

# **Orbital 2022 Proposal**

**Team Name:** W

**Application Name:** Chattoku

**Proposed Level of Achievement:** Artemis

## **Members:**

1. Farrel Dwireswara Salim (A0236449W)
2. Elbert Benedict (A0245772X)

## **Motivation**

As an anime lover, it is not rare for us, members of team W, to encounter a situation where we don't know what other anime to watch or with whom we should discuss the anime that is currently trending. Now, the most used app to fulfill that goal is MyAnimeList and Reddit. However, MyAnimeList mobile app doesn't support its forum (It redirects the user to its website when trying to open a discussion) and Reddit is not specialized for the otaku (anime appreciator) community. Hence, we would like to create a new app, which we named Chattoku (Chat + Otaku), to overcome this inconvenience.

## **Aim**

We aim to create a mobile application (Android and iOS) for anime lovers that will provide them with anime databases, a recommendation system based on their favorite genre and anime series, as well as a platform to discuss various topics with other users.

## User Stories

Priority level: \*\*\* - **Must** have, \*\* - **Should** have, \* - **Could** have

	Priority Level	As a ...	I would like to ...
1.	***	User	Create an account and login to Chattoku.
2.	***	User	Input my anime genre preferences
3.	***	User	Input my favorite anime
4.	***	User	Customise my username, profile picture, and bio
5.	***	User	Be able to log out from Chattoku
6.	***	User	Be able to delete my account when I no longer want to use Chattoku
7.	***	User	Create a new forum
8.	***	User	Moderate forums that I create
9.	***	User	Create, update, and delete my post and comment in a forum
10.	***	User	Like or dislike on posts made in the forum.
11.	***	User	Follow a forum that interests me
12.	***	User	Unfollow a forum that I previously followed
13.	***	User	Know the currently trending anime
14.	**	User	Initiate a private chat with other users
15.	**	User	Receive message notifications
16.	**	User	Add another user as a friend
17.	**	User	Unfriend another user
18.	**	User	Create a group chat with other user
19.	**	User	Moderate group chats that I create
20.	**	User	Leave a group chat when I intend to
21.	**	User	Decline private chat requests with other users
22.	**	User	Sort the forum posts by latest or trending

23.	**	User	Filter the forum posts by name of forum, genre associated with the forum, or title of post
24.	**	User	Find my previous forum posts easily
25.	**	User	Find a detail of a specific anime
26.	**	User	Get an anime recommendation based on my chosen genres and favorite anime series
27.	*	User	Be able to switch to dark mode
28.	*	User	Get a tutorial to use the Chattoku app

### Competitor Analysis

Competitor's name	User's Experience in Competitors App	Users Experience in Chattoku
<b>MyAnimeList</b>	MyAnimeList mobile app redirects the user to a web app when trying to open a forum which could be tedious in the long run of using the application	The forum is planned to be integrated to the mobile app which will provide a better user experience
<b>Reddit</b>	Reddit does not have a feature to recommend an anime to its users.	Chattoku will provide anime recommendations based on users favorite genre and anime series

## **Features and Timeline**

**Chattoku** is a mobile application (for both Android and iOS) which allows users to interact with other anime lovers via personal chat, group chat, or forum discussions, as well as provides them with anime databases. Furthermore, this app also gives anime recommendations to the user according to their favorite series and chosen genres. This recommendation system will use the anime recommendation system server that is powered with machine learning and hosted in Heroku.

Features to be completed by the mid of June:

1. Allow users to create an account and login to Chattoku app.
2. Allow users to customize its username, profile picture, bio, favorite genre, and favorite anime.
3. Allow users to create a forum.
4. Allow users to create, update, and delete its post and comment in a forum.
5. Allow users to initiate a private message with others.
6. Enable data fetching from MyAnimeList database using Jikan API.
7. Allow users to know the currently airing anime.
8. Start working on the machine learning model for the recommendation system.

Features to be completed by the mid of July:

1. Allow users to add friends and start a private and group chat.
2. Allow users to block other malicious users.
3. Allow users to moderate their own forum.
4. Allow users to moderate their own group chat.
5. Allow users to follow a specific forum.
6. Allow users to filter and sort forums based on certain categories.
7. Deploy the recommendation system to Heroku and allow users to get anime recommendations.
8. Allow users to see their post history.
9. Deploy the mobile app into the production environment.

Features to be completed by August:

1. Allow users to get a tutorial to use the Chattoku app.
2. Allow users to switch the main theme of the app to dark mode.
3. Final touches on the user interface.
4. Final software testing.

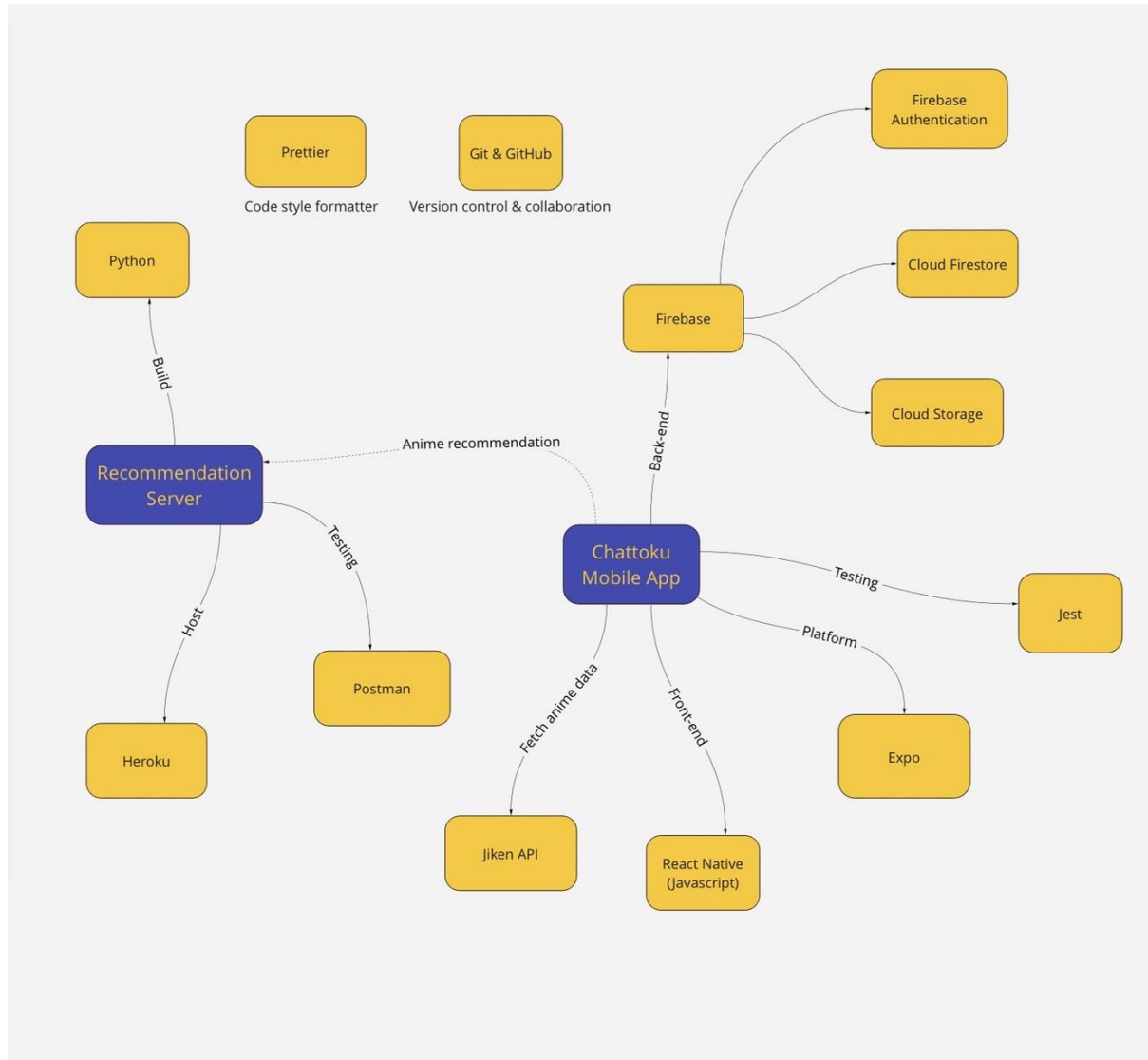
## Tech Stack

Technology	Purposes	Reasons
<b>Git &amp; GitHub</b>	Version control, collaboration, and code review to maintain code quality	It facilitates a seamless collaboration
<b>React Native (Javascript)</b>	Build the front-end of the mobile application	<ol style="list-style-type: none"><li>1. Popular framework (Lot of resources online)</li><li>2. Cross-platform (Easier to develop Android and iOS application together)</li><li>3. Members' familiarity with ReactJS</li></ol>
<b>Firebase</b>	Development of the back-end of the application, including storage and user authentication.	<ol style="list-style-type: none"><li>1. Popular backend service (Many resources on the internet)</li><li>2. Variety of APIs which are useful for the development of Chattoku</li><li>3. Has a free tier pricing plan</li></ol>
<b>Expo</b>	Deployment of the mobile application	Ease of deployment, especially for React Native app
<b>Jest</b>	Software testing for the Chattoku app	<ol style="list-style-type: none"><li>1. Popular testing framework (Various resources online)</li><li>2. Works well with React Native program</li></ol>
<b>Python</b>	Implement the machine learning algorithm to get anime recommendations for users	Python has various libraries that are useful in developing a machine learning model.

<b>Heroku</b>	Deployment of the anime recommendation server	Ease of deployment and members' past experience with Heroku
<b>Postman</b>	API testing for the anime recommendation server	It provides an automated API testing an a free tier service
<b>Jikan API</b>	Fetch anime data from myanimelist server.	It is a free and open-source API which makes getting anime data much easier
<b>Prettier</b>	Code auto formatter	It eases the standardization of code styling

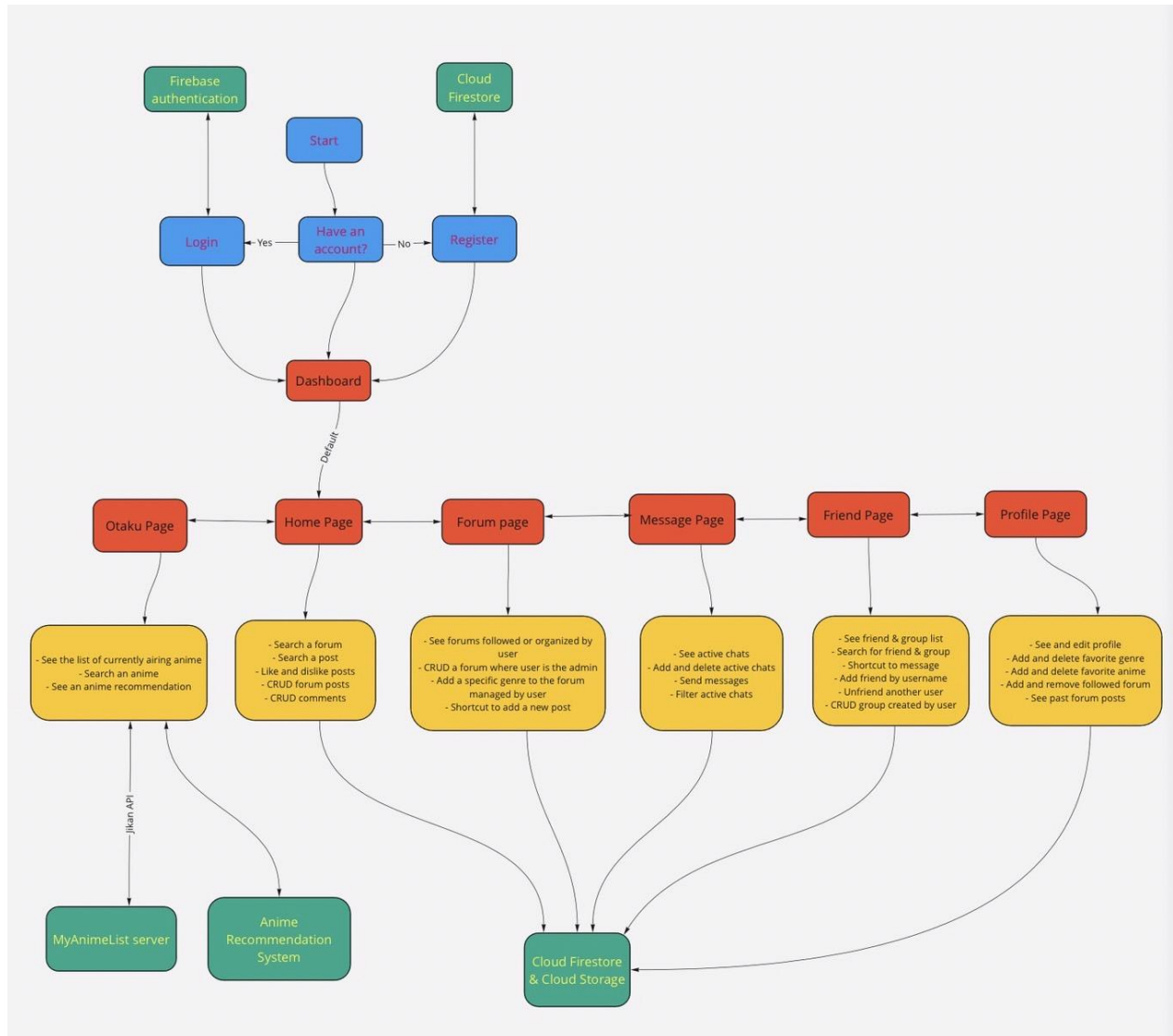
## Software Architecture

Shown below is the overview of the planned Chattoku's software architecture.



## Application Design Flow

Given below is Chattoku's initial design flow plan.





## **Member Qualifications**

### 1. Elbert Benedict (A0245772X)

- Programming languages: Javascript, Java, C++
- Web Development Skills: HTML, CSS, ReactJS, Ruby on Rails
- Courses: CS1101S(A+), CS1231S(A+), CS2030S, CS2040S
- Developed a task manager app for CVWO assignment
  - Prototype: [React App \(elben85-task-manager-app.herokuapp.com\)](https://elben85-task-manager-app.herokuapp.com)
  - Source code:
    - ❖ [Elben85/task-manager-frontend \(github.com\)](https://github.com/Elben85/task-manager-frontend)
    - ❖ [Elben85/task-manager-backend \(github.com\)](https://github.com/Elben85/task-manager-backend)

### 2. Farrel Dwireswara Salim (A0236449W)

- Programming language: Java, C++, Python, JavaScript
- Web Development Skills: HTML, CSS, ReactJS, Ruby on Rails
- Courses: CS1101S(A+), CS1231S(A+), CS2030S, CS2040S
- Created a todo list app using Ruby on Rails