CVWO December Assignment

Mid-Assignment Writeup (30 Dec 2020)

Basic Use Cases

Use case 1: Managing tasks
- Users can use the todo app to manage their todos
- This includes
    - Basic CRUD features i.e. creating new tasks, viewing the list of all tasks, updating task names, marking tasks as done and deleting tasks

Use case 2: Categorising tasks
- Users can make use of the tagging system available to categorise and organise their tasks
- This includes
    - Basic CRUD features for tags i.e. creating new tags, viewing the list of tags, updating tag names and deleting tags
    - Updating the tags belonging to a task (add/remove tags from task)
    - Viewing all tags that belong to a task e.g. Task 1 has tags: tag 1, tag 2
    - Viewing all tasks that belong to a tag e.g. the following tasks have tag 1: Task 1, Task 2

Use case 3: Searching for tasks
- Users can make use of the search bar to search for todos

Extensions
- Tasks can have due dates
    - Sort task list by due dates
- Projects
    - Similar to tags, but each task can only be under one project vs multiple tags
    - Projects can have colours which the user can change to their liking
- Different types of tags, each coloured differently
    - E.g. location tags (school, home, grocery store) vs priority tags (high, medium, low)
- Search bar includes filters
    - User can further refine their search by adding filters e.g. search for tasks containing the word "typescript" and with project "CVWO" and priority tag "high"
- Keyboard shortcuts e.g.
    - "t" to open up tags menu, "e" to edit task, "D" to delete task
    - up and down arrow keys to navigate tags menu
- Drag and drop to assign tags to tasks

Execution Plan

Done
- Task 1: Managing Tasks
  - CRUD for tasks
- Task 2: Categorising tasks using a tagging system
  - CRUD for tags
  - Update task tags (add/remove tags from task)
  - View tags belonging to a task
  - View tasks which have a certain tag
- 4.2 TypeScript
  - Set up project with TypeScript
- 4.3 RESTful API
  - Set up boilerplate using jsonapi-resources
  - Set up frontend API calls to make use of the backend APIs
- 4.5 Redux
  - Set up boilerplate
  - Set up taskSlice reducers
  - Set up tagSlice reducers

Doing (next 3 weeks until 25 Jan)
- Task 2: Categorising tasks using a tagging system
  - Search through tasks
  - Edge cases when handling tags e.g. when viewing the list of all tasks with a certain tag, removing said tag from one of the tasks should cause this task to disappear from the list
  - Merge tags branch into master
- 4.2 TypeScript
  - Make use of type-checking features more

If time permits
- 4.4 Hosting
- 4.1 Cron
  - Automatically backup database
  - Implement recurring todo tasks where users can set task frequency (e.g. weekly on Mondays) and cron will automatically add the task to the todo list every Monday
- 4.6 Docker
- Extensions (see above)