Interview Programming Task – Simon Osorio

To complete this task, I opted to work with a **multi–layer** spritesheet, separating the base body and the different clothes into different animators. I found animations for a **hat**, a **suit**, and **underwear** like this:

I decided to program the character movement and sync the animators (one for the body and one for each clothing piece, four in total). However, I encountered a problem with color limitations, which led me to create a shader to replace colors as desired. I used **Shader Graph** to achieve this, as my project was made with **URP**. This way, I got different items with different colors:

Next, it was time to create the inventory system. For this, I used a **Grid Layout Group** inside a canvas and the Unity Event System's **Drag Handling** Interfaces to pick up items with the cursor and drag them around, and the **Drop Handling Interface** to detect where to place the items.


This system works with three different types of item slots: **Inventory**, **Equipment**, and **Store**.

Items can be swapped within the same slot types, except for the equipment ones. This way, the user can play around with the inventory organization.

The most distinct slot types are the equipment ones, as they check when the player puts an item on them and enable it to be worn. These slots check the item's type and, if it doesn't match, do not allow the item to be placed in them.

To achieve this, the items are **Scriptable Objects**, making them easily customizable. From here, we can set up the display **name**, **price**, **icon**, **material**, **animator**, and **item type**. This is connected to the item, the slots, and the trading system.
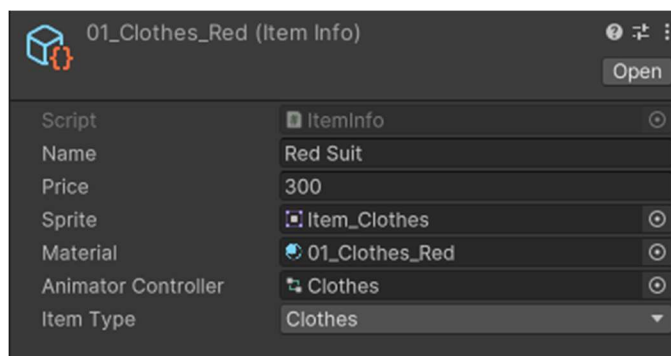
The **trading system** checks the item data and, with its custom slot, checks the player's current coins and adds or subtracts them depending on whether it's **buying** or **selling**.

This was a fun project to create in under 48 hours and fill with details!