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OOAD Project 6

Status Summary

Title: The FNCD Race Game

Work Done:

Cole: So far I have worked mainly on the driving and vehicle construction mechanics in the game. I have most of the classes for these mechanics working together. The vehicle class is currently set up to use different vehicle parts that have different stats and in order to implement the vehicle customization from this point, all we have to do is create the vehicle builder class and combine that functionality with the customization menu.

Sam: During this sprint, I have primarily spent my time familiarizing myself with the Unity engine and building out the Main Menu. The main UI templating for the menu is done, now I just need to implement the features.

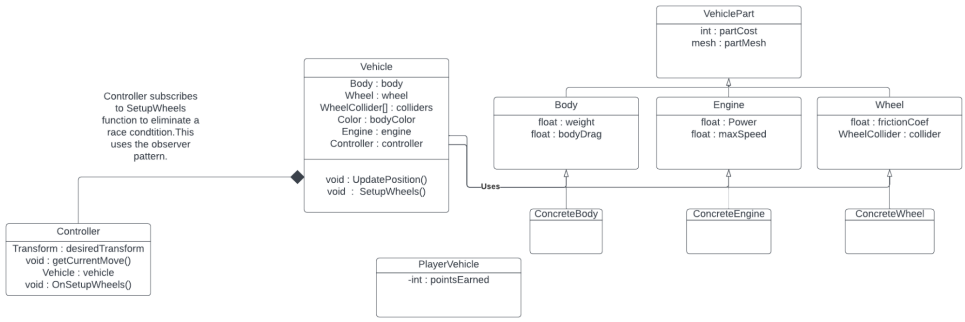
Changes or Issues Encountered:

Issues: So far the main issue that we have run into has been learning to work with the unity engine and the scripting structure that it enforces. Since behaviors in unity are usually tied to a script that is applied to an entity in the world, it's not always easy to model how classes interact with and inherit from each other.

Changes: Depending on the amount of time we have after implementing the basics, we might scrap the idea of having ai vehicles to race against. This change would involve using the strategy pattern for the difficulty instead of using strategy for the type of controller.

Patterns: We have used Observer for subscribing to events via a built in event system in unity. We have also started working on using Builder to construct vehicles with different parts.

Class Diagram



Plan for Next Iteration

- We are planning on working on getting the race itself running as our first priority.
    - If we have time we will add AI, but if not we are planning on simply having a timed race where the goal is to complete the track in as little time as possible
    - To complete this we will implement the RacePath class that will keep track of checkpoints along the race path as well as the timing of the race.
- We are also going to implement a Singleton pattern for the GameState class so that we can globally access it from any other class and ensure it is the only instantiation
- We will also finish all of the features associated with the Main Menu:
    - Edit vehicle: we will extend our Builder pattern to this feature so that whenever the user edits their vehicle, upon saving, a builder pattern constructs the newly updated vehicle
    - Leaderboard: we will use the observer pattern to subscribe to a race event and get the time that it took for the user to finish the race. If the time is in the top 10, it will be populated on the leaderboard.
    - Settings: we will allow the user to configure the difficulty of the game (easy, medium, hard) and apply the strategy pattern to assign the specific configurations associated with each difficulty level
    - Save: this is a stretch feature, but this options will let the user save their progress/vehicle configuration