

ENTITIES

User (abstract)

Responsibilities:

Store username, and user Information

Getters for everything above

Attributes:

- username
- Information
- isMale

Collaborators:

- UserAnalyzer
- Information
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Food

Responsibilities:

- Store food information using database

Instance Attributes:

- Calories
- Carbohydrate (percentage of DV)
- Protein (percentage of DV)
- Fat (percentage of DV)
- Sugar (percentage of DV)
- FoodType
- VegetarianFriendly
- NutrientScore
- id

Collaborators:

- MealPlanGenerator
- FoodAPI
- FoodManager

Exercise

Responsibilities:

- Stores every Workout moves from the database

Instance Attributes:

- type
- majorMuscleExercised (e.g. full body, leg, arm)
- minorMuscleExercised (e.g. glutes, hamstring, biceps)
- equipmentNeeded

Collaborators:

- WorkoutAnalyzer
- ExerciseManager
- ExerciseAPI

Disease

Responsibilities:

- Stores disease and its symptoms from the database

Instance Attributes:

- disease
- symptoms

Collaborators:

- DiseaseAnalyzer
- DiseaseAPI

UserInformation

Responsibilities:

- Stores user's food preferences, exercise preferences, risk factors, and personal information

Instance Attributes:

- foodPreference
- exercisePreference
- riskFactor
- personalData

Collaborators:

- User
- Analyzer

USE CASES

UserAnalyzer (Abstract)

Responsibilities:

- Analyzes different information of the user

Collaborators:

- MealPlanGenerator

Child Classes:

- DiseaseAnalyzer
- BMIAalyzer
- EERAnalyzer

BMIAnalyzer

UserAnalyzer

Responsibilities:

- Calculate BMI using weight and height from UserPersonalData

Collaborators:

- UserInformation

DiseaseAnalyzer

Responsibilities:

- Asks users for symptoms and outputs diseases they could be at risk for

Collaborators:

- UserInformation

WorkoutAnalyzer

Responsibilities:

- Input: User
 - Gets the UserExercisePreference
- Output:
 - An arraylist of workouts that match the user's preferences

Collaborators:

- UserInformation

EERAnalyzer

Responsibilities:

- Calculate EER (energy requirement per day) using information from UserPersonalData
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Collaborators:

- UserInformation

MealPlanGenerator

Responsibilities:

- Inputs:
 - User
 - Gets EER from USER
 - Gets food preferences
 - FoodManager
 - Accesses all Food objects
- Output:
 - An arraylist of food within the desired calorie range and fits the user's preferences

Collaborators:

- UserAnalyzer
- Food
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FoodManager

Responsibilities:

- A Collection of all food objects
- Passed into MealPlanGenerator to generate Meals

Method:

- Vegetarian: return a collection of all food that falls under the category of vegetarian
- healthyFat: return a collection of all food that has percentage of fat under 20% of the recommended daily value of intake
- healthySugar: return a collection of all food that has percentage of sugar under 20% of the recommended daily value of intake
- healthyCarbs: return a collection of all food that has percentage of carbohydrate under 15% of the recommended daily value of intake
- nutrientScore: return a collection of food with a nutrient score under a certain number

Collaborators:

- MealPlanGenerator
- Food

CONTROLLER

RunCommand

Responsibilities:

- Takes in String input from users and execute the command if valid
- Method
 - executeCommand, call the corresponding analyzer that runs the functionality the user want

Collaborators:

- Information
- User
- Analyzer

DRIVER

API (Interface)

Responsibilities:

- Retrieve the necessary data based on the given dataset

Collaborators:

- FoodAPI
- ExerciseAPI
- DiseaseAPI

FoodAPI

API

Responsibilities:

- Read in the Food and nutrition dataset and store each row in the file as a Food Object

Collaborators:

- Food
- FoodManager

ExerciseAPI

Responsibilities:

- Retrieves the exercise/workout moves data and stores each move as an Exercise Object

Collaborators:

- WorkOutAnalyzer
- ExerciseManager

DiseaseAPI

Responsibilities:

- Retrieves and read the disease data, storing them in a collection that maps the disease to a list of their corresponding symptoms

Collaborators:

- DiseaseAnalyzer

Responsibilities:

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Collaborators: