Project Report

Author

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I am a student currently in 2nd year B.Tech in Robotics, AI, & ML studying in Srinivas University, Mukka, Mangaluru. I belong to a village called Perdoor in Udupi

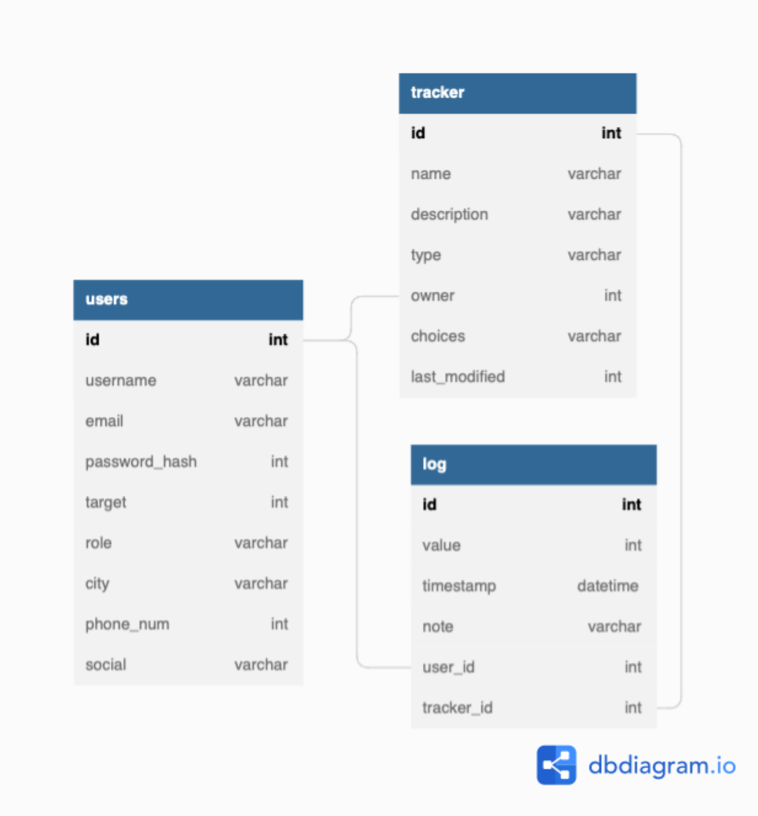
Description

A day to day life activity tracking app where a user can register and add trackers and log values in it and be provided with a graphical representation of the log. Also, can manipulate the trackers and log like updating it or deleting it.

Technologies used

- flask.   - framework used to create the web app using python
- flask-sqlalchemy - tools and methods to interact with database from flask application
- flask_wtf - validations are easy and good interface
- email-validator - validating input email
- flask_bcrypt - enables hashing and related utilities
- flask_login - access control and session management
- flask_restful - construct API's

DB Schema Design



users	
id	**int**
username	varchar
email	varchar
password_hash	int
target	int
role	varchar
city	varchar
phone_num	int
social	varchar

tracker	
id	**int**
name	varchar
description	varchar
type	varchar
owner	int
choices	varchar
last_modified	int

log	
id	**int**
value	int
timestamp	datetime
note	varchar
user_id	int
tracker_id	int

3 Tables : user, tracker, log

3 One- to-Many Relationships:
user.id<tracker.owner
user.id<log.user_id
tracker.id<log.tracker_id
# first 2 relationships are necessary and 3rd relationship to make querying easier (Redundant relationship)

tracker.last_modified has the number of the year so its a integer

user.username is unique - login using username

If we delete a tracker all the associated logs get deleted

API Design

3 API classes : UserAPI, TrackerAPI, LogAPI has been implemented all having 4 methods GET,POST,PUT,DELETE and having custom validations.
YAML file not created.

Architecture and Features

my_app folder and main.py file are inside the zip folder.
To start the web app run the main.py file (refer ReadMe.md)
my_app contains

- ReadMe.md - how to run the web application
- Static folder - containing images in images , css in css and javascript in js folder
- Template folder - containing all the template and also template for modals in a folder
- track_it_all.db - database
- __int__.py - all the code which will run by default when app is started
- api.py - all the Api's are defined here
- command.txt - all the required libraries to install
- forms.py - forms used in app are defined here
- models.py - database is initialised here
- routes.py - routes used in the application are written here
- validation.py - custom validations for api's are defined here
- debug.log - log file

Default features like CRUD operations on trackers and logs has been implemented along with that we can update user profile and a graphical representation of tracker and log is being displayed on dashboard.
For creating new tracker & log a new page is being rendered whereas for updating and deleting modals are being used
For rendering of graphs chart.js is being used

Replit Link

https://replit.com/@blackpearl006/21f1006030#main.py

Video

https://drive.google.com/file/d/1QPdOSxyOLwaPLgDWXR2K6LGGqtZzsytd/view?usp=sharing