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SoftDev
P00: Half-Quick
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TARGET SHIP DATE: 2024-11-4

Design Document

Program Components:

Backend Components:

1. Flask:
    a. Role: Web framework for routing, user requests, and session management
    b. Function: Routes user actions to Python backend scripts and returns HTML pages
2. Python:
    a. Role: Basic logic and interaction with SQLite database.
    b. Function: Fetches, manipulates, and updates data. Manages user authentication.
        i. signUp() - create new user account
        ii. login() - sign into existing account
        iii. logout() - sign out
        iv. add() - add subpage information
        v. delete() - delete subpage information
        vi. generateRandom() - generate a random country/index from the table
        vii. createPage() - create new subpage
        viii. appendVersionHist() - update version history after edits
        ix. viewVersionHist() - view version history for a page
3. SQLite:
    a. Role: Stores data related to users and the topic
    b. Function: Supports SQL queries to manage/retrieve data.
        i. User Authentication: Stores usernames, hashed passwords, and session data
        ii. Topic Data: Stores relevant data to the topic
        iii. Version History: Tracks changes ,who edited, and the contents of each change.

Frontend Components:

1. HTML/CSS
    a. HTML: Defines the page structure for displaying content to the users.
    b. CSS: Styles the web app for visual design.

Component Map:

User Request → Flask Session → Python → SQLite → Python → Flask Authentication →
Render HTML → User

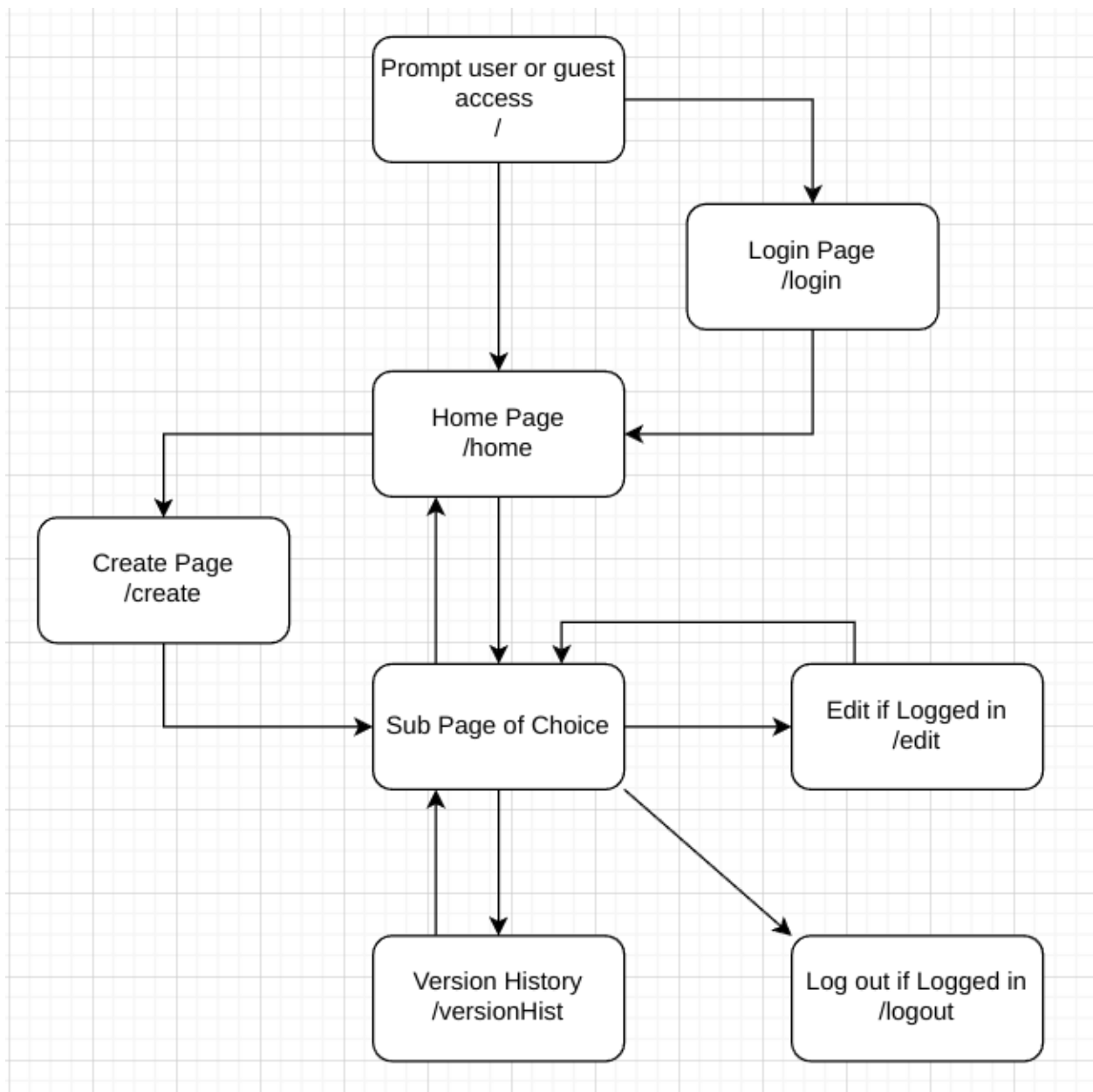## Database Organization:

Tables:

1. [User] Fields: id, username, password_hash, email, role, session_data

2. [Topic Info] Fields: id, topic_name, description
3. [Version History] Fields: id, edit_user_id, edit_content, timestamp

Relationships:

- User <-> Version History: Tracks which user made edits
- Username <-> Password: Keeps track of username relative to password
- Countries <-> Country_Indexes <-> Indexes: Links country data to specific indexes

Site Map:

Tasks:

Sessions for Accounts and Storing
- Main: Amanda

Authorization for Permissions / Navigation
- Main: Ankita

Creating and Editing Content
- Main: Ethan
- Sub: Amanda

Sorting Version History
- Main: Andy
- Sub: Ethan

Styling/CSS
- Sub: Andy, Ankita