Product Design Specification

Team/Project Info

Project title - BeyondBottles

Team name - BeyondBottles

Team members - Dania Jaison, Navaneet Sai Nidadavolu, Likith Nemani

Our team name was decided to align with our project, whose aim is to provide proactive continuum care for alcohol addiction and help people move beyond their addiction.

Backend/frontend technologies

Frontend (Mobile App): Java, Kotlin

Backend: Python, Flask, MySQL

Tasks per person

Navaneeth: Project management, backend development and deployment.

Likhith: UI/UX design, frontend development, deployment and testing

Dania: Frontend development, integrations and data collection about alcohol rehab.

Project Description

The end product, "BeyondBottles," is a mobile application designed to support individuals who want to quit alcohol by providing them with a supportive community feed, access to resources, and gamification elements to encourage engagement. The app will feature a user-friendly interface with sections for the community feed, leaderboard, articles, and resources. Users can post questions, share their experiences, and contribute to discussions within the community. Additionally, users will earn points for their contributions, and an active leaderboard will showcase top participants. The app will also curate articles and resources related to quitting alcohol to provide users with valuable information and guidance.
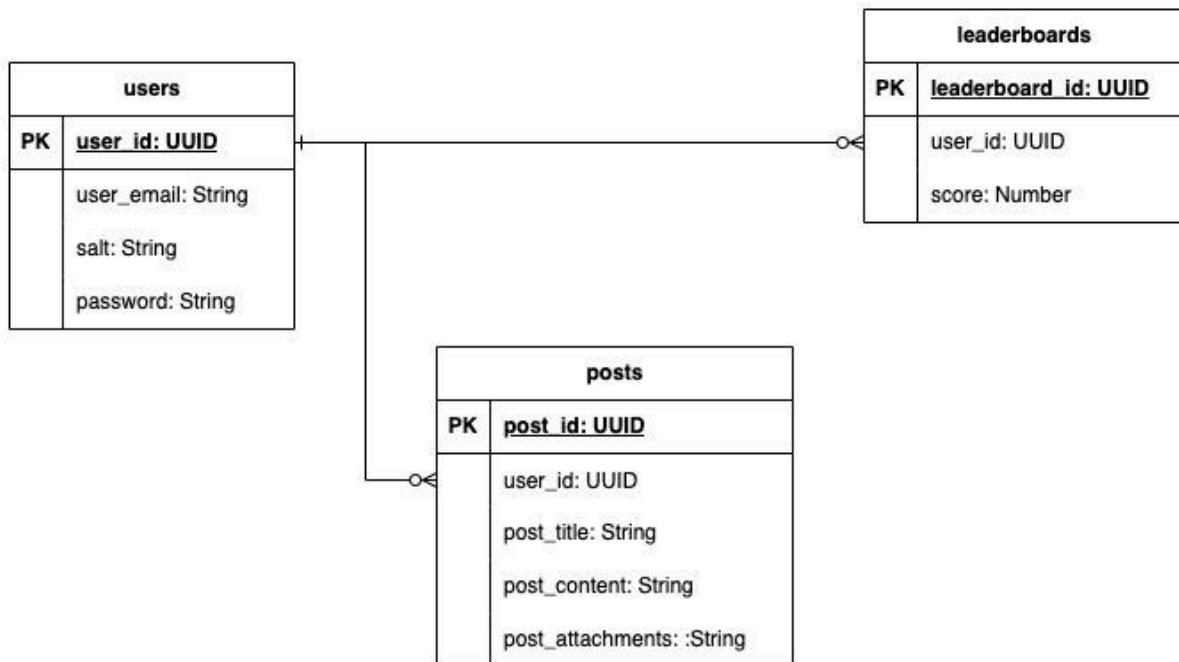
Algorithms used in the core engine

Authentication: bcrypt for password hashing and salting for secure storage of user passwords.

Time: O(n) where n is the length of password.

Leaderboard: to retrieve the top 10-50 users. We will use Quick Sort algorithm, to sort the points table.

Time: O(nlogn) where n is the number of users.

Database (CRUD Operations):

Time: Generally, for a well-indexed database, CRUD operations can range from O(log n) to O(n).

Full-Text Search: To search the articles using Full-Text search and GIN (Generalized Inverted Index) Index.

Time: Insertion - (nlogn) and Search - (logn)

Market space and its selling points

Proactive Continuum Care: Offering proactive, ongoing support for alcohol addiction recovery, focusing on prevention and long-term well-being.

Intuitive and User-Friendly UI: Prioritizes a user-friendly design, ensuring individuals navigate seamlessly through the app, enhancing their overall experience.

Rehabilitation Knowledge: Providing valuable information about rehabilitation, BeyondBottle equips users with insights into the recovery process, empowering them with knowledge to make informed decisions.

Knowledge Exchange: Facilitating knowledge exchange, the app encourages users to share experiences, insights, and strategies, creating a collaborative environment that fosters learning and growth.

Community Support: BeyondBottle extends a helping hand through a supportive community network, enabling users to seek guidance and share challenges with fellow community members for mutual encouragement.

Point-Based Reward System: To further incentivize engagement, BeyondBottle implements a point-based reward system. Active participation in posting and replying to the feed earns users rewards, encouraging a dynamic and interactive community.

Functional specifications

Community Feed: Users can view and participate in a community feed where they can post questions, share experiences, and engage in discussions related to quitting alcohol.

Points System: Users earn points for contributing to the community feed by posting questions, providing answers, and actively participating in discussions.

Leaderboard: A leaderboard displays the top contributors based on their points earned, fostering recognition among users.

Articles and Resources: The app provides curated articles and resources on topics related to quitting alcohol, including tips, strategies, and success stories.

User Profiles: Users have personalized profiles where they can track their points, view their contributions, and connect with other members of the community.

Notifications: Users receive notifications for new posts, responses to their questions, and updates on leaderboard standings to stay engaged with the community.

User Authentication and Security: Secure user authentication mechanisms are implemented to protect user data and ensure privacy within the app.

Deploying the Flask Project

To deploy the Flask project "Broken Calculator" follow these steps

1. Set up a Heroku account and install the Heroku CLI.
2. Create a new Heroku app from the Heroku dashboard or using the Heroku CLI.
3. Clone the Github Repository locally.
4. Connect your local Git repository to the Heroku app using the Heroku CLI.
5. Push your code to the Heroku remote repository to trigger deployment.
6. Configure any necessary environment variables (Specified in Readme.md).
7. Access your deployed application via the provided Heroku app URL.

List of features that will be accomplished in the following (major) milestones M1, M2, M3, M4 or M5.

Milestone 1 (2/5 - 2/16): Planning and Architecture Setup

Milestone 2 (2/19 - 3/2): Backend and Database Implementation(for user management, authentication & registration)

Milestone 3 (3/5 - 3/16): Frontend Development and UI/UX Design

Milestone 4 (3/19 - 3/30): Core Features Implementation (CRUD implementation and geotracking)

Milestone 5 (4/2 - 4/13): User Engagement and Social Features(Peer support & reward system). Testing and deployment.