CL5 Group 2

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Project Step 1

Introduction

Group 2 has collaborated to generate several project ideas that we believe have the potential of resulting in projects of the proper scope for this course. As this is an opportunity for us to display our proficiency in programming, we want out project to be ambitious enough to be able to showcase it to potential employers. At the same time, we want to ensure that successful completion of the project is realistic within. Thus, we ensured that each of these project ideas be scalable, and that elements and functions can be added or dropped in such a way that we can arrive at the appropriate level of complexity. The ideas we will be choosing between for this project are the following:

* A personalized fitness assistant. Using the user’s current weight, body fat percentage, and fitness goals, the program will recommend a workout regimen for the user. We also have the potential to add nutrition recommendations, as well as functionality for tracking workouts and meals.
* A functioning Pokédex. This program would have the ability to display information for each Pokémon in the Pokémon universe: their type(s), their statistics, their evolutions, an icon displaying their sprite, etc.
* A simplistic platform game resembling something like the original Super Mario games. Functionality would include left and right movement as well as a vertical jump function.

Discussion

Idea #1 (Fitness assistant):

This project has great potential, as it is incredibly scalable. We can add as much or as little functionality as we need. Our original idea was to provide a weightlifting regimen for someone whose goal is either hypertrophy (gaining muscle size) or power (gaining muscle strength). However, we can expound upon that provide help for someone with any fitness goal. If someone’s goal is to gain strength, we can provide them not only with a lifting plan, but also with a nutrition plan including how many calories and macronutrients they will need to consume in order to gain muscle and strength. We can also include functionality for the user to track workouts, food intake, weight loss/gain, and other body measurements over time. Any of these elements can be added or left aside as we gain a better understanding over the next few weeks of what is realistic. This project will also include both interface and data components, as it will require user input, and workout plans and nutritional recommendations will need to be stored.

Idea #2 (Pokédex):

This idea also has great potential and scalability. Primarily, we have the option of including Pokémon from generation 1 only, or including Pokémonfrom generation 1-8, or anywhere in between. This project would obviously have immense data requirements, as each generation includes around 100-150 Pokémon, and each Pokémon would require its own instantiation of a class that included many distinct variables. It would also require an interface requirement as we would provide a function to scroll through Pokémon entries, as well as a search function that displayed any Pokémon of a certain name, type, or generation.

Idea #3 (Platform game):

Although there are almost infinite platform games already fully developed and in existence, this project has been a classic for programmers for decades. While this project would be almost all interface and minimal data requirements, the complexity of the functions put into this program would be a great way for us to solidify our understanding of programming concepts. It is also scalable, as we could choose to leave it as simple as a sprite moving infinitely from right to left, required to jump to dodge obstacles, or we could add multidirectional functionality, an attack move, and varied enemies and obstacles that the player-controlled sprite must dodge or defeat.

Conclusion

Any one of these ideas would provide a challenge for us over the coming months. We believe that each of them has the potential to help us develop as programmers, as well as providing a polished final product that we can show off to potential future employers.