CVWO Final-Assignment Write up

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[Links: Website , GitHub Repo]

Accomplishments

I have been learning React throughout semester 1 and working on creating clones for popular webpages (Facebook, Google etc.) to adopt Frontend skills. This assignment gave me the motivation to work on a complete Fullstack project on my own and within this journey I learned a great deal about the various technology used in building a proper webpage. The links provided were of immense help in understanding the tools I could use to implement features which I wanted in my app. I picked up several things while looking up tutorials, debugging and browsing stackoverflow. I started learning more about Clean Code when I saw how the codes of many of the open-source projects on GitHub were organized and looked into various other things related to Web Development.
The main **learning points** while working on the Project were:

- Deploy a React Rails project on Heroku
- MVC and Flux architecture
- State Management and using Redux to avoid prop-drilling
- Set up a Postgres database and access the data using APIs
- Using psql to query database and check whether the tables were working correctly
- User authentication using controllers and helper methods, password encryption using bcrypt
- REST APIs, along with GraphQL APIs
- Integrating Typescript and Redux
- Functional and class Components in react. Using React hooks (useState, useEffect) while working with functional components
- Version control and more Git commands such as branch, checkout to work on different features without changing the master code.
- Cookies and Session for allowing the browser to be logged in even after closing the webpage
- Web design methods, including Color Theory, Typography, UI/UX while looking up tutorials and courses on Udemy and Coursera
- Clean code and the need for it

The project still requires certain improvements such as adding tags without the need to reload the page, faster loading of page etc. still I am content with my accomplishments made during this project.

User Manual

- **Welcome Page**
    - Page shown upon opening the website asking the user to login or signup for a new account

- **Sign up**
    - Enter username, email id, password to create a new account to be able use the to-do app. After Sign up the user is automatically logged in.

- **Login**
    - Login to the account by entering the username, email id and password.

- **Logout**
    - Click the "Logout" on the Navbar to logout from your account

- **Tasks Page**
    - After user logs in the page displays all the tasks (complete, incomplete and overdue tasks). You can Add, Edit and Delete Tasks on this page

- **Creating a New Task**
    - Click on the "Add task" and fill the form to create a new Task. The name and description fields are mandatory, and a task will not be created unless these are filled in. Click "Cancel" to get out of the form without adding a task. Each task can also have a tag and a deadline. Press "Enter" or click "Add" to add the task

- **Editing Tasks**
    - Click "Edit" to change the Task name, description, deadline and tags. Click "Update Task" to finish making changes.
    - Change the status of a tasks by clicking the checkbox
    - Add additional tags by pressing "+" and adding the new tag [page needs to be refreshed to reflect addition of tags]. Delete tags by clicking the "x"
    - Edit each tag as well as the name and description upon clicking the button.

- **Delete Tasks**
    - Click the "Delete" button and the Task is deleted

- **Search Tasks**
    - Search tasks based on their tags. Type the tag in the Search box and press "Enter" or click "Search by Tag" to display all the Tasks with the corresponding tag
    - Can also click on the tag of a Task to perform the same action as above.

- **Calendar**
    - Click "Calendar" on the Navigation Bar. The displayed calendar shows the incomplete tasks corresponding to their deadlines.