# CVWO Assignment Final Write-up

This assignment has taught me quite a lot about the process of creating a web application. The process was not easy and I feel quite satisfied that I have been able to complete the application as well as take the time to implement some of the optional tasks as well. Although I did not manage to implement all of them, it was quite useful to have heard of them (Docker & Cron) and maybe I could use them in the future.

## Ruby on Rails

This was super new and super frustrating for me. There were so many problems with installation and setting up that I almost gave up. I had a lot of problems with WLS and it was quite hard to find help regarding WSL systems online. Once I finally got it to start working, it was quite surprising how fast you could get a database up and running along with the API endpoints to handle requests. To be honest, I didn't spend much time looking at Ruby/Rails examples to be confident enough to experiment with various other implementations like a login function.

## React

I have toyed around with React in the past and I felt like this was a good chance to put into practice what I have learnt. Although it is a relatively simple application, it is definitely one of the larger scale projects I have done. I tried to learn about design principles and structure my code as such but it was difficult as I was not able to plan out everything I was going to use. There was a lot of help online regarding React and I am very grateful for that.

## Typescript

This was my first time using Typescript but towards the end, I feel like I did not really do a great job with it. This is my first experience with static typing and I can definitely see how useful it can be. However, working with various libraries with more obscure documentation made it hard to determine the static type that the libraries would return so for those portions of code, I actually used some hacks to get around it which defeats the purpose of Typescript in the first place. It was still great to learn though and I can only get better from here.

## Hosting

I did play around with Heroku before and even though I managed to successfully host my application on Heroku, I do not feel like I've learnt much about Heroku at all. I followed a tutorial online which luckily implemented React on Rails as well. Just following the steps was enough for me to get it up on Heroku.

## Redux

Redux was very weird to me when I started but after getting it to work on one thing it became more manageable. I have read about the benefits of Redux and it definitely allowed me to improve my state management rather than just passing state down as props. However, one annoying thing is that so much code has to be written just to get started. I also came across the Context hook in React that has been gaining traction but I'm not sure if it is a better way to manage state than Redux.

### Not Done: Docker & Cron

I saw that Cron could be done as a plugin on Heroku and thought of using it to erase notes after the deadline has passed but I did not get around to doing so in the end.

I read up on Docker only after I finished the other optional tasks and based on what I have read, it would have saved me so much time if I had gotten started with the project with Docker. I think this is something I would definitely be using in the future as well.

### Improvements

Styling could definitely be improved on as right now it only looks nice on a computer screen. A lot of people also implemented a login which definitely seems super obvious and should have been implemented. A text search to filter for notes that contained the keyword would have also been useful for the user in the end.

### What I think I did well in

I think the calendar is a cool function to have and it definitely took up way more time than I should have spent on it. It also gave me the chance to play around with some CSS but I definitely should learn more about CSS before trying again. I also used Material's Autocomplete component for adding tags to a note which I think is quite useful too.

### Conclusion

This assignment has definitely taught me so much about full stack web development. Regrettably, I did not spend as much time learning about the "backend" side of things which I definitely should have. Overall, it has been an enriching and valuable experience for me personally and I feel much more confident if I were to start my own project which requires a website application.