

Workout Routine Planner

In weight training, people run into the issue of spending too much time training one part of the body, but neglecting other parts, causing uneven distribution of muscle mass. In this program, users will input how many days they want to workout. The program has recommended workout routines for each day of the week that will cover all muscle groups. However, the user can make changes to it or create their own plan entirely. The system will provide a breakdown of muscle groups worked in a week and highlight any muscle groups that are not incorporated into your workout and recommend some exercises for it. Data for workouts and corresponding muscle groups will be extracted from the website, <https://exrx.net/>.

5 Classes

- Interface: Creates the interface for user to interact, which includes mouse-click buttons to navigate the program and different screens.
 - `__init__(self)`
 - output: none
 - `mousePressed(self, x- and y- coordinates on screen)`
 - No direct output, but will trigger to different modes, such as 'instructions', 'create a workout' etc.
 - `isKeyPressed(self, key)`
 - output: returns whether a specific key is being held.
 - `home page(self, screen)`
 - draws home page with this week's routine
 - and choices
 - `(1) Generate this Week's Routine(self, screen)`
 - draws screen for random generation method in User Exercise plan
 - `(2) Customize My Routine(self, screen)`
 - draws screen for customizing routine feature.
 - `Instructions(self, mode)`
 - draws instruction box and explains how to use the current screen depending on the mode.
- Library: Extracts data from website for a list of possible exercises in each muscle category.
 - `__init__(self)`
 - extracts data from web as a panda
 - `Clean(self, data)`
 - organizes web data with desired information and saves to csv file
 - Makes sure categories are defined
 - output: cleaned data
- User: Saves user routine history and their fitness level so data is not lost when restarting the program.
 - `__init__(self)`
 - initializes user profile, which includes fitness level, # of days to exercise in a week, and routine history
 - user's exercise plan

- input: self
 - access csv of user's weekly plan and converts to a panda
- save(user exercise plan)
 - saves edits to user profile
- muscle group dashboard: Displays the muscle groups worked in this week's routine so user can create a routine that will address each muscle group
 - __init__(self, user exercise plan)
 - musclePie(self, user exercise plan)
 - output: % of each muscle group worked on in this week's routine
 - drawDashboard(self, musclePie)
 - draws screen with muscleChart.
 - piePopup(self)
 - when mouse hovers over pie range, there's a popup
- recommendations: gives exercise recommendations for the user.
 - __init__(self, musclePie)
 - recommendWeek(self)
 - randomly generates a routine with an x number of exercises in each muscle group depending on number of days in week, each day targets specific muscle groups
 - recommendExercise(self, musclePie)
 - Identifies which muscle group needs more work based on pie chart and randomly recommends an exercise in that muscle group

Interaction

This program will use pygame and starts in the home page, which displays this week's routine and a pie chart showing which how much each muscle group is being incorporated in the routine. The user can press the key (i) for instructions, which will explain the instructions for that mode. There are also some menu options: 'Generate Weekly Routine' and 'Customize My Routine'.

When the 'Generate Weekly Routine' button is clicked by a mouse, this week's routine will be populated with random exercises in each muscle category.

When 'Customize My Routine' is clicked, the interface will switch to a new screen where the user can click on a specific day and add or remove exercises. Exercises can be selected by typing. There is also a 'Suggested' Exercise button that can be clicked to recommend a random exercise based on the muscle group pie chart.