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Hello, I am currently a third-year student studying computer engineering at MKSSS's Cummins College of Engineering for Women, Pune. I think of myself as a problem solver, which is why I am attracted to engineering. I am a quick learner and have a deep interest in mathematics.

Description

To build a Blog Lite web application where users can upload images and view images uploaded by other users. Users can also follow, unfollow and search for other users.

Technologies used

1) import sqlite3 for creating database storage, Flask framework for designing the web application, Flask-sqlalchemy for creating and accessing tables, render_template- to return templates with arguments in functions, request- for accessing input from html forms, url_for- To dynamically create urls for navigation in the application, redirect - redirect users to another url, session- to commit actions of the user during a session, delete- to delete from sqlalchemy tables, datetime- To store the current datetime of when the post is uploaded, IntegrityError - To maintain unique constraints on tables, Jinja2 - to use variables, for loops, and conditional statements in html templates, Bootstrap - For styling html templates and displaying posts in the form of cards

DB Schema Design

The database has 3 tables - users, users_posts and who_follow

Users table-

The columns are - id of integer type which has autoincrement, username with string datatype is the primary key to ensure that no two users have the same username, name of the user in string datatype, password of the user in string datatype. None of the columns can be null.

Users_posts table-

The columns are - id of integer type is the primary key with autoincrement, whos_post stores the username of the user posting; it is a referenced foreign key from the username column of users table, img_addr stores the address of the image saved in the static folder, img_name stores the name of the image file uploaded, timestamp of DateTime data type stores the time of the upload

by default, caption stores the caption added by the user and title stores the title given by the user.

Who_follow table -

This table maintains data about which user follows which. Columns are - Id of integer data type is the primary key, who stores the username of the user who is following, follows stores the username of the user who is being followed. The fields 'who' and 'follows' are foreign keys of the username column of users table. There is a unique constraint applied on the columns who and follows as one user can follow another only once without unfollowing.

Architecture and Features

Under the main folder, there are three folders- venv which is the virtual environment, under the venv folder is the templates folder which has all the html templates. Under the venv is also the app.py file which has the controllers. Under the main folder, there is a static folder that holds all the images uploaded in the web application. There is also an instance folder under the main folder.

Features implemented-

1) Sign Up - A new user can sign up for the blog lite application by entering a unique username, user's name and confirming a password. After signing up, the user is redirected to their feed.
2) Log In- For a registered user, they can log in by entering their username and password. If the entered password matches the password stored in the database, they are redirected to their feed.
3) Reset Password- A user can reset their password by entering their username and new password and their password in the database is updated.
4) Search- The user can search for users by entering usernames. Search is done by using 'like' operator.
5) Feed- Posts of users' following ordered by timestamp. Most recent posts are at the top, ordered by using order_by command. Each post has a link to visit the profile of the user who posted.
6) Add Post- The user can upload images and provide a title and caption for them. Images are saved in the static folder and their address is stored in the database.
7) View profile - Ability to view followers, following, number of followers, and posts of the users. If the profile is not of the logged-in user it has a follow/unfollow button. User's followers/following are updated after clicking on the follow/unfollow button.
8) If the post is of the user logged in then it has options to edit the title and caption, and delete the post with confirmation.

Video

Bloglite_Video.mp4