W200 Project 1 Proposal

Virtual Personal Trainer

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Overview: The Virtual Personal Trainer (VPT) will help take your physical, mental, and emotional health to the next level. The main goal is to give everyone the tools and knowledge they need to improve their health based on their own specific needs. There are plenty of fad diets and workout routines broadcasted across social media. However, everyone possesses different genetics, injuries, workout experience, and free time. VPT will create a highly individualized regiment to cater to each and every person's needs. VPT is results-oriented and does not care about attracting attention on Instagram or TikTok.

User Interaction: The user will input basic physical information and health goals. The virtual trainer (program) will provide a recommended exercise regiment, nutrition plan, and recovery routine. The user will be able to select a workout buddy or have one randomly selected based on their personality and needs. After all the plans have been created, the user can identify what workouts they need to do on a specific day. The user can make adjustments to their plans as they see fit and explore all other options for training.

Features: Provides the user a personalized weightlifting, endurance, nutrition, and recovery plan. Gives the user information on incorporating different lifestyles to improve physical, mental, and emotional fitness.

<u>**VPT's Classes:**</u>

- Classes "Athlete" and "Buddy" represent the user and the user's training partner. The classes "Weights", "Cardio", "Nutrition", and "Recovery" are different aspects of the training plan. Class "Journey" is the controller and manages all of the user's information and training plans.
- **Athlete**
    - o Athlete will collect and store basic information on the user.
    - o **Attributes:** name, age, height, weight, gender
    - o **Methods:** health_metrics, collect_info
    - o **Outputs:** Basic information on the user stored to calculate plans in other classes.
- **Weights**
    - o Weights will be used to create a lifting plan specific to the user's style and goals.
    - o **Attributes:** lifting style, goals
    - o **Methods:** train_plan
    - o **Outputs:** A weightlifting plan with recommendations for which exercises to do on specific days.
- **Cardio**
    - o Cardio will be used to create an endurance plan specific to the user's style and goals.
    - o **Attributes:** cardio style, goals
    - o **Methods:** cardio_plan, HR_zones
    - o **Outputs:** A cardio plan (similar format to weightlifting plan) and the user's heart rate zones.

- **Nutrition**
    - Nutrition will help the user select an appropriate diet and give recommendations to achieve their health goals.
    - **Attributes:** diet style, goal diet
    - **Methods:** calc_macros, diet_plan, BMI_calc
    - **Outputs:** A recommended type of diet and ratio of macronutrients to consume on a daily basis.
- **Recovery**
    - Recovery will help assess sleep needs and what additional recovery exercises are needed (yoga, massage therapy, etc.)
    - **Attributes:** sleep, recovery days
    - **Methods:** sleep_plan, rehab_plan
    - **Outputs:** Recommendation for number of hours of sleep per night and additional recovery workouts to conduct.
- **Buddy**
    - Buddy will give the user the ability to select a training buddy (attributes/methods). Everyone needs extra motivation. Who will you choose to train with??
    - **Attributes:** person, personality
    - **Methods:** pick_buddy
    - **Outputs:** A workout buddy.
- **Journey**
    - Journey will manage the data container objects produced in the other classes and interact with the user.
    - **Attributes:** overview
    - **Methods:** regiment_selection, recommendations, daily_planner
    - **Outputs:** Brings all the classes together to output the specific part of plan that the user wants to see.