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About me: I am glad to be a part of this online degree Program, I have been here from the First batch of foundational level and this is my 4th Term in this Degree program and I wish to complete the Degree as soon as possible.

Description

The problem statement is to make a Self-Tracker webapp which can track and capture habits in the form of Float, Integer, Multi choice and Time series. So the basic idea is to give a platform where user can login and create Multiple Trackers for themselves can name it can perform CURD operations on both Entries and Trackers and can view there progress or current state of habits graphically and the webapp should also capture time logs and store everything in a database.

Technologies used

Python, HTML, CSS, Bootstrap, sqlite3, Vscode(IDE)
Some Flask extensions and other libraries which were used were:

- flask_sqlalchemy: To write queries to fetch relevant data.
- render_template: To return rendered html files.
- flask_login: To create a login page.
- Redirect: To redirect to web pages for better user experience.
- Matplotlib: To create a good dashboard with charts.
- Datetime: To capture time logs.

DB Schema Design

1) Table log: Primary key log_id, Foreign key tracker_id

projectDB Table name: log WITHOUT ROWID

	Name	Data type	Primary Key	Foreign Key	Unique	Check	Not NULL	Collate	Generated	
1	tracker_id	INTEGER								NULL
2	log_id	INTEGER								NULL
3	log_datetime	DATETIME								NULL
4	note	VARCHAR								NULL
5	log_value	VARCHAR								NULL

2) Table tracker: Primary key tracker_id, Foreign key user_id

	Name	Data type	Primary Key	Foreign Key	Unique	Check	Not NULL	Collate	Generated	
1	user_id	INTEGER								NULL
2	tracker_id	INTEGER								NULL
3	name	VARCHAR (30)								NULL
4	desc	VARCHAR								NULL
5	type	VARCHAR								NULL
6	settings	VARCHAR								NULL
7	lastupdate	DATETIME								NULL

3) Table user: Primary Key id

projectDB Table name: user WITHOUT ROWID

	Name	Data type	Primary Key	Foreign Key	Unique	Check	Not NULL	Collate	Generated	
1	id	INTEGER								NULL
2	username	VARCHAR								NULL
3	password	VARCHAR								NULL

Architecture and Features

The project has a main.py which is the heart of the project as it all the dependent libraries and functions to run the project. Then there is a database.py which was used to create tables to store data in database. In the templates folder there are html files which has all the templates which main.py renders. In the static folder there is a main.css file which was used for styling and a chart.png which is a saved file from using matplotlib to display trendlines. There are also readme.md,requirements.txt and database file. Apart from all the basic functions such as Tracker management, login, dashboard, trendlines, tracker log events, notes for logs the one additional feature I have incorporated is that in the Dashboard we can set custom dates as in after giving a starting and an ending date and clicking on GO button the page will reload and dashboard will show chart for the given range of custom dates for better user experience and tracking.

Video

https://drive.google.com/file/d/1s12ek8GFf5GpzZbZZ5WMjTdTRMfP1w_T/view?usp=sharing