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Riding on Rails: Project Plan

1. Motivation

This project aims to develop a web application that helps users to organize and keep track of their tasks. We first examine the stories of some potential users, and the functionality that can help them accomplish their goal.

1.1 *As a student, I want to be able to organize my assignments, personal commitments, and daily routines to help me accomplish more in the limited time I have.*
Functionality: The webapp should be able to categorize tasks and keep track of a schedule.

1.2 *As a busy parent, I want an application that can help keep track of my children's schedules so that I can focus on my work.*
Functionality: The webapp should be able to handle multiple profiles.

1.3 *As a working professional, I want to be able to keep track of my deliverables and deadlines.*
Functionality: The webapp should be able to handle goal-setting and deadlines.

These user stories will form the basis for the key features of the application. However, I will continue to add or modify the webapp's functionality in an iterative process as I explore the capabilities of Rails and React. I aim to develop the webapp in a manner that is extensible and well-documented to facilitate this process.

2. Use Cases

2.1. Create a new task

Basic Flow:
1. User clicks on the "New Task" button
2. User enters the title and description of the task
3. User optionally enters the tag, time and deadline of the task
4. User clicks the "Save" button

2.2. Find tasks

Basic Flow:
1. User types (part of) the title of a task into the search bar
2. Only matching tasks are displayed

Alternate Flow:
1. User clicks on one of the tags displayed on the sidebar
2. Only tasks matching the selected tag are displayed

2.3. View today's schedule

Basic Flow:
1. User clicks on the "schedule" button
2. Tasks that have time information are displayed in a schedule format.

2.4. Mark a task as complete

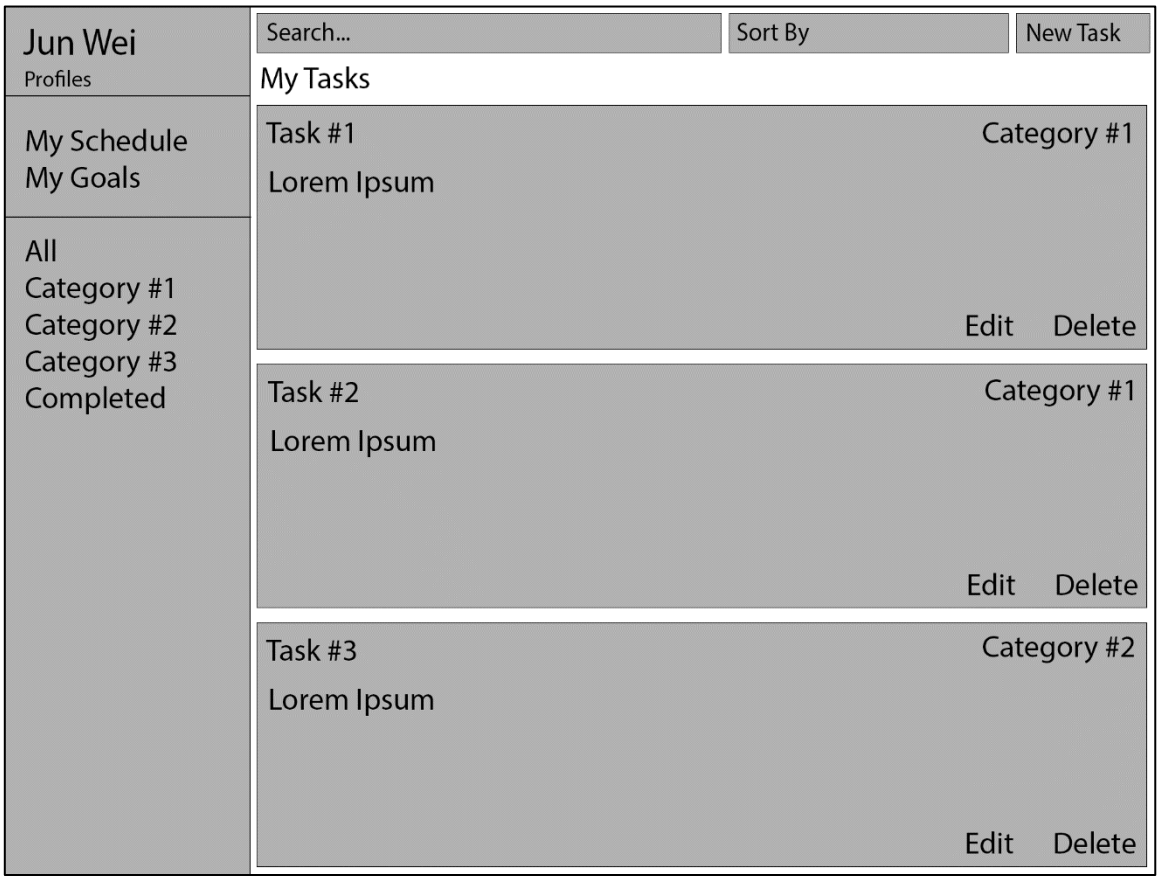
Basic Flow:
1. User clicks the "Complete" button associated with a task
2. Task is shelved into the "Completed" category

2.5. Update task information

Basic Flow:
1. User clicks the "Edit" button associated with a task
2. A form similar to that used for creating a new task is displayed
3. User edits the information associated with the task
4. User clicks the "Save" button

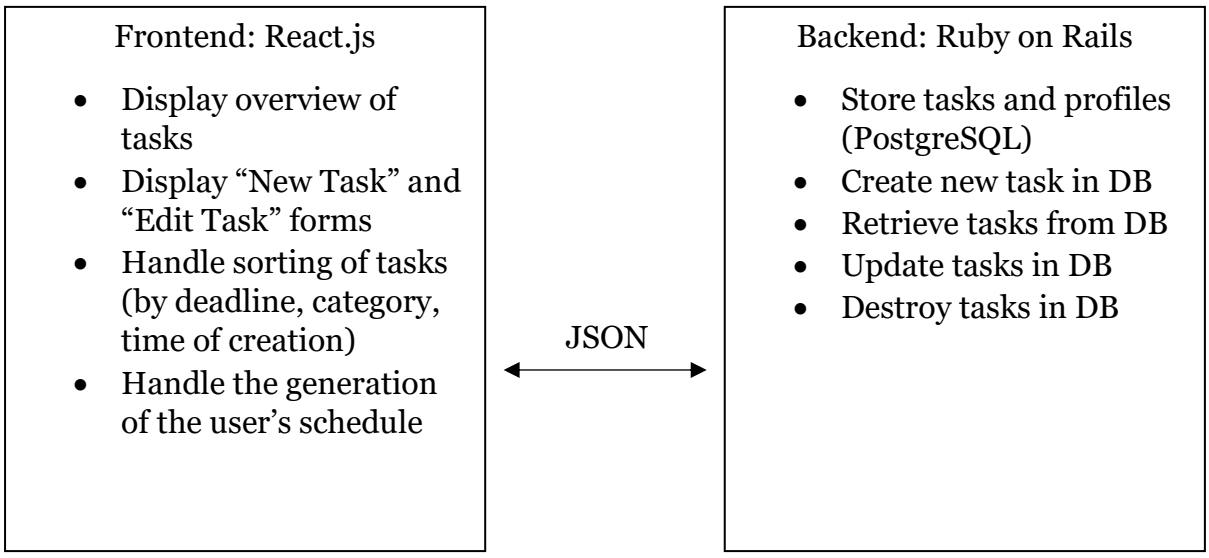
2.6. Delete a task

Basic Flow:
1. User clicks the "Delete" button associated with a task
2. A confirmation message is displayed to the user
3. User clicks the "Yes" button to confirm deletion



3. Implementation

The frontend will use React.js and the backend will use Ruby on Rails. The Rails server interfaces with the React frontend by exchanging JSON data.



4. Execution Plan

As this is my first time developing a web application, I will iteratively improve on both the frontend and backend as I learn more about the capabilities of Rails and React. To start off, I will develop a barebones frontend and backend that performs the basic CRUD functions with minimal styling. Afterwards, I plan to add new features starting with the frontend as I would then have a better idea of the requirements for the backend. The timeline below gives a rough overview of the process I intend to undertake.