Little Sim World

-Programming Interview Prototype-

by Andy Torchinsky Landau

Choosing the assets

When I started with this project, I had two main topics that I thought I should mainly focus on, deciding what changing clothes **means** and **how** I can buy and sell these things.
To decide what clothes I can use, and how the system would work, I looked for lots of assets, since I didn't have any on my own.
I found a multi-costume NPC, the one in the game, and thought it would be a good start, the "themed" costumes looked just right.

General Organization

First of all, upon opening the project for the first time I thought the way that I'd interact with my character, so I decided to use the MVC framework (Model, View & Controller), so I could connect the movement (with the user variables), the interface, and the user's inputs independently.

Movement

After that, I started thinking about my character's movement, so I decided that I wanted a smooth, non-tiled movement, so I did some research on Stardew Valley's movement and tried to make something that's alike. I used Rigidbody's AddForce function and connected it with every input, ending the user's movement as soon as the key's no longer pressed.

Changing Costumes

When I finished with the character's movement, I started thinking about how I could change it's costume and still be able to move. The answer I found was in the animation controllers, whenever the player changes clothes, the character's animation controller switches to the one with the new skin on it.

The player has all the skins already linked to itself through an array that contains all the controllers, so I added buttons that allow me to change inbetween costumes. The buttons and the controllers are made using arrays which have the same order, so I could use the same variable to connect the **buttons** with the **animation controllers**.

After that, I needed a way to open up the interface that looked pretty, so I made a ScrollView and used the buttons as the content, this scrollview is opened through a new button that has the sprite of a wardrobe. Whenever you switch costumes or click the wardrobe, it toggles the menu.

Buying/Selling costumes

As I already have the player's buttons connected to the UI, I figured out I could turn them on/off depending if the player already owns the skin. So, I added a variable into the mannequin's that holds the costume that contains the skin's index, so I could connect it with the equipment system.

Whenever you get close to a costume, it checks if you already have it in your menu, if you don't have it, the mannequin shows it's buying price on top of itself, and allows you to buy it if you press E and have enough money.

Although, if you have already bought the costume, it shows half its price with a "Sell for" text above it. (It enables or disables the UI text)
Whenever you try to sell the costume, as when you buy it, it checks if you already have it, if you do, the system will deactivate your costume button in the menu, pay you, and, if you were using the costume, you'd change to the default one.

Merchant NPC

The NPC I made has a collider set to trigger attached to it that whenever the player goes through, the NPC shows the "E" key above itself.
Whenever the player presses E during that time, the UI element activates a PopUp Box that has a size-increasing animation (Using animator). This PopUp has a button that triggers the closing animation (size-decreasing). During this message, the character has his movement restricted through code. (It has a boolean that allows him to move that gets disabled).

Conclusion

I liked working with this project, the requirements were great to show how I can manage to do this kind of work.
I would have liked to get more assets. Since I couldn’t spend that much time looking for them, I decided to do a full-body costume system. I would have made a three-part clothing system that allows you to have more variety for the player.

The test was challenging and fun to do. Thank you for the opportunity.