Unity Programmer Task - Fábio Cypreste

This project integrates stable backend systems with intuitive UI logic to create a seamless, player-centric experience balancing technical efficiency with aesthetics.

Gameplay: I implemented a responsive character controller with integrated animations. The interaction system uses a proximity trigger, allowing the player to engage with NPCs and collect items.

Inventory Structure: The backend utilizes a Singleton-based InventoryManager to handle slot logic. It supports automated stacking and dynamic item removal, ensuring data integrity.

UI Design: I designed an interface featuring a Drag-and-Drop Swap system. The UI is fully dynamic, refreshing only when the underlying data changes.

Save and Load System: Persistence is handled through JSON serialization. I adapted the core of Save/Load and Application Quit modules using a pre-written code from another project to guarantee a persistent storage of slot indices and item quantities.

Thought Process
Throughout the 48-hour window, my focus was balancing technical stability with functional design. I adopted an architecture that strictly separates logical data from UI. I prioritized a "Swap" logic over simple replacement; although complex to implement, it provides a fluid feel to the gameplay. Furthermore, I implemented a centralized Notification System to replace debug logs, enhancing world-building by providing clear in-game feedback.

Personal Assessment
I am very proud of the technical stability of the backend. However, I faced significant challenges with the Unity Canvas and Grid Layout Group alignment. Initially, UI elements were not scaling correctly. I had to pivot my strategy, study the EventSystem in-depth, and rebuild the container logic to overcome these problems.

This experience was a major "turning point" for me, as it forced me to master a part of Unity I previously struggled with. I am now much more confident in my UI/UX workflow and eager to continue evolving these skills.

Github: FabioCypreste/FABIOCYPRESTE_TASK