

## CVWO Mid Assignment Write Up

### Scenario

The client is a fictional NUS freshman who expressed concern over his time management skills – finding it difficult to organise and cope with academic stress. He thus wishes to create a task management application to aid his task management in the upcoming semester.

The client wishes for the app to have a search and tagging feature for quick filtering and searching of tasks. The client also wants to access his data from different computers. He does note that, however, mobile support is not needed as he primarily works from his PC.

### Rationale

The proposed solution is a web application with a login and signup feature. This ensures that this application can be accessed on any computer with a web browser and that data can be saved and associated with the correct user on different computers.

Hence, the application will require backend and frontend components using a client and server architecture. The frontend will communicate with the backend using RESTful APIs. The frontend will be constructed with ReactJS and the backend APIs using Ruby on Rails with Postgresql as a database.

### Frontend

React, Redux, Typescript

### Backend

Ruby on Rails, Postgresql

### User Stories

As a	I want to	So that	Priority/Size
Student	Be able to login, sign up, and log out of the system	I can access my data from different computers.	High/Large
Student	Be able to create and add tags to tasks	I can filter my tasks to help organise a long list of tasks.	Low/Med
Student	Be able to search my tasks	I can easily search and find tasks added to the list	Med/Low
Student	Be able to move my tasks into different states (to-do, in progress, completed)	I can organise and track the progress of my tasks.	High/Large
Student	Be able to add, view, edit and delete tasks	-	High/Med
Student	Be able to restore deleted tasks	I can restore accidentally deleted tasks	Low/Low

### Use Cases

#### System: Task Management System

Use Case: U01 login, sign up and log out

Actor: Student

Main Success Scenario (MSS):

1. The user chooses to signup/login for the site
2. The user signs up/login with an email and password
3. The site automatically logs in the user
4. The site loads data specific to the user

5. The user will be automatically logged in for seven days
6. The user will be logged out at the end of seven days or manually choose to log out. Whichever comes first.

*Extensions:*

*2a.*

1. Task Management System detects an error in the login details
2. Task Management System requests the user to try again

**System: Task Management System**

*Use Case: U02* add, view, edit and delete a task

*Actor:* User

*Preconditions:* The user is logged in

*Main Success Scenario (MSS):*

1. The user chooses to add a new task
2. The user enters a title, description due date and an optional tag U03
3. The task is added to the 'to do' state
4. When the task is clicked, the user may edit the task and may also choose to change its current state U04
5. The user may choose to delete the task
6. In the deleted task tab, the user may choose to restore or delete the task U05

Use Case Ends.

*Extensions:*

*2a, 4a.*

1. Task Management System catches an invalid input
2. Task Management System requests the user to try again

**System: Task Management System**

*Use Case: U03* Creating and adding tags to tasks

*Actor:* Student

*Preconditions:* The user is logged in

*Guarantee:* The task will have a new tag

*Main Success Scenario (MSS):*

1. The user adds a new task U02
2. The user will add an already created tag or create a new tag for the task

Use Case Ends.

*Extensions:*

*2a*

1. Task Management System catches an invalid input
2. Task Management System requests the user to try again

**System: Task Management System**

*Use Case: U04* Change task state

*Actor:* Student

*Preconditions:* The user is logged in

*Guarantee:* A different task state

*Main Success Scenario (MSS):*

1. The user wishes to edit the task U02
2. The user changes the state to either 'to do', 'in progress' or 'completed.'

Use Case Ends.

## System: Task Management System

Use Case: U05 delete or restore task

Actor: Student

Guarantee: restore or destroy task

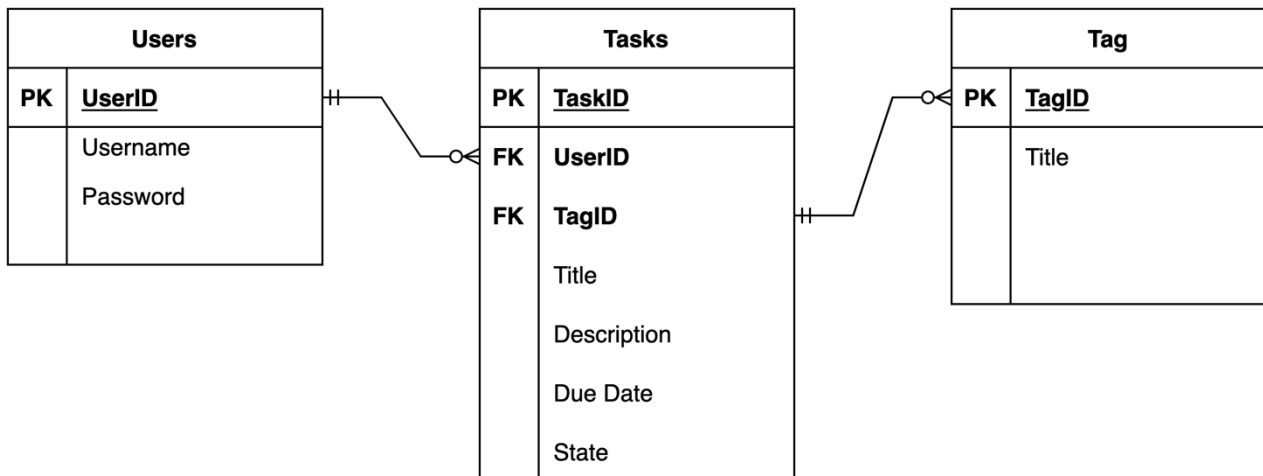
Preconditions: The user is logged in

Main Success Scenario (MSS):

1. If the user clicks restore, the task is returned to its previous state
2. If the user clicks delete, the task is destroyed on the database

Use Case Ends.

## Entity Relationship Diagram



## UI Design ([Figma Link](#))

