Author

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Description

For my MAD-1 project, I am making a personal workout tracker since it is an application that I felt the need for in my life since I lose track of the exercises I've done during my daily workouts. The Personal Workout Tracker will be able to log different types of exercises in different groups (Eg. Track bicep curls, hammers, and chin up exercises for the biceps group). It has options to choose between different types of values for exercise such as Sets and Reps, Minutes or Seconds.

Technologies used

flask – easy to use web app framework
flask_sessions – to manage user login status
flask_sqlalchemy – for connecting to the database
SQLite- for the database
flask_restful for API implementation
matplotlib for trend analysis of trackers
BULMA – for CSS and HTML
Jinja- for easy layouts
JavaScript – for making forms dynamic and performing some validation

DB Schema Design

The Schema has been Split into 3 relations: 1. User 2. Tracker 3. Log

Tables (4)		
log		CREATE TABLE "log" ("id" INTEGER NOT NULL UNIQUE, "t_id" INTEGER NOT NULL, "times
id	INTEGER	"id" INTEGER NOT NULL UNIQUE
t_id	INTEGER	"t_id" INTEGER NOT NULL
timestamp	VARCHAR	"timestamp" VARCHAR NOT NULL
value_1	INTEGER	"value_1" INTEGER NOT NULL
value_2	INTEGER	"value_2" INTEGER
weight	INTEGER	"weight" INTEGER
note	VARCHAR	"note" VARCHAR
sqlite_sequence		CREATE TABLE sqlite_sequence(name,seq)
tracker		CREATE TABLE "tracker" ("id" INTEGER NOT NULL UNIQUE, "name" VARCHAR NOT NULL,
id	INTEGER	"id" INTEGER NOT NULL UNIQUE
name	VARCHAR	"name" VARCHAR NOT NULL
option	VARCHAR	"option" VARCHAR NOT NULL
group	VARCHAR	"group" VARCHAR NOT NULL
description	VARCHAR	"description" VARCHAR
u_id	INTEGER	"u_id" INTEGER NOT NULL
user		CREATE TABLE "user" ("id" INTEGER NOT NULL UNIQUE, "username" VARCHAR NOT NULL
id	INTEGER	"id" INTEGER NOT NULL UNIQUE
username	VARCHAR	"username" VARCHAR NOT NULL UNIQUE
first_name	VARCHAR	"first_name" VARCHAR NOT NULL
last_name	VARCHAR	"last_name" VARCHAR
password	VARCHAR	"password" VARCHAR NOT NULL

This ensures users can only access trackers that they have created.

API Design

CRUD operations for Log and Tracker. Please see API Description YAML inside the project folder for more details.
Error checking for incorrect IDs and Parameters has been implemented.

Architecture and Features

Implemented all that was stated

The project is split into 3 main parts: 1. Templates Folder, 2. Static Folder, 3. Main application

The templates folder contains all HTML and CSS content including the base layout and individual pages.

The static folder contains all static elements like pictures and plots generated by the application.

The Main.py file contains all controllers, models, and APIs for the project.

The Application's features include:

- Signup and Login with username and password with validation
- Session management to ensure the user stays logged in by storing cookies in the user's machine
- User can add trackers for exercises for different groups (arms, back, biceps, etc.)
- JavaScript has been used to implement some form validation as well as change the contents of the form based on
- User can choose to different types of value tracking based on the type of exercise (sets and reps, minutes or seconds)
- Users can edit or delete their trackers as well as view details for them on the dashboard
- Trackers are displayed on the dashboard based on the Group that they belong to
- Users can create, update and delete logs for their trackers, as well as view the last 5 logs on the dashboard
- Users can analyse the data generated by their trackers in the form of trendlines and scatterplots
- APIs for CRUD operations on trackers and logs have been implemented and can be used using the operations described in the YAML file.

Video

https://drive.google.com/file/d/1luXm_m1vaS-YAcBA5p-gdfO-hBns7CVM/view?usp=sharing