

1. User Authentication

Ensuring secure access to the platform is critical for protecting user data and providing a personalized experience. Authentication processes must include a secure sign-in, sign-up, and password recovery mechanism. The sign-in process verifies user credentials, while the sign-up process requires unique usernames, strong passwords, and email verification. Additionally, users should have the ability to recover access through a "Forgot Password" feature, ensuring uninterrupted access to their accounts.

- **Sign-In**
 - Users log in using a valid username and password.
 - Credentials are validated against stored data.
 - Incorrect credentials trigger an error message.
 - "Forgot Password" option enables password recovery.
- **Sign-Up**
 - Users create an account with a unique username.
 - Passwords must meet security requirements (uppercase letter, special character, and digit).
 - Email verification is required before access is granted.
- **Forgot Password**
 - Users enter their registered email to reset their password.
 - A six-digit verification code is sent to the user's email.
 - Users must enter the code and create a new password following security guidelines.

2. Profile Management

Users should have full control over their profile settings, privacy options, and account customization. Profile management features allow users to modify their privacy settings, update passwords, and upload profile pictures. Once set, usernames remain permanent, ensuring identity consistency across the platform. Additionally, users can view their enrolled courses and adjust their experience according to personal preferences.

- **Profile Settings**
 - Users can set their profile to public or private.
 - Profile pictures can be uploaded (PNG, JPEG, JPG, max size: 5MB).
 - Usernames cannot be changed after initial setup.
 - Users can update passwords, following security requirements.
 - Enrolled courses are visible within the profile.

3. Profile Features

User profiles serve as a hub for tracking learning progress and social interactions. They display essential details such as usernames, avatars, and friends lists. Users can manage their friend connections by adding or removing friends. Achievements, such as quiz completions and learning streaks, help users stay motivated. Progress tracking for courses and quizzes ensures learners can measure their advancements.

- **Profile Design**

- Displays username, avatar, and friends list.
- Allows users to navigate to profile settings or manage friend requests.
- **Achievements & Progress**
 - Tracks quiz completions and course advancements.
 - Displays learning streaks and milestone achievements.
 - Shows course completion percentages and quiz accuracy rates.
- **Friends List**
 - Users can view and manage friends.
 - Sorting options include name, activity, and date added.
 - Friends' lists are visible unless profiles are set to private.

4. Leaderboard System

The leaderboard system fosters a competitive learning environment by ranking users based on quiz performance and accuracy. The global leaderboard displays the top 100 users, while a friends-only leaderboard allows users to compare progress within their social circle. Rankings are determined by quiz completion totals and accuracy rates, keeping users motivated to improve their performance.

- **Global Leaderboard**
 - Displays the top 100 users based on ranking criteria.
 - Ranking is based on total quizzes completed and accuracy percentage.
- **Friends Leaderboard**
 - Functions similarly to the global leaderboard but shows only friends.
 - Uses the same ranking criteria as the global leaderboard.

5. Search Functionality

Users can easily discover and connect with others through search and friend recommendation features. Searching by username allows users to find and interact with others. Friend suggestions are generated based on mutual friends and shared course enrollments, encouraging social engagement and collaboration.

- **User Search**
 - Users can search for others by username.
 - Search results display profile picture, username, and mutual friends.
- **Friend Suggestions**
 - Recommends users enrolled in the same course.
 - Suggests friends based on mutual connections.