**SwapSkill Hub**

**Prepared by Nguyen Duy Cong (SE182143)**

**Purpose**

* Let user swap skill without money. Users can find the skills they want, show others how to get that skill and

**Features**

* Search skill, Filter skill
* Rating Others
* Send email when someone wants to contact user
* Admin can delete a user who can be a scammer.
* VIP User (Who have special skills, high rating)
* Dark mode
* User authentication
* Language changing
* Encode password, confirm email

**Problems**

1. **Users need a skill but the person have that skill do not need user’s skill.** 
   1. Solutions:
      1. **Skill Credits System *(Optional)*:**
         1. Earn credits by teaching → spend credits to learn.
         2. Keeps barter balance without direct skill exchange.

**ii) Multi-party Swap Matching:**

1. User A wants X.
2. User B has X, wants Y.
3. User C has Y, wants Z.
4. Algorithm matches 3 users in a swap chain.
   * 1. **Monetary Fallback (Optional):**
        1. If no match found, allow paid coaching as fallback.
     2. **Skill Donation:**
        1. Users can offer skills free, building goodwill or gaining rating.

**SkillSwap Hub - Feature Summary**

**1. Completed Features**

**1.1 User Management**

* User registration with validation (username, email, password confirmation)
* User login and logout functionality
* Session management for user authentication
* Role-based access control (admin, member, guest, vip)
* Default role is set to “member” upon registration

**1.2 User Profiles**

* User profile page with:
  + Full name
  + Email
  + Bio
  + Location
  + Profile picture upload (stored as Base64)
* Conditional display: Hide swap buttons if the user is viewing their own profile

**1.3 Skills and Swapping**

* view, and search skills
* Skill detail page shows all users who have that skill
* Send swap request for a skill
* Accept or reject skill swap requests
* Swap request status handling (Pending, Accepted, Rejected)
* Swap request success/failure messages

**1.4 Notifications**

* Notifications shown in header
* Displays notification count dynamically
* Dropdown list of notifications on click
* Notification triggered on accepted swap request (e.g., “Contact now”)

**1.5 Email System (Template Ready)**

* Welcome email template (HTML)
* Email verification template (HTML)
* Styling and responsive layout prepared for emails

**1.6 UI/UX Features**

* Header with navigation, search bar, and dynamic login/logout buttons
* Search bar that supports skill and user lookup
* Responsive layout using CSS
* Footer styled and set to stay at the bottom of the page
* Consistent design for user profile, skill detail, and swap request pages
* Custom CSS files for each major component (header, footer, profile, search, etc.)

**1.7 Security**

* Password hashing

**2. Incomplete or Pending Features**

**2.1 Notifications**

* Mark notifications as read
* Delete or archive old notifications
* Settings to toggle notifications

**2.2 Skill Rating**

* Users can rate each other after a swap
* Average rating displayed on user profiles
* Rating filter on skill detail page

**2.3 Profile Management**

* Allow user to edit profile information (name, bio, location, etc.)
* Change or delete profile picture

**2.4 Admin Dashboard**

* Admin panel to manage:
  + Users and roles
  + Skills and categories
  + Swap requests

**2.5 Email Functionality (Backend)**

* Send welcome email upon registration
* Send verification email
* Send swap success/failure notifications via email
* JavaMail or other email API integration

**2.6 Security Enhancements**

* Input validation/sanitization
* Protection against SQL injection and XSS
* HTTPS setup and secure cookie usage

**2.7 UI Improvements**

* Pagination for search results
* Filters for skills (e.g., by category or rating)
* Better error pages (404, 500, etc.)
* Mobile optimization for forms and tables