
Design Document for BeatMatch

Group 3_Swarna_2

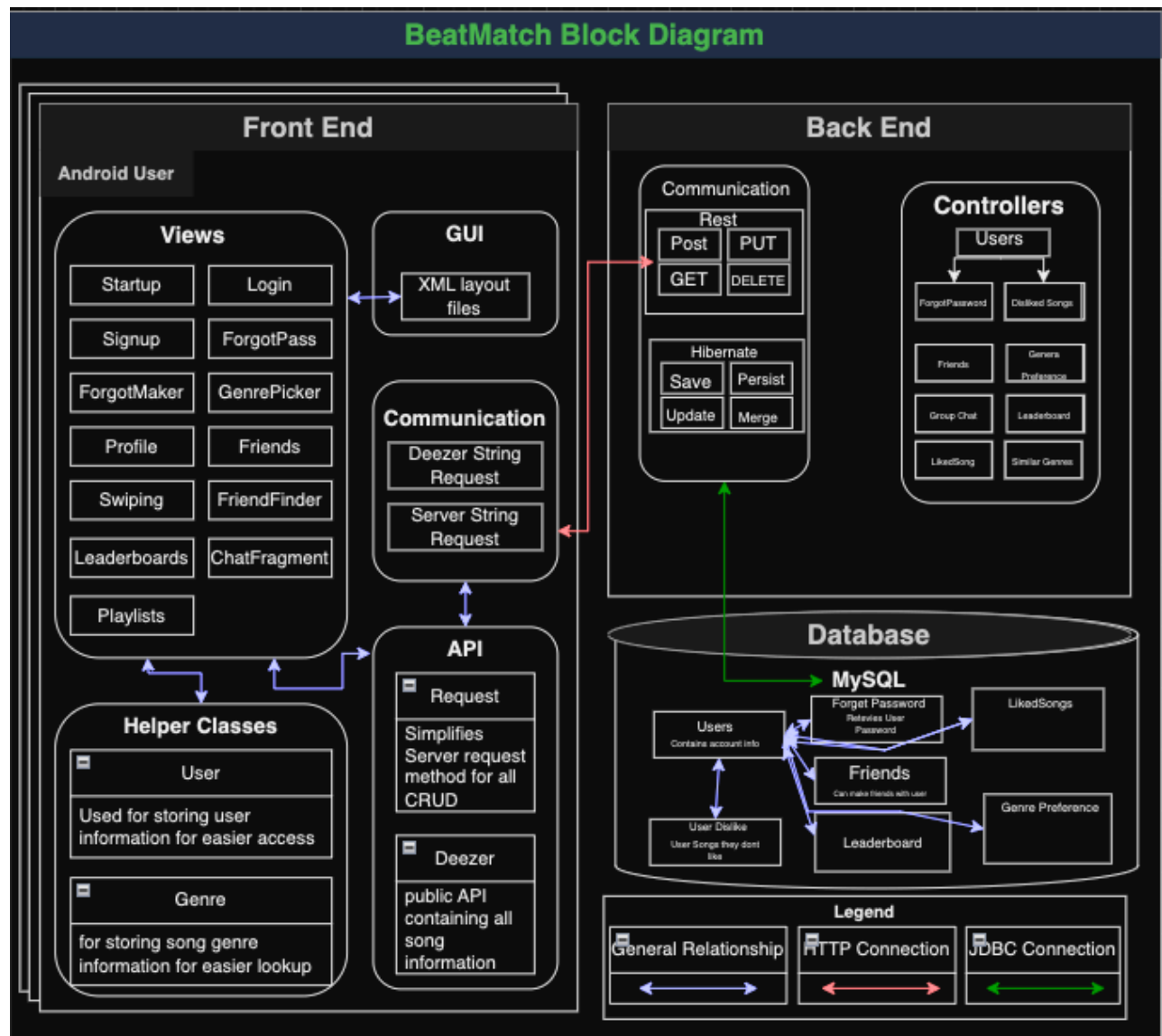
Griffin Urban: 25%

Lawson Port: 25%

Kasson Plummer: 25%

Om Sanghvi: 25%

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Description

Android User:

Our application allows the Android User to navigate the BeatMatch app through multiple interactive screens. To get the screens to appear and change as they should, the user can click on various buttons throughout the app and utilize a toolbar at the bottom of every screen so that any part of the app can be easily found. There are multiple setup pages, such as creating an account and signing in, so that the data from the user can not only be sent to the backend database but also be verified when reused. A security protocol provided through the forgot password feature allows the user to regain their password if lost by answering multiple security questions filled out when creating an account in case password loss were to happen. The application also has main features implemented, such as genre suggestions, allowing the user to input any genre they are currently interested in, and the application can suggest multiple genres similar to the one the user implemented. Swiping, which will be the biggest feature, mainly works with song requests, allowing the user to find any song they need and like so that it is sent to the database and into their playlist for later listening. This feature will allow users to swipe right to like the song and left to dislike the song, and all data will be accounted for so that the user can find songs they like. Finally, a leaderboard feature will keep track of the most liked and popular songs on the application and let the users know what is trending currently.

Backend Communication

The backend uses mappings to handle database updates and queries. These include:

- **Post:** Add an item to the database.
- **Get:** Retrieve information, often with an identifier.
- **Put:** Update an existing item.
- **Delete:** Remove an item by its identifier.

Controllers

The controllers handle communication between the frontend and the database. Key controllers include:

- **User:** Manages user accounts and their relationships with other features such as liked songs, friends, and notifications.
- **Forgot Password:** Handles password recovery through security questions and user validation.
- **Liked Songs:** Adds, retrieves, and deletes songs liked by users.
- **Disliked Songs:** Manages disliked songs, including adding or removing them from a user's list.
- **Friends:** Handles user friendships, allowing users to add, view, and remove friends.
- **Leaderboard:** Manages song rankings, including retrieving and resetting the leaderboard.
- **Group Chat:** Facilitates WebSocket-based real-time communication and stores chat history.
- **Notifications:** Configures and retrieves user notifications.
- **Similar Genres:** Provides recommendations based on similar music genres.

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