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## Final Submission Write-up

### Introduction

Never did I expect my companion throughout the winter break to be a To-do App. It has been a fun ride with it, and I can't be any happier to see it come to reality with the functionalities that I implemented. In this report, I will be reflecting on my experience that I had for the past 2 months.

### Review of execution plan

Feature	Ease of implementation	Importance	To be completed by	Completed?
Categorise tasks by adding tags			31 Dec	✓
Search through tasks			7 Jan	✓
Sort tasks based on different criteria			7 Jan	✓
Authentication			7 Jan	✓
Additional views			14 Jan	✓
Project feature			14 Jan	✗
Social features			21 Jan	✗
Timer			21 Jan	✓

In my mid-submission report, these were the tasks that I set out to complete by the final submission. While I managed to complete most of the objectives, I fell short of two of them – the project feature and social features.

What went wrong?

I pondered and tried to pinpoint what went wrong and find the reason why I was unable to finish these objectives.

For the project feature, I felt that it was because of my lack of proficiency in the backend. To be brutally honest, when I was implementing the Rails backend, I came

across many difficulties. I was unfamiliar with the Ruby language and I also had some difficulties with model associations. There were a few times where I was not sure of how to properly structure my models and how to actually migrate my database to fit my models.

As for the social features, I might have underestimated the difficulty of implementing the features. To implement social features such as chat, notifications and forming groups with other users, it would require a lot more backend proficiency than what I have. However, I implemented a “collaborators” feature, which allows users to add people who they are working on the task with, just that it is not synchronised with any actual user, but just a note to the user who created the task.

## **Positive takeaways**

From this holiday assignment, I learnt more than what I actually expected. I came into this assignment with minimal knowledge of HTML and CSS and absolutely no clue about what ReactJS was other than the fact that it was used to build web applications.

In the short span of two months, I am certainly proud that I managed to build the to-do application with intermediate functionalities. I also surpassed my own expectations in terms of the aesthetics of the web page, since I was never had any talent for anything related to art and design. While it may not be as good-looking as others’ pages, I am still satisfied with the result.

Other than technical knowledge, I became more resilient. There were so many times where I wanted to add something to my web application but just could not execute it at the first attempt. In the past, perhaps I would have given up easily and forget about it. In this project, I am glad to have persevered through almost everything that I started. The immense satisfaction when your desired component appears just like you wanted it upon a reload is just incomparable. The time spent on Stackoverflow and medium.com all just paid off.

## **Areas for improvement**

Those were the ups and definitely there must be downs.

One of the biggest pitfalls was that the website is not responsive enough. While it may look decent on large screens like our computers, I did not manage to optimise it for mobile view in time. A To-do app would make a lot more sense for it to be optimised for mobile view since people are always on the move and would, more often than not, be recording their tasks down with their mobile phones. This is definitely something that I should have put more effort into to yield a better result.

Another area that I would have worked more on if given more time would be user customisation. Other than the different views of displaying the tasks at hand, there was no other way that the user could change how the page looked like. I can

definitely envision some users being completely put off by the colours that I have chosen. A 'dark mode' toggle would also be extremely useful.

I did not manage to learn and implement Redux. Redux seems to be extremely useful in terms of state management. While the scale of this application is still considered small, I found myself passing state around together with props to handle changes to shared state. At the end of the project, the source code had too much of these for my liking. Redux would have made state management a lot easier and made my code a lot cleaner. This is definitely something that I will pick up soon.

## **Final Reflections**

I certainly never knew one could learn so much with just a single To-do application. This assignment gave me a deep insight into web development and a little of software engineering. With everything that I picked up over the course of this assignment, I am certainly more confident to dive into other projects, with a personal website at the top of my to-do list now.

Whether I am selected into the CVWO team in the end does not matter as much as it did at the start anymore, as I am truly grateful for the wonderful experience this assignment has provided me with throughout my first winter break in NUS.

Finally, I would like to end off this report by saying a big thank you to Prof Ben Leong and the CVWO trainers for this opportunity and for all the effort put into reviewing all the submissions.

**- Donezo! 😊 -**