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CVWO Mid-Assignment

I.   Basic Use Cases

Use Case	Sign up
Actor(s)	User
Basic Flow	1. User provides desired username and password at Sign Up page.

Use Case	Validation of Sign Up
Actor(s)	System
Basic Flow	1. System checks if the username and password given are valid. 2. If valid, the account is created and the User is directed to his/her account page. 3. If invalid, an error sign is shown with explanation.

Use Case	Login
Actor(s)	User
Basic Flow	1. User provides username and password at Login page.

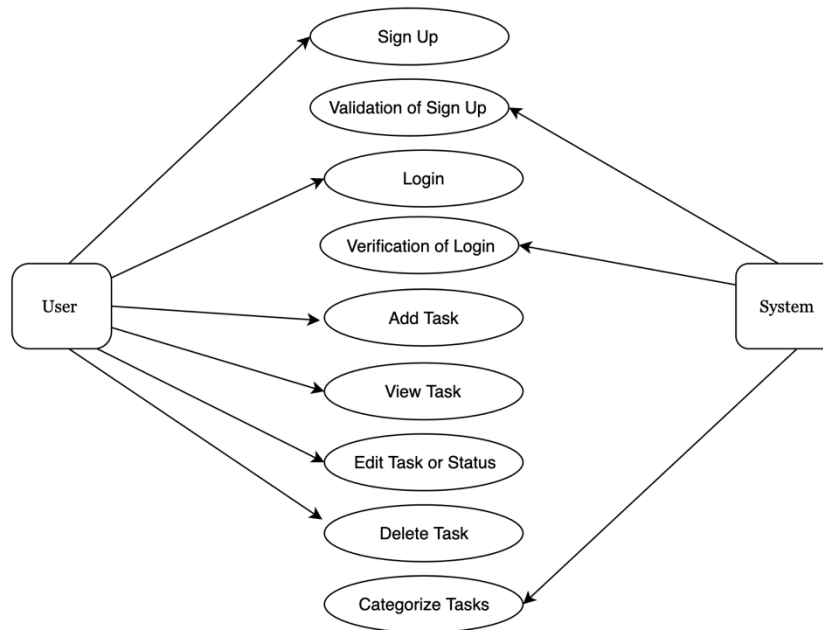| Use Case	Verification of Login
Actor(s)	System
Basic Flow	1. System checks if username and password are valid. 2. If valid, User is directed to his/her account page. 3. If invalid, User is asked to try again.

Use Case	Add Task (CREATE)
Actor(s)	User
Basic Flow	1. User adds title and deadline of the task at ~/tasks/new.

Use Case	View Task(s) (READ)
Actor(s)	User
Basic Flow	1. User views the list of his/her uncompleted tasks at ~/tasks or details of a particular task at ~/tasks/id

Use Case	Edit Task Details or Status (UPDATE)
Actor(s)	User
Basic Flow	1. User can edit the details of a task and/or change its status (completed/uncompleted).

Use Case	Delete a Task (DESTROY)
Actor(s)	User
Basic Flow	1. User can delete his/her task(s).

Use Case	Categorize Tasks Based on Tags
Actor(s)	System
Basic Flow	1. System arranges tasks based on tags provided by Users.

II.　　Execution Plan

Period	Goals	Status
8/12- 14/12	Learn about web application and its architecture (API, frontend, backend, client, server, HTTP, etc)	Completed.
	Try out Ruby on Rails tutorial provided in the CVWO assignment.	Encountered difficulties as the learning curve was indeed steep without prior experience with Ruby.
15/12 – 21/12	Figure out Ruby syntax.	In progress.
	Understand REST, MVC.	Completed with difficulty as I had a hard time figuring out how Ruby on Rails put everything together using the MVC concept.
	Get accustomed to using command line.	Completed.
	Complete Chapter 1 Ruby on Rails tutorial.	In progress. Goal was delayed as I had difficulty with version controlling my app with git, among other issues such as understanding MVC concept of Ruby on Rails.
22/12– 28/12	Learn git.	Completed.
	Learn how to use GitHub.	Completed.
	Complete Chapter 1 Ruby on Rails tutorial.	Completed.
	Try version controlling my app.	In progress.
29/12– 4/1	Complete Ruby on Rails tutorials.	Pending

5/1 – 11/1	Complete developing backend using Ruby on Rails.	Pending
	Start learning REACT.	Pending
12/1 – 18/1	Learn REACT.	Pending
	Learn HTML, CSS and JavaScript, at the very least just the tools needed to build and enhance my app.	Pending
19/1 – 25/1	Complete developing frontend using REACT.	Pending
	Submit on 25th January.	Pending

III.   Suggestions and Problems

Equipped with no prior knowledge/experience in developing web application, I have been having a hard time completing the task. I encountered many problems in the learning process, such as understanding Ruby on Rails, git and the concept behind web application. When I dived straight to Ruby on Rails and git, I encountered so many errors which remained unsolvable even after searching online. Experimenting with git without first understanding its underlying concept has costed me a lot of time, confusion, and my kept-getting-destructed local repository. Similarly, diving straight to Ruby on Rails confused me a lot with its syntax and its initially incomprehensible system/concept. However, after reflecting upon my ongoing three-week journey, I realised that I have learnt so much on how to self-learn as a Computer Scientist. I learned painfully that I must not start coding immediately nor follow tutorials blindly. Furthermore, I learned how to find good resources and have the work ethics of a Computer Scientist-resilience, patience and meticulous.

As of my current problems, I listed them below.

1. Learning Ruby on Rails: There are still a lot of Ruby on Rails materials that I need to understand and learn.
2. Learning React, HTML, JavaScript and CSS: As I have spent a lot of time in learning Ruby on Rails and git, I might need to squeeze in a lot of materials in a short period of time. This is worsened by the fact that I have no prior experience in React, HTML and CSS (I learned a bit of JavaScript from CS1101S).
3. Figuring how to put everything together: As of now, I am still following the tutorials. As such, I'm still not clear on how to combine the frontend and backend of my app.
4. Implementing version control of my app: I have learnt how to use git and GitHub. However, I haven't been able to implement it well on my app, especially on using branches.

Looking back, I really believe that being able to understand how web application works and can be built using Ruby on Rails would be a tremendous help. Although figuring this out by myself helped teach me how to self-learn, it was very stressful. It wasn't until I found a beginner's book on Ruby on Rails (Ruby on Rails Tutorial: Learn Web Development with Rails by Michael Hartl) and numerous other resources, that I finally understood the reasons behind each step in the tutorial. As such, I believe it will be very helpful if in the future more insight on the working process and concepts of the project would be given, as to provide a clearer idea especially for those with little or no experience.