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Description

I this project, I created an activity tracking web application. First of all, user needs to login in to the application. Then, He can create tracker and log its activity and also manipulate it.

Technologies used

flask – It is a micro framework. It provides the basic functionality for the web application.
flask_login – This is used for user login, logout and specifying what a logged-in user can see and access and what a non-login user can see and access.
SQLALchemy – Database are connected and data models are defined and make accessible using this library.
Matplotlib – Individual tracker's log are presented in a graphical form by this library.
Python – Python is used as a scripting language in the web application.

DB Schema Design

The database has 3 tables, for which schema is given below.

Table 1: users

Column name	Column type	Constraints
user_id	Integer	Primary Key, Auto Increment
name	String	Not Null
password	String	Not Null
email	String	Unique, Not Null

Table 2: tracker

Column name	Column type	Constraints
tracker_id	Integer	Primary Key, Auto Increment
name	String	Unique, Not Null
description	String	
type	String	Not Null
setting	String	
user_id	Integer	Foreign Key (users.user_id), Not Null

Table 3: log

Column name	Column type	Constraints
log_id	Integer	Primary Key, Auto Increment
log_track	String	Not Null
note	String	

time	String	Not Null
tracker_id	Integer	Foreign Key (tracker.tracker_id), Not Null

- Table – user will store the information of all the user.
- Table – tracker will store all the information about the different tracker made by the users. users and tracker will have one-to-many relationship.
- Table – log will store all the information about the data logged by the user for each tracker. tracker and log will have one-to-many relationship.

Architecture and Features

Architecture

- *Root folder* will have following files.
  main.py file, 'website_code' folder and Readme.txt file.

- The *main.py* file will have to run to start the server and up the application.

- *'website_code'* folder will have a 'static' folder which will store the graph image and a 'templates' folder which will have all html files. Apart from these folders, it will also have following files.
  __Init__.py, authentication.py, database.py, models.py, views.py, database.sqlite3

  - *__init__.py* will have the code to setup the application and configure it.
  - *authentication.py* will be dealing with the login, logout and registration of the user.
  - *database.py* this will be creating the database instance from the SQLAlchemy library of the flask_sqlalchemy package.
  - *models.py* in this file, data-models are defined.
  - *views.py* all the controllers are defined in this file.
  - *database.sqlite3* it is the database file.

Features

- This app has a login-password and register feature through which user can create their account.
- Users have the ability to create, update and delete his/her trackers.
- User can have integer, time or multiple-option types of trackers.
- User can see the details of his/her tracker and edit the past log entries and also delete them. User can see their growth through graphs.
- Warning Messages that will be flashed when user gives an incorrect input.
- This application has a decent styling which make the user experience pleasing.

Video

https://drive.google.com/file/d/1QBvpU-4mbPw8VsWDFeKB_qNdw26qXjtV/view?usp=sharing