

# CVWO 2022/23 Assignment:

## Gossip with Rails – Execution Plan

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### User Story

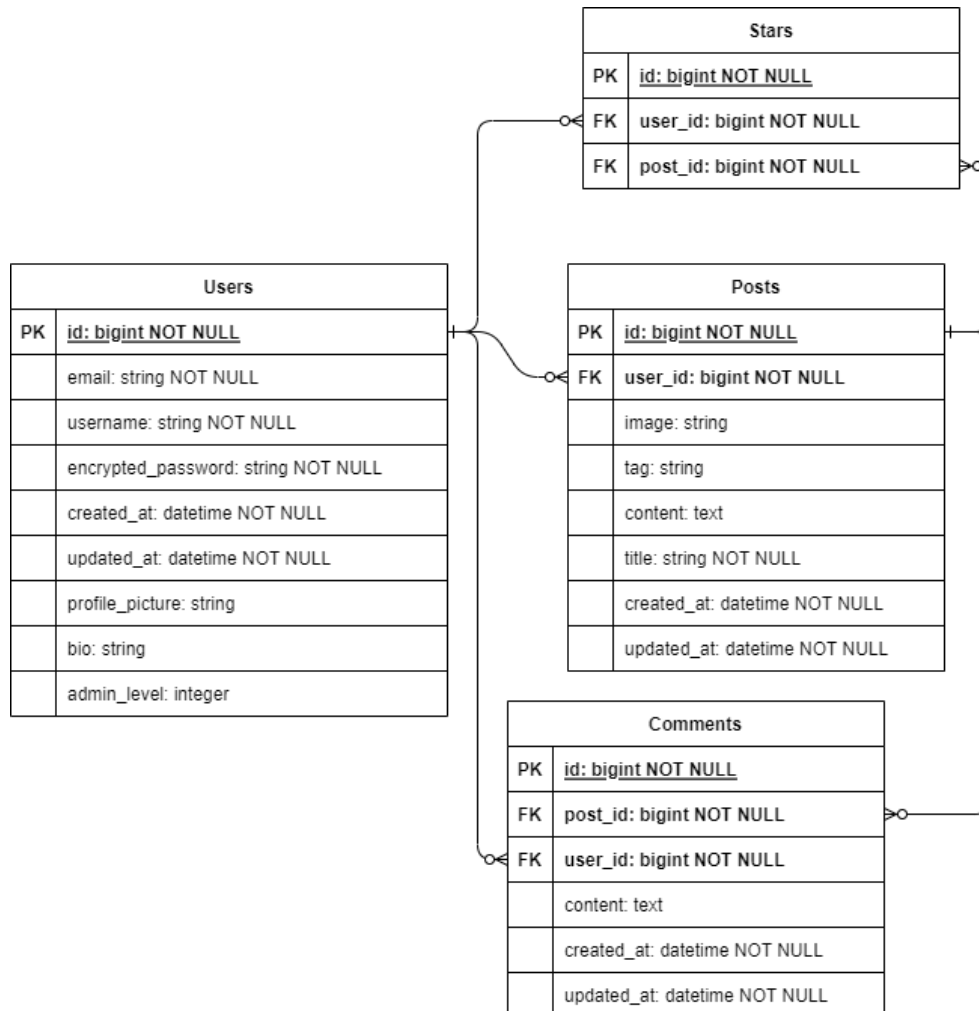
As a web forum user, I would like a user-friendly platform to create, update and delete posts that I wrote, sort and search for posts and comments, star or unstar posts, and update my user profile, so that I can effectively share my ideas and opinions on the forum, discuss them with other users, and search for information that are interesting to me.

### Use Cases

Action	Positive response	Negative response
Sort and search for posts and comments	All posts/comments which fulfill the criteria given by the user is rendered.	No error messages.
Create/ update a post	The post would be created/updated accordingly.	Failure creating/ updating post. Error message.
Star/ unstar post	1 star would be added/ subtracted from the post. This change would be reflected in the backend, then in the frontend.	No error messages.
Delete a post	The post, together with all the comments which belongs to it, would be deleted.	Failure deleting post. Error message.
Create/ update a comment	The comment would be created/ updated accordingly.	Failure creating/ updating comment. Error message.
Deleting a comment	The comment would be deleted.	Failure deleting comment. Error message.
Update user profile	User profile data such as profile picture and bio can be updated.	Failure updating user profile. Error message.

## Database Design

The ER diagram of my web forum is as follows:



The following is the implementation of CRUD (Create, Read, Update, Delete) operations for this web forum:

	Users - Registrations	Users - Sessions	Posts	Comments	Likes
Create	✓	✓	✓	✓	✓
Read	—	✓	✓	✓	—
Update	✓	—	✓	✓	—
Delete	✓	✓	✓	✓	✓

## Architecture and Tech Stack

The Frontend will be built using the Flux Architecture, written in TypeScript for static typing, using React to create UI components, Redux for centralized state management, and MaterialUI for styling.

The Backend will be built using the Model–View–Controller (MVC) Architecture, with the Frontend as the View layer. The Models and Controllers will be written with Ruby on Rails, with PostgreSQL as the preferred Relational DBMS.

## Reflection

The web forum will be named kaypoh.forum, after the Singlish word kaypoh. Its icon is inspired by the Futhark rune, Ansuz ƿ, the rune for speech and communication.

Despite facing multiple challenges and bottlenecks when building the project, I truly enjoyed the learning process of this assignment. Although I had previously learnt React through an online MOOC, I have no experience in Ruby on Rails and relational databases, and this is my first time developing and deploying a full-stack web application. I have learnt and applied web development concepts such as route nesting, hooks, CORS, authentication, caching and CDNs. While the structure of this project is not very complex, when considering performance, scalability, security, and user experience, I have to find the best practices available, and sometimes tradeoffs have to be made.

Currently, the minimal viable product has been completed, and more features would be added in January 2023. The frontend is hosted on Vercel <https://cvwo-assignment-gossip-with-rails-frontend.vercel.app/>, and the backend is hosted on Render <https://kaypoh-forum.onrender.com/>.

Moving forward, these are some intended enhancements to the project in January 2023 and beyond:

1. Improve the documentation of the project to increase readability
2. Deploying the project using Docker and AWS
3. Deploying the project as a Progressive Web App (PWA)
4. Add a feature similar to Stories where user can choose to automatically delete their posts after a certain time interval. This can be implemented using a Cron job.
5. Enabling users to sign in using social media such as Google/Facebook