

Project 6 - Interim Report

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Project: Terraria Mod - Terraria Expansion of Everything

Deliverables

Github: [Link](#)

Note: If you would like to try our code and have access to a PC with Terraria, please reach out! It is very easy to install / run, and we would be more than happy to give a tutorial on this.

Status Summary

Work Done

So far we have implemented several different features as we learned about modding Terraria with our own code. We have also laid out the foundation of several different patterns that we have started to/plan on implementing (Decorator, Strategy, etc). Some of the main accomplishments we have reached are the implementation of our custom UI panels, integration with custom items, and successful compilation into Terraria via tmodLoader. Here is a breakdown of what has been completed so far.

Devin:

- UI Infrastructure Configuration
- Custom UI Panel C# Object
- Flight Timer C# Object (Observer Pattern)
- Flight Timer UI Addition
- Teleporter Wand Asset
- Teleporter Wand Custom Item

Henry:

- Modded/Custom Items Infrastructure Configuration
- Custom Projectile System (Strategy Pattern w/ Randomization)
- "MegaRock" Custom Projectile Object
- "SuperBoots" Custom Armor Object
- "StaffOfMysteries" Custom Weapon Object

- “MegaRod” Custom Fishing/Tool Object
- Assets for all of the above

Team:

- Mod Compiles and runs
- Visual Assets + Meshes for the items
- Works on multiplayer somehow???

Changes/Issues

We faced many issues learning the base Terraria code that we were working with as they have very disorganized documentation and their actual game code is a labyrinth that not even Indiana Jones would be able to traverse. After spending many hours working together, we were able to have several breakthroughs with their source code and are now on our way to creating some of our core features, however we did make many discoveries that have led us to change some of the features.

Some of these changes include:

- Creating our own Ui Panel Types
- Implementation of custom observers to succeed where the base terraria ones fail
- Overriding more of the Vanilla Terraria Functions to fit our needs

Patterns

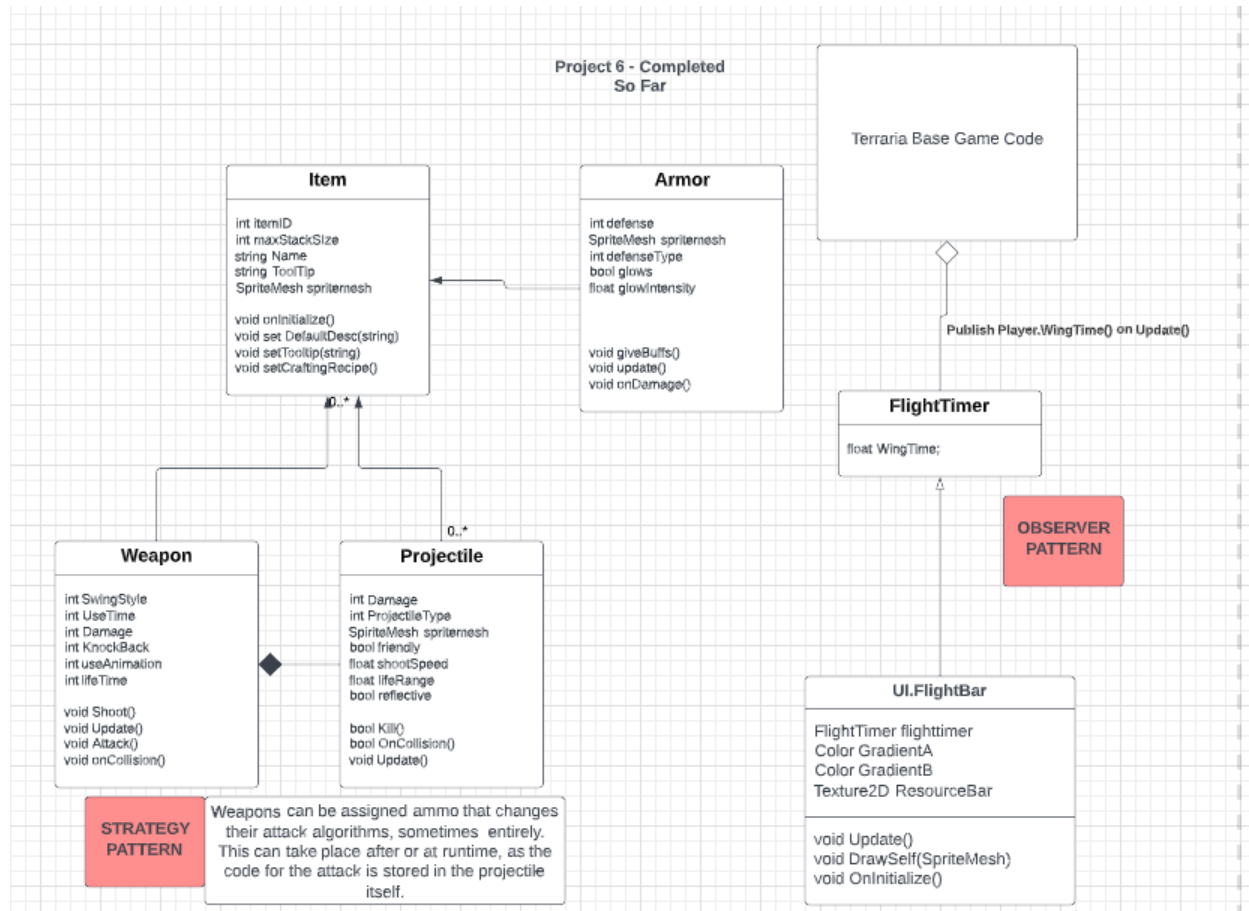
Strategy Pattern: We have implemented a unique version of the strategy pattern for one of our featured weapons, the “Staff of Mysteries”. This ominous weapon will fire an entirely different projectile each time it is used, each with their own stats, abilities, and function methods. This is achieved through the use of the Strategy Pattern as we have the staff set up so that at the end of its firing sequence, it will use random integers to select a new firing function (object) from a list of predefined firing functions that we created. This has made expanding new features very streamlined because all we have to do is make another projectile, and the weapon automatically is able to integrate and use it without fail.

Observer pattern: We have also created an observer pattern with the primary goal of displaying the players remaining flight time on screen so they know how long they have left before descending. This is achieved by an observer object in the mod that publishes the remaining flight time values as they are updated, to a custom UI panel which displays those values and a neat graphics bar to show them just how much flight time they have left. This was a very challenging task due to the UI difficulties described above but has opened the door for us to create more complex UI for the rest of the project.

Other Planned Patterns Remaining:

- Decorator Pattern for displaying the Tracked NPC on the NPC tracker UI
- Factory Pattern for creating additional Pet/Item slots on character generation/loading
- Command Pattern for UI buttons (various features involved EX: weather changer)

Class Diagram



Plan for Next Iteration

We are roughly half way through this project, however almost all of the actual progress was made during the last week and a half. It took an extraordinarily long time to understand all of the function methods and structuring of a Terraria mod because the documentation is so horrible. That being said, we completed so much in a short amount of time once we had the basics down. This project will be most likely completed shortly after fall break as our team has a good understanding of what we need to do, and how to do it. Our primary tasks currently are the

weather changing tool, the NPC Finder, and additional slots/pets. The biggest of those is the NPC finder which the team will work together to complete as it is a large task. By 12/7, our goal is to have our current features, the 3 features listed above, and a few extras like more pets and items, all completed.