Practical Assignment No. 2: Web Application Implementation

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**1.** Goals and Objectives of Practical Work**:**

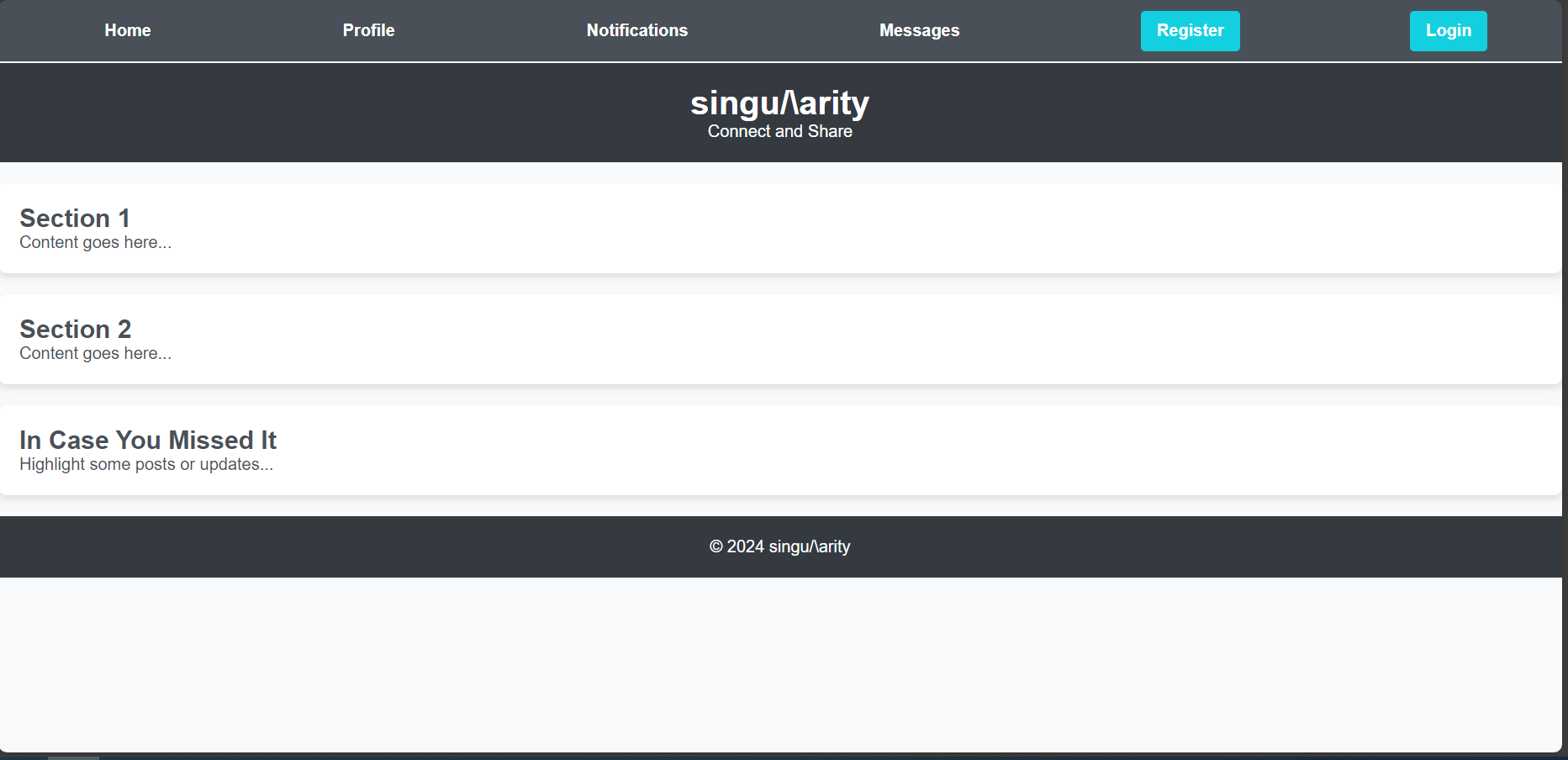
* **Goals:**
  + Develop a fully functional social networking web application.
  + Apply appropriate web development tools and technologies.
  + Implement key features based on design requirements.
* **Objectives:**
  + Choose and justify the selection of tools and technologies.
  + Design and implement user interfaces for various application components.
  + Establish PostgreSQL database connectivity and implement CRUD operations.
  + Ensure responsiveness and usability across different devices.
  + Implement user authentication and authorization.
  + Develop a functional user search feature.
  + Create a visually appealing and user-friendly design.

**2.** Screen Forms**:**

* *Screenshots and visual representations of the implemented forms:*
  + User Registration Form
  + User Login Form
  + Main Dashboard
  + User Profile Page
  + Search Results Page
  + Additional forms and features based on application functionality.

**3. Practical Work Order:**

* **Step 1: Tool Selection**
  + *Justification:*
    - After conducting market research, we opted for the Flask framework for its simplicity and flexibility.
    - PostgreSQL was chosen as the database management system due to its robustness and open-source nature.
* **Step 2: Database Design and Connectivity**
  + *Accomplishments:*
    - Developed a well-defined database schema to store user information, posts, and other relevant data.
    - Implemented PostgreSQL database connectivity using SQLAlchemy with Flask.
* **Step 3: User Interface Design**
  + *Accomplishments:*
    - Designed clean and intuitive user interfaces using HTML, CSS, and Bootstrap.
    - Ensured responsiveness for a seamless user experience across various devices.
* **Step 4: User Authentication and Authorization**
  + *Accomplishments:*
    - Implemented user registration and login functionalities securely.
    - Set up user authentication and authorization to control access to different sections of the application.
* **Step 5: Feature Implementation**
  + *Accomplishments:*
    - Developed a user-friendly main dashboard for easy navigation.
    - Implemented a user search feature using SQLAlchemy queries.
    - Additional features added based on specific application requirements.
* **Step 6: Testing and Debugging**
  + *Accomplishments:*
    - Conducted extensive testing to identify and fix any bugs or issues.
    - Ensured cross-browser compatibility for a consistent user experience.
* **Step 7: Documentation**
  + *Accomplishments:*
    - Documented the codebase for future reference and maintenance.
    - Created user documentation to guide users through the application.

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