hour counter: 25.33 + 2

# Phase 2: Starting the actual game

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## Part 1: Deciding on an art style

## Made heads for new art style - 11/08 to 11/09

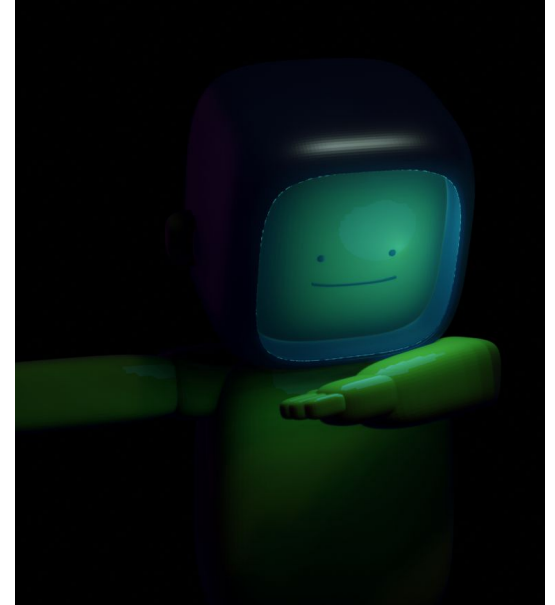
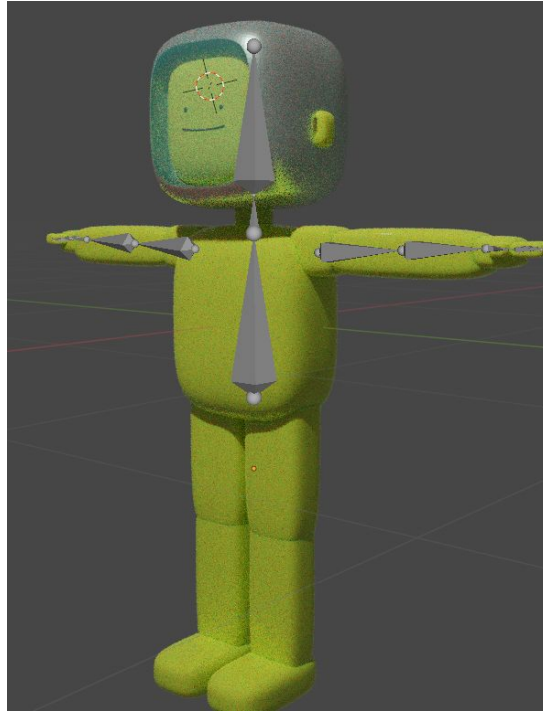
- Decided on this style after curating pictures of what I want my project to look like on Pinterest
- Based on rounded cubes, rather than low-poly
- Solid colors with shiny sheen, easy to replicate in Unity (materials aren't preserved when imported)



Hour counter: 27.33 + 4

## Made main character for game - 11/10

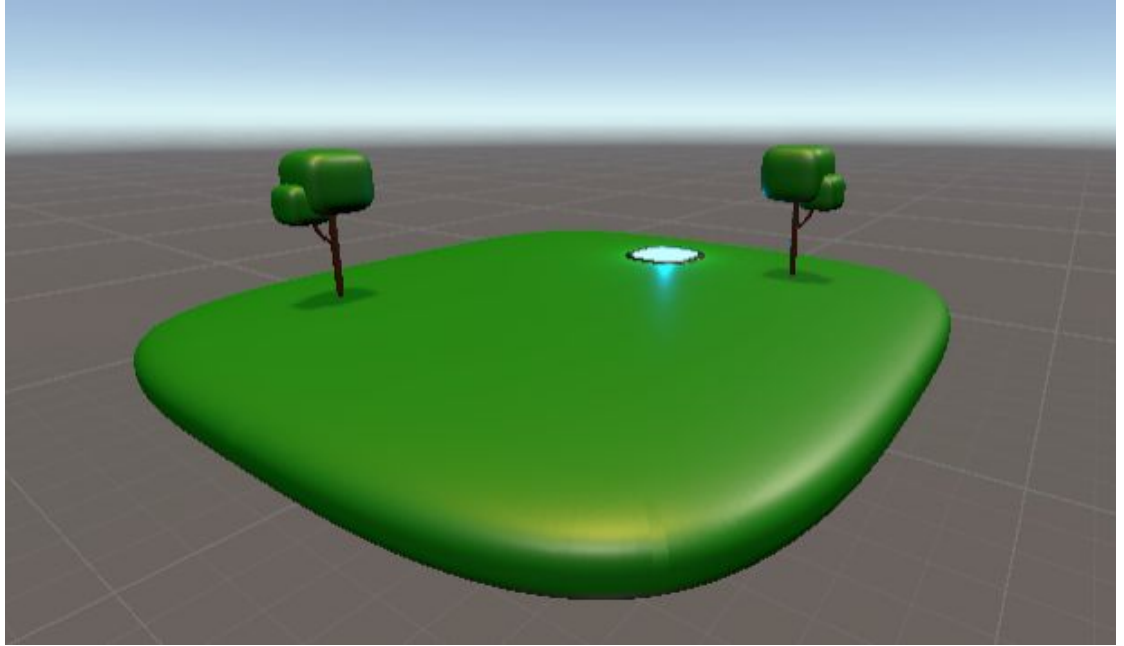
- Used previous heads as base, made the body and its proportions for the first time.
- Learned how to make and weight armatures in Blender to pose the character



Hour counter: 31.33 + 2

## Made the environment - 11/18

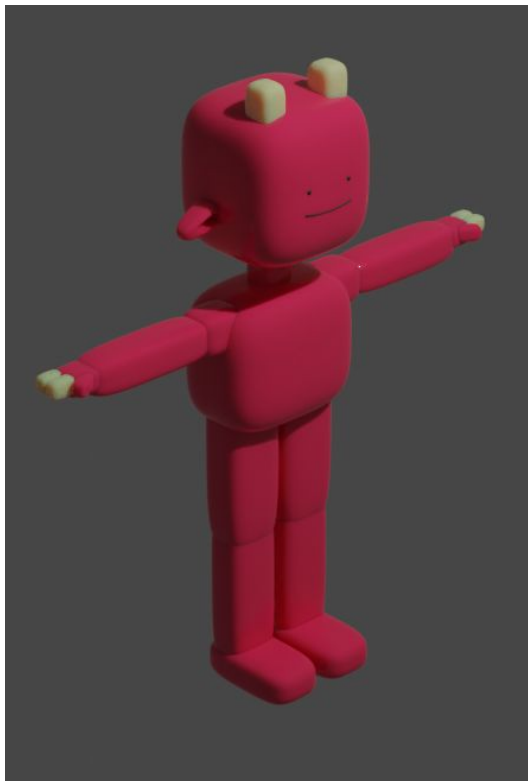
- Same concept of rounded cubes
- Modelled the ground, trees, and teleporter pad



Hour counter: 33.33 + 1

## Made an NPC for the game - 12/22

- Based off of the model of the player
- Changed proportions of the body, the shape of the ears, and added horns and hooves as simplistic way to differentiate species



Hour counter: 34.33 + 0.5



# Phase 2: Starting the actual game

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## Part 2: Start coding the Unity game

# Mid-November to December

Hour Counter: 34.83 + 1 + 1 + 1

## Imported the assets into a new scene in my game - 11/18

- Put the island, tree, and portal I had made in Blender earlier in a new scene.
- Imported the main character and animations from Mixamo.

## Fixed the weight painting on the main character - 11/20

- The weight painting was messed up due to Mixamo's automatic rigging, so I attempted to fix it.

## Changed rigidbody location and added jumping

- Gravity now acts upon player properly - can fall off of the island.
- Movement is now linear due to change in rigidbody location and subsequent scripts.

# December to Early January

Hour Counter: 37.83 + 2 + 2.5 + 0.5

## Added a title screen to the game

- Added buttons and different pages for credits and settings within the title screen scene.
- Imported a dancing model of my main character.

## Added a so called “sphere of influence” to the NPC - 01/13

- Added a sphere as a child of the NPC, acting as a trigger so that the talk button appears when the player is close enough, but disappears when they are too far away.

## Added talking script to NPC 01/14

- Added the necessary text and buttons to a canvas.
- Applied previous talking scripts to the NPC.

See “01/16 - Checkpoint 1 Game.mp4”  
for a demonstration of the game as it  
currently stands.

Total Hours: 42.83

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