CSCI 3130 - Group Project

As a group project, you are expected to develop an application similar to **Trello**. You can take a look at their interface, usage details and other features provided at this link. The following list of features are expected in this project from you to develop.

1. **User Management**
   a. **Sign-up:** Register/Sign-up a user through their email address and a password. Follow basic password validation by having a minimum length of 8 characters, at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.
   b. **Login:** A user must be able to login through their registered email address and password.
   c. **Forgot password:** Reset the user's password in your database through this functionality.

2. **Create a workspace and boards**
   Workspace: A workspace is something that can hold multiple boards. For example, CSCI 3130 Workspace can have a board for planning the syllabus, classes and tutorials, or a board for each project group.
   Board: A board contains tasks which will be displayed in the form of cards. Each task would have a status as To-Do, Doing, or Done. For example, your group project has several features and each feature can be broken down into some tasks. You can create a card for each task and assign it a status. This way you will be able to track how many tasks you have completed or are yet to complete.
   The following features are expected with respect to workspace and board.
   a. Create a workspace
   b. Add members to your workspace
   c. Update workspace details
   d. Create a board inside the workspace
   e. Delete a board

3. **Task management**
   a. **Create tasks** in the form of cards. Note that tasks are a part of boards and workspaces contain one or more boards
   b. **Assign a task** to a particular member belonging to the workspace
   c. **Change the status** of the task. For e.g., move it from *To-Do* to *Doing*
   d. **Create a date field** and set a date of completion

4. **Search and filter**
   a. **Search for task cards** based on task names
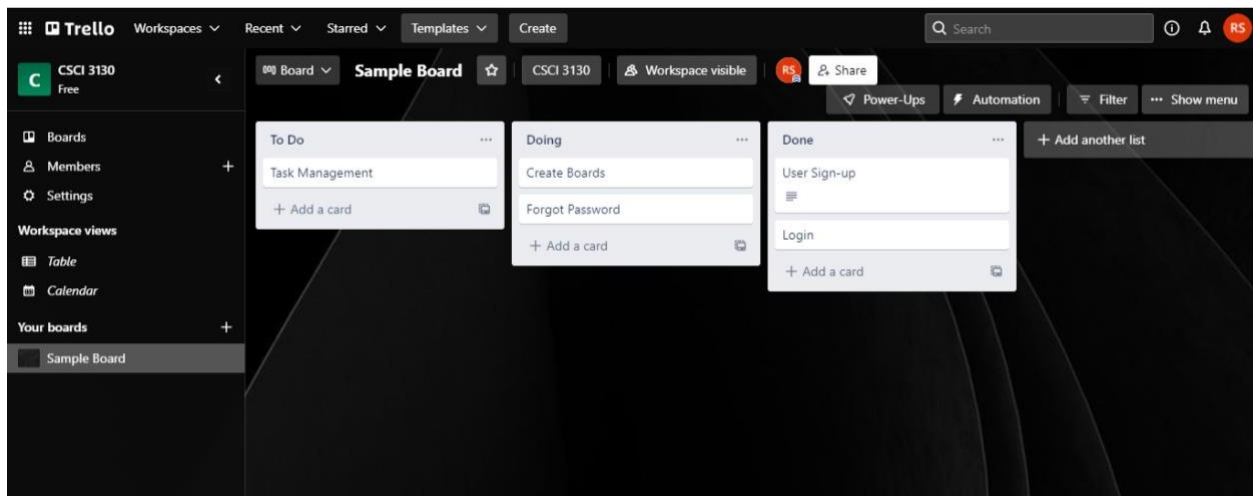   b. **Filter** based on member names, cards assigned to the logged in user and date of completion

Figure 1: Sample view of the dashboard

Optional features

1. **Analytics:** Display the number of users currently working on open issues, i.e., tasks which are not in *Done* state
2. **Notification and alerts:** Send emails on the tasks that are in progress and must be done by the next day
3. **Role based access:** Create roles like *Project Manager* and *Developer*. A project manager is responsible for creating workspaces, boards, and adding members to a workspace. Developers can create tasks, assign them, and change their status.

Deliverables

- **Release-1:** Create a data model, set up your frontend and backend projects – Due after week 4
- **Release-2:** CI pipeline, TDD for backend (include test cases only for the business logic and database), complete feature 1 and 2 – Due after week 8
- **Release-3:** Complete features 3 and 4, refactor your project as per the software design principles taught in class – Due after the last week of classes

Tech Stack

- **Frontend:** React JS
- **Backend:** Spring Boot with Java Persistence API (JPA)
- **Database:** MySQL hosted on Dal Servers (credentials will be provided to you by your TAs)
- **Hosting:** *optional;* DAL Virtual Machine