Project00: Half-Quick
TNPG: coolbeans
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TARGET SHIP DATE: 2024-11-7

DESIGN DOCUMENT

I. Description

This project implements a web log hosting site, with the following features:

- Users will have to register to use the site.
- A logged-in user will be able to
    - Create a new blog
    - Update their blog by adding a new entry
    - View and edit their own past entries
    - View the blogs of other users

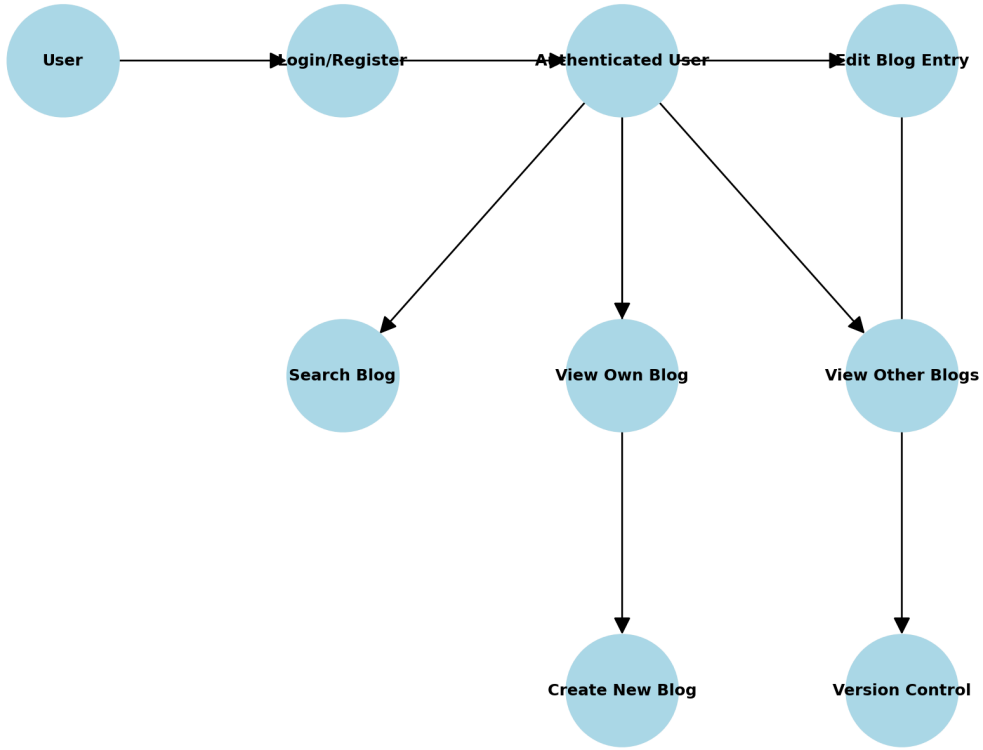
A. Functionalities

1. Management of Individual Blog Pages:
    a. Ability to create blog pages and make further changes after publishing
    b. Rich-text editor to create/format content: the form to submit/ make new text edits will have UI to help style the text
    c. Version control: Edit history, store previous versions, rollback functionality (Start with only the version right before the current; Can expand to include all if time allows)
2. Search Functionality: Ability of users to search the website for content based on keywords/filters
    a. Keywords/Filters are found by scanning each page of its contents
3. Home Page: Dynamically updating page with all the existing blog pages
    a. Recent blogs show up on top
    b. Uses links to bring to each page

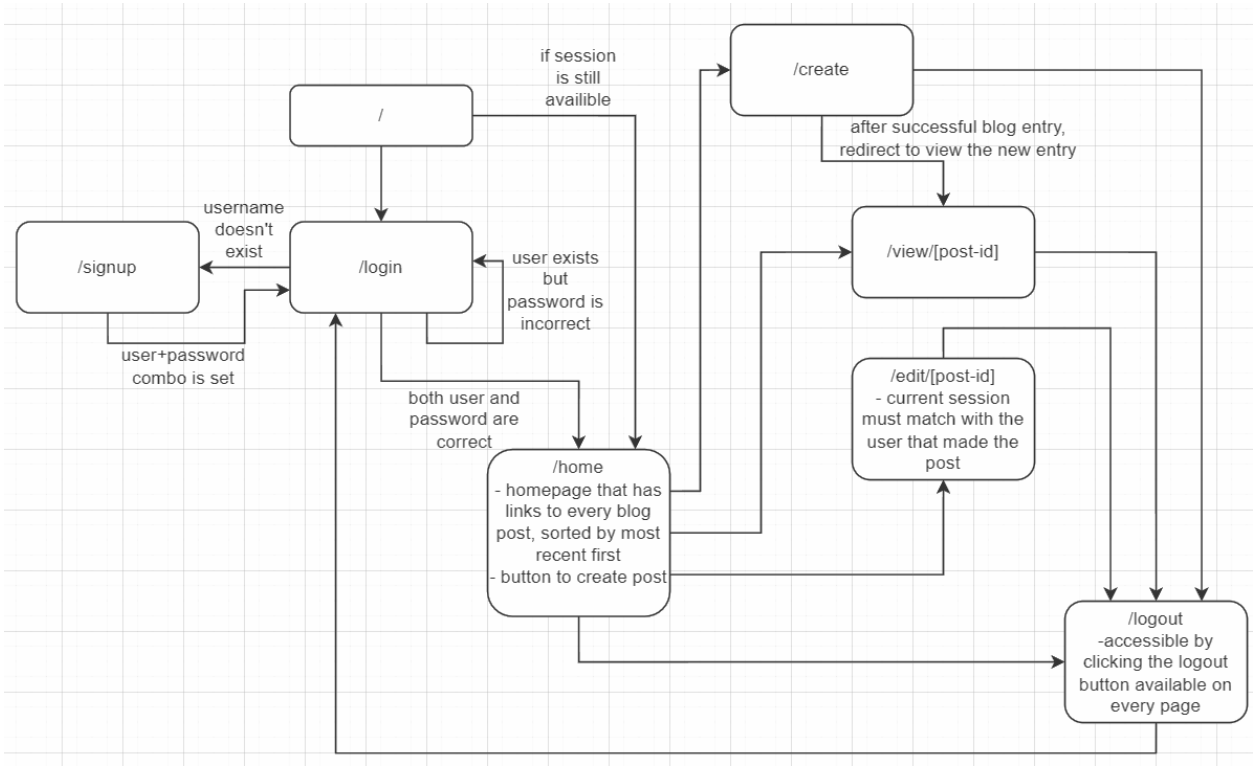
B. Program Components

1. Flask/Python:
    a. Serves the websites, handles HTTP requests, manages user sessions and authentication (login), controls logic surrounding permissions

    b. Interacts with various tables within the database file to fetch and store user and blog data
    c. Coordinates Flask routes (between HTML pages) and middleware functions (ex. Module for storing data into tables, creating user sessions, etc) to control application flow
2. SQLite3 (Database):
    a. Stores user information (usernames, passwords, permissions, etc)
    b. Stores data about each blog page in a unique table → Stores content such as titles, content, categories, author, etc
    c. Stores version history in a separate table, but linked to tables for unique blog pages through a unique identifier such as page ID
    d. Data used by middleware functions and HTML templates
3. HTML: Provides user interface with links to access different pages (ex. blog pages, blog creation pages, etc)
    a. Renders content passed by Flask routes/database
    b. Displays form for user interactions (ex. Creating blog pages, logging into an account, etc) and works with Python to create the various actions
4. Jinja: Create templates for blog pages with room for customization
    a. Used by Flask routes to have blog pages with default formatting (keeps things consistent and makes it easy to create pages for new content)
5. CSS: Create a rich-text editor and make the site look nice across the board
    a. Works with HTML documents



C. Site Map



D. Database Organization

1. User Table
    a. User Id/Username (PK)
    b. Password
2. Blog Page Table
    a. Page ID (PK)
    b. Title
    c. Content
    d. Username of Creator (FK)
3. Version History Table
    a. Edit ID (PK)
    b. Page ID (FK)
    c. Edited By Username (FK)

Note: FK stands for foreign key (to link tables), PK for primary key (each row value must be unique)

E. Task Breakdown

1. Evan Chan: Full-stack/Project Lead
    a. Work on version control system by creating any related Python modules and SQLite3 tables
    b. Implement user authentication system and sessions
    c. Manage overall system/file structure: Work with backend and frontend to make sure everything works smoothly

    d. Pick up any work that isn't explicitly delegated/falling behind schedule
    e. Assist with roadblocks in any area
2. Michelle Zhu: Backend/Database
    a. Create SQLite3 database schema
    b. Design database interaction modules (ex. Inserting data, Creating tables, etc)
    c. Work with Amanda to create a module for search functionality/filtering (of the blog pages)
    d. Work with Danny to ensure database logic flows/works with front-end
    e. Create Python modules to handle logic relating to user actions (creating/editing/deleting blog pages)
3. Amanda Tan: Backend/Middleware
    a. Work with Michelle to create a module for search functionality/filtering (of the blog pages)
    b. Work with Danny to ensure all related code flows with the front-end
4. Danny Mok: Frontend
    a. Create HTML pages with Jinja templating for dynamic blog content
    b. Use CSS to make things look nice
    c. Collaborate with the backend to ensure everything works with the frontend