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Blue Gravity - Programmer Interview Task

As the task involves a player and a shopkeeper, a Character class was created to share some information, along with a ScriptableObject (CharacterProperties) that defines the inventory items and equipment for each character.

The interaction with the shopkeeper was implemented simply using OnTriggerEnter2D and pressing F. The shop displays the player's items (on the right) and the items available for purchase (on the left). Upon exiting the shop, acquired items can be equipped through the inventory (by pressing I).

Since the character's clothing and hat can be changed, a prefab was created with separate sprites for Body, Clothes, and Hair. To use the same animation for all, the Sprite Library Asset was utilized, with its index changing each frame. A Scriptable Object (Item) was created, which loads the object's icon, its Library Asset, type, and price. When an item is equipped through the inventory, it replaces the Library Asset of the corresponding part (clothes or hair).

Player movement was implemented using Rigidbody2D, and animations use blend trees with the FaceX and FaceY parameters to determine direction. Given that it's a 2D project, I prefer avoiding Animator transitions, so I only use animator.Play("AnimationName") in the code.

Input is handled using the InputSystem, with functions being called on the Player. The camera is a basic Cinemachine setup that follows the character.

Due to time constraints, the systems weren't implemented in the most efficient manner. In a project with more time, it would be necessary to create a fully independent and robust system for items, inventory, and shops that's easily scalable and accessible for adding new assets. The same applies to sprite sheets, which would need to be implemented through custom editors.

To open the main scene and play the game, navigate to Scenes/Main.