CVWO Mid-Assignment Submission Emily Ong Hui Qi (A0240634M)

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1. User Stories & User Requirements

1.1 Target User Groups

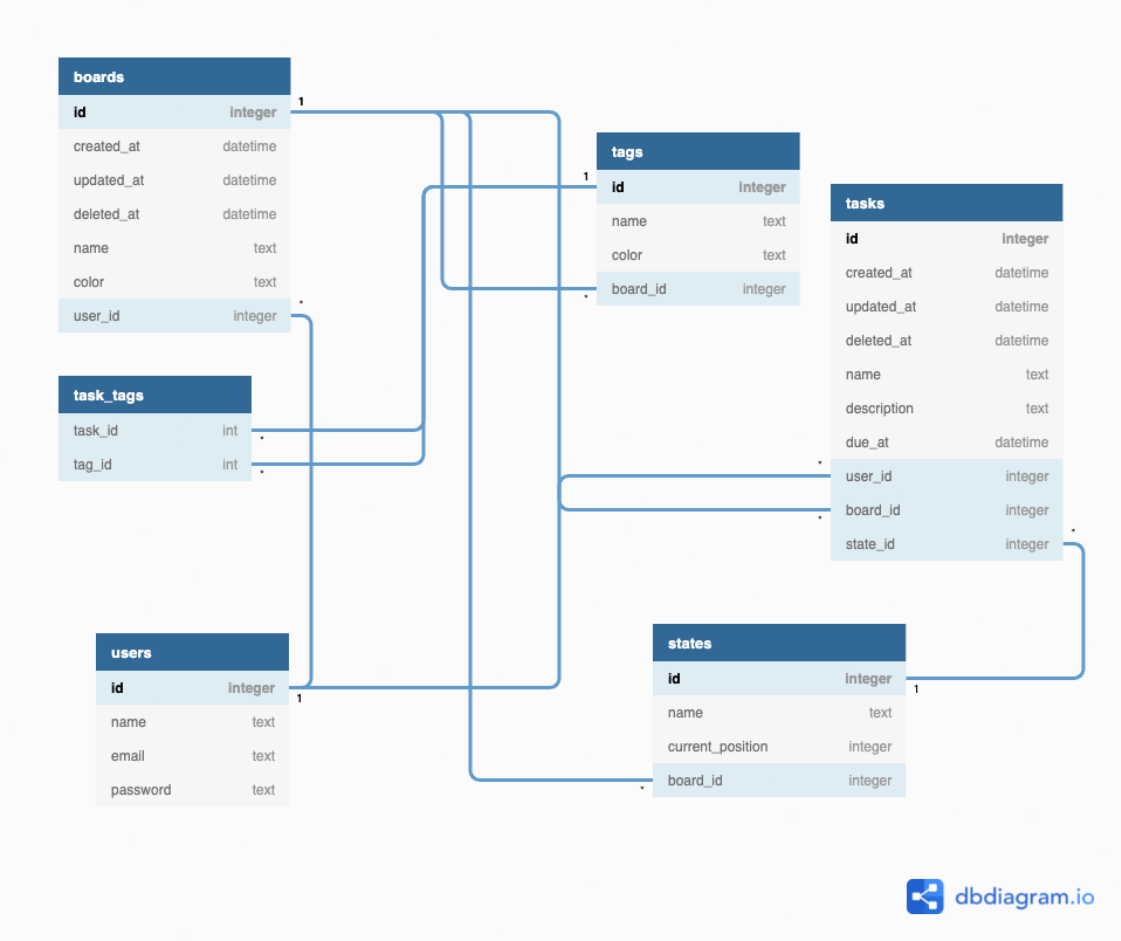
As a...	I want to...	So that...
Student	Keep track of assignment deadlines	I can plan and complete assignments on time
Student	Know what my friends are doing	I can be motivated to complete my tasks as well
Student	Categorize my tasks based on different academic subjects	I know in which subject I am pressed for submissions
User	Use applications that are aesthetically pleasing	I feel motivated to use the application
User	Use applications that runs on multiple platforms	It is more convenient
User	Use applications with a secure authentication mechanism	I can use the application without risking my privacy
Working Adult	Use applications that are frictionless and fuss-free	I can reduce learning costs and focus on what is needed
Working Adult	Be reminded of my calendar events and emails	I do not miss out on an important topic
Project Team Player	Collaborate with other people on the application	We can work together on projects
Project Team Player	Organize multiple projects in one place	I do not lose track of any projects

2. Execution Plan

2. 1 Implementation Details

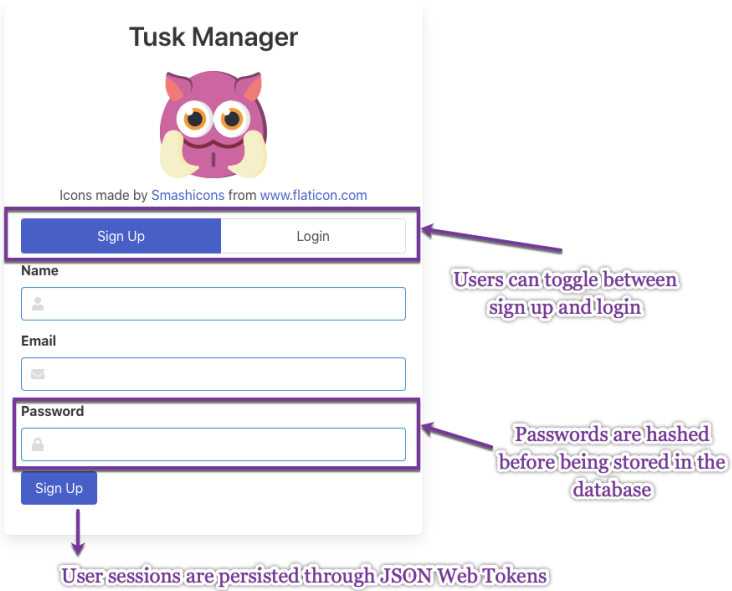
Technology Stack	- Frontend: React.js with Redux (for state management) and Bulma UI (for lightweight CSS styling) - Backend: Go with Gin (for HTTP web-framework) and Gorm (as an Object-relational mapping to interact with the database) - Database: PostgreSQL
Infrastructure	- Setup a Github repository as a monorepo for the frontend and backend code, since the application is small, and it makes for consistent deployment and easy visibility of the entire application. - Setup code quality tools using Github actions and create test cases and mocks for both frontend and backend to improve code coverage.

2.2 Database diagram

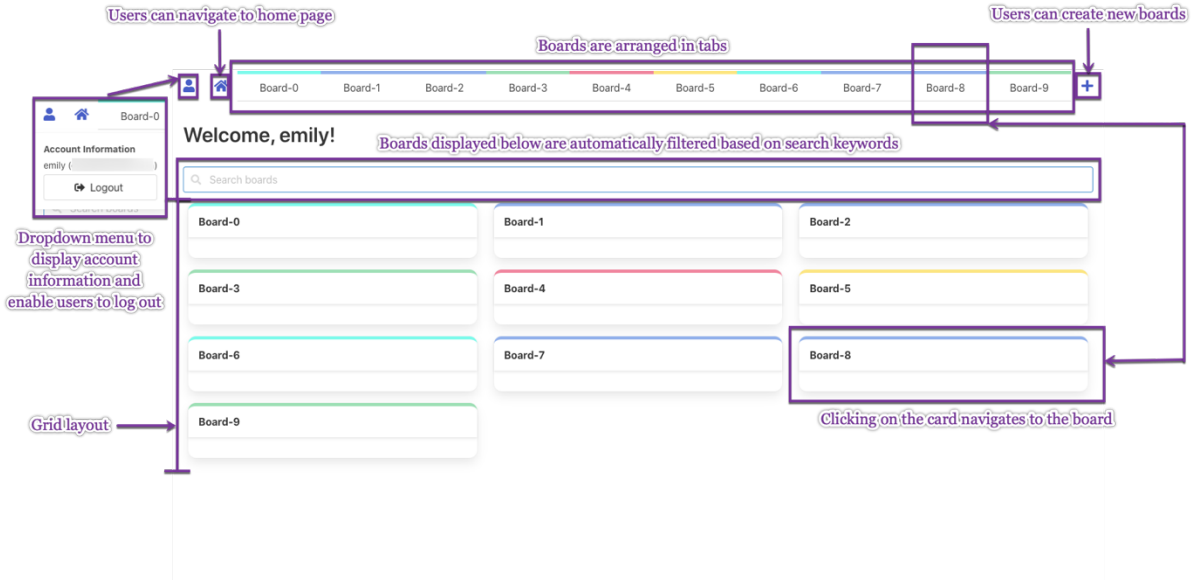


2.3 Page views

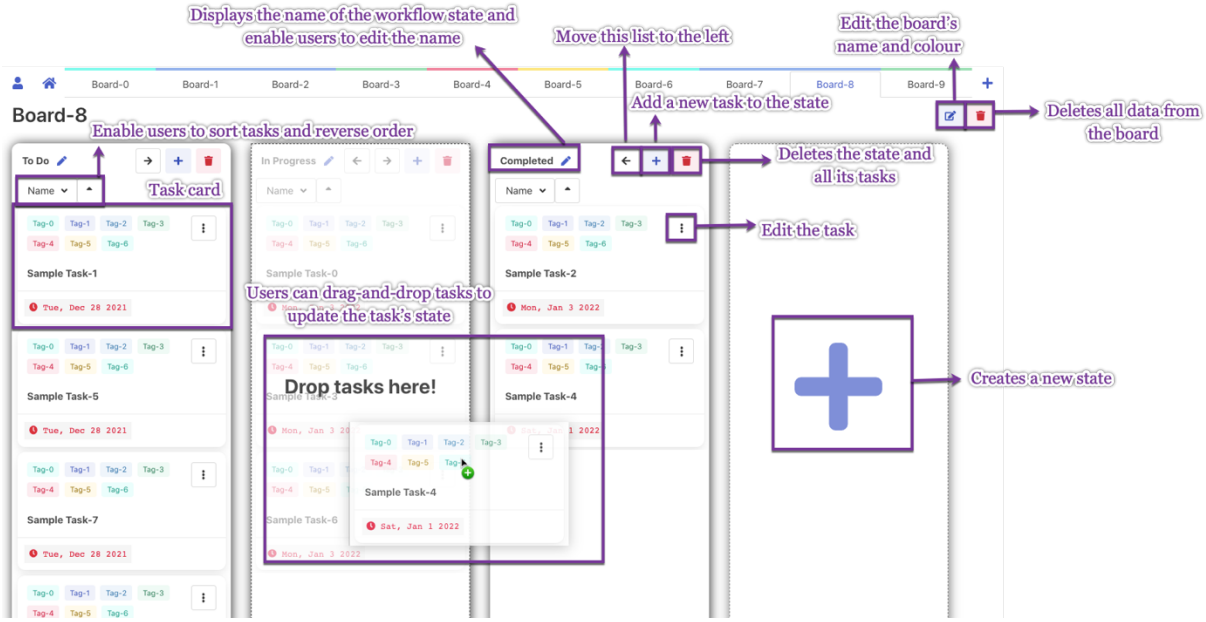
Authentication page:



Home page:



Dashboard page:



3. Future work

Database	- Currently, file-based SQLite is used, which is inconsistent in deployments. It is recommended to use PostgreSQL.
Integrations	- Enable users to integrate tools such as their calendar or emails into the application, e.g. through external public APIs such as the Google Calendar API.
Tags Management	- Currently, users can only create tags. Users should be able to edit and delete tags.
Collaboration	- Set up boards that share many-to-many relationships with users i.e enabling different users to collaborate on the same board
User Experience	- Use Cron jobs to send reminders about tasks deadlines to task owners