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CVWO AY2021/22 Final Writeup

In this assignment, I learnt how to create a React app with a Rails backend. The learning curve was steep as it was my first time doing any form of Web development, and I started by learning the basics of HTML, CSS and Javascript, the latter being easier to learn since I had already taken CS1101S, through courses on Codecademy (which was also how I learnt React). I spent a few days learning more about basic React concepts such as React components, lifecycle methods, hooks and so on, which was really fun and not too challenging as it was an extension to my existing Javascript knowledge

I then moved on to Ruby and Ruby on Rails, which was the toughest challenge yet, as I had to learn a new language that felt really different and weird to me compared to the programming languages I had learnt in school / on my own (Javascript, Java, Python, C, C#). There was suddenly a lot more complexity as Rails comes pre-installed with a lot of gems which I didn't know what were even used for. There weren't really any online courses for Rails like there were for React, so I decided to follow a Youtube tutorial that taught how to create an Airline review app with React and Ruby on Rails to learn the basics through real experience. I learnt how to create a Rails backend API with an Active Record model database, with controllers that rendered json data, which was then processed in the React frontend to get the view.

When I was building my todo list app, Todolister, I wanted to make my website look nice, and I had found out that there were UI libraries that provided components. I decided on Material UI, but learning to use the tools provided wasn't easy and required a good understanding of CSS concepts such as margin, padding and flexbox. Developing Todolister was a lot more difficult than I expected. Since it was my first experience in Web programming, I had to combine all the new skills that I had just learnt for the first time - HTML, CSS, Javascript, React, Rails, MUI.

I feel that I have really learned a lot through this assignment, and it is a good introduction to Web programming. Moving forward, I am a lot more confident in

Web development, as I feel that I have built a foundation upon which I can further deepen my proficiency and experience through further projects.

User Manual

Todolister is a todo app which allows you to keep track of your tasks.

To get started, first create a new todo list by clicking the "+ Add List" button on the right side of the navigation bar and entering a name in the popup.

Hover over a todo list to view the actions associated with the todo list.
- Edit: rename the todo list.
- Delete: delete the todo list. A confirmation pop up will be generated.
- Add: create a new task. Enter the name in the popup.
  - Optionally, you may add a description, or a due date by clicking the "+ add date" button.

Hover over a task to view the actions associated with the task.
- Edit: Change the name, description or due date of the task.
- Delete: delete the task. A confirmation popup will be generated.
- Mark completed: Mark the task as completed.

Tasks belonging to a todo list will display under the todolist name.

Completed tasks will be hidden. In a todo list with completed tasks, The "Show completed tasks ({number of completed tasks})" will display under all uncompleted tasks. Click it to show the completed tasks. Click it again to hide the completed tasks.

Todolister provides a search function to search the tasks by task name. To start searching, type part of the name of the task you want to search for in the search bar in the navigation bar.
- The search is case insensitive.
- By default, only uncompleted tasks will be displayed. To show completed tasks, click the tab on the top left under the navigation bar.