

## CVWO FINAL SUBMISSION

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### **User manual**

The NUSCS web forum serves as a discussion platform for students from NUS School of Computing to discuss about various core modules and other issues like internships.

When the application initialises, the welcome page shows up. You can choose to register or login with past credentials if you have logged in before.

#### Registering/ Logging in

When registering, any username can be chosen, but password must be a minimum of 12 characters long. The user will be prompted to choose a new password if the password is too short. User is also not allowed to submit an empty username and empty password field when registering or logging in.

After logging in, user will be directed to the main web forum page.

#### Web Forum Main page

The user can choose to logout by accessing “options” on the navigation bar on the top right. All posts by every user will be displayed here. The user who posted each thread and the category of each thread is displayed. The users can choose to add a new thread by clicking on “ADD NEW THREAD” on the top left. (see *adding new thread* for further guidance).

Users can choose a specific category on the left of the page. The page will then only show threads related to that specific category.

Users can also search for a specific thread based on their title using the search bar at the top of the page. The page will then only show threads which titles containing the search field.

Users can choose to see their own threads by accessing “options” on the navigation bar on the top right.

Users can click on each individual thread to view the specific thread together with all its comments in a new page.

#### Viewing a thread with its comments

Users can choose to edit or delete their thread by pressing on the respective buttons on the top right of the page. This function only exists if the thread was created by the user himself/herself. (see *editing new thread* for further guidance)

All the comments are listed below the original post made. Users can also add their own comments in the page itself. Users are allowed to edit or delete comments that are made by themselves

### Adding new thread / Editing new thread

After being directed to a new page, users can add in the relevant information into the title and description field for their new / edited thread and choose a relevant category for the thread (only for adding a new thread). Users are prompted to resubmit their new / edited thread if the title or description is empty or if a category is not chosen.

### Reflection

When I first saw the assignment when it was first issued, I felt a little uncertain about whether I will be able to complete this assignment satisfactorily. After all, I had only started to pick up coding a year before and the only familiar technology I used before this assignment was React which I had picked up before I entered university. The entire journey was not easy for sure, as I had to juggle all commitments such as IHG during the winter as well. I also had to spend time watching videos to learn the new technologies such as Rails API, JWT authentication on Rails, and also learning how to use Typescript in React. I am thankful for having some background knowledge on CRUD despite having done so on Node and Express in the past as this greatly eased my coding experience when I was learning and coding the Rails API.

One significant challenge I faced was right at the start of developing the web forum application, which was creating an authentication system for Rails. I knew that to create a good authentication system is deceptively hard as I had some experience in creating a login page using PassportJS which was very confusing to me. Indeed, I took a long time to find a guide and understand the process which involved storing the JWT token. I feel that there is definitely room for improvement regarding my authentication system, specifically towards learning how to store my JWT token in a HttpOnly cookie rather than in localStorage currently which can be compromised.

This assignment has definitely introduced me to many other various problems which has provided me the opportunity to learn a lot as well. Through coding this project, I have not only just learnt but also gained greater confidence in the new technologies namely Ruby on Rails and Typescript. I have also gotten a feel for myself how developing your very own project feels, especially the debugging process which was frankly painful. However, I am sure that I as a novice programmer will only get better at debugging as I gain more experience in programming and also in the technologies used.

Amidst all the problems and bugs I had faced in this CVWO assignment, I felt that the process of doing this assignment has allowed me to gain greater confidence in my coding abilities as I got to do something practical that is my very own from scratch. I feel that such experience is equally important to our coursework that focuses more

on theory. I am thankful for the experience that this assignment has given me and it has inspired me to work on future projects. As this was an individual project, I look forward to building projects with other collaborators as well in the future.