Lilly Technical Challenge Documentation Template

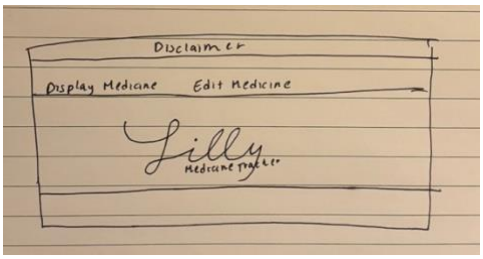
This documentation template serves as a place for you to discuss how you approached this challenge, any issues you faced & how you overcame them, or any other points that you feel would be relevant for the interviewers to know. The text in italics is here to guide you - feel free to remove it once you fill out each section!

Approach

I started the challenge by carefully reading the README.md document to fully understand the requirements and expected outcomes. After setting up the repository, I refreshed my knowledge on fast API, JavaScript, HTML, and CSS by watching tutorials on YouTube. This helped me establish a solid foundation before beginning any implementation. I familiarised myself with the basic JavaScript syntax, particularly conditionals and loops.

Next, I broke the objectives into smaller, manageable tasks and developed each frontend functionality step by step. Before coding the interface, I sketched a rough layout of how I wanted the web application to look. After completing the main objectives, I worked on the optional objective and created a backend function for averaging the prices of all medicines. I then focused on improving user experience by refining the design through adjustments to the HTML and CSS. I also added comments throughout the JavaScript file to clearly explain the purpose of each function, ensuring the code is easy to understand and review.

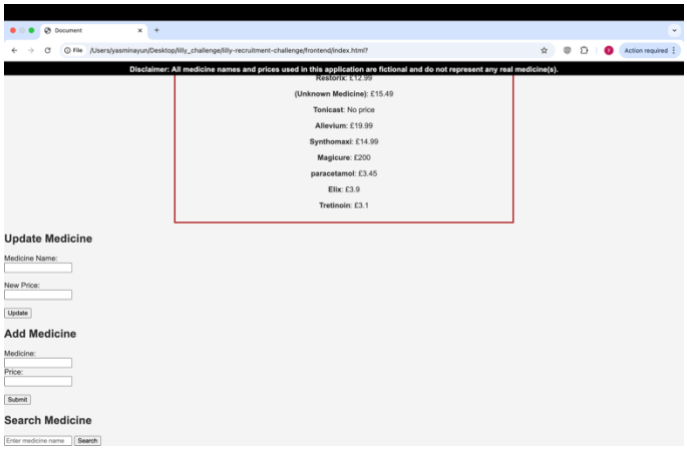
Throughout the whole process, I made effective use of external resources like W3Schools and YouTube, particularly when working on styling improvements.



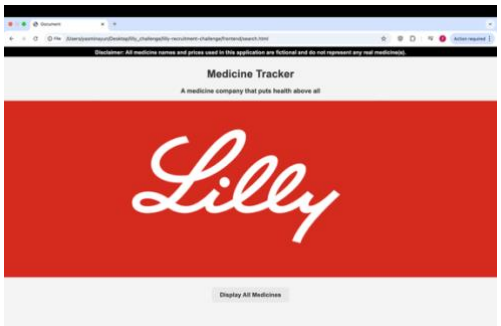
My initial sketch of the website

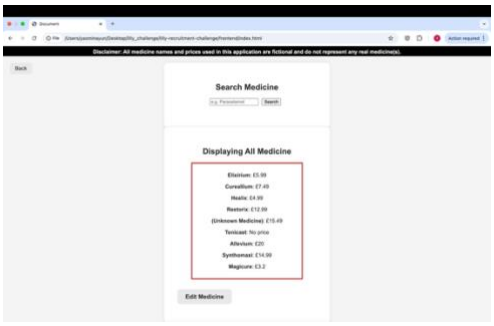
Objectives - Innovative Solutions

I spent a considerable amount of time refining the HTML and CSS to enhance the design and user experience of the web application. I am particularly proud of restructuring the layout into three separate HTML pages. Prior to the restructure, I had shown the webapp to my family for feedback. They mentioned that having all the features on one page made the website feel cluttered and overwhelming. To address this, I separated the interface into three dedicated pages: a welcome page, a page to display all medicines, and a page for updating medicines. Additionally, I incorporated the company's logo and aimed to maintain a consistent style throughout, ensuring the web application reflected the company's branding.



My webapp prior to my family's feedback

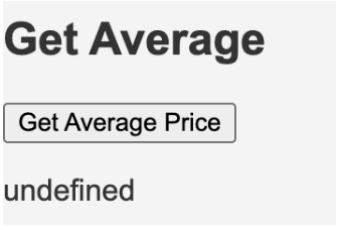




My webapp after my family's feedback

Problems Faced

When implementing the backend function to calculate the average medicine price, the result initially returned as **“undefined”.** After debugging, I discovered this was caused by missing or invalid price entries in the database. To resolve this, I added a condition to ensure that only medicines with a valid price were included in the calculation. Once this was implemented, the function worked perfectly and returned the expected average.



Average returning ‘undefined’

Average returning expected outcome

When building a user-friendly interface, one of the main challenges I faced was centring certain elements, particularly the ‘Edit Medicine’ button. Due to time constraints, I couldn’t fully align it the way I intended. However, despite this, I was still able to develop a clean, simple and consistent user interface across all three pages.

Evaluation

Initially, I felt quite intimidated by this challenge as I have limited experience with creating web applications. I spent more time than suggested because I recognized there were concepts I needed to learn before I could implement certain elements effectively. Although I was intimidated, I was genuinely excited to explore and learn independently, especially with the creative freedom I had over the frontend design.

If I were to re-do this task with more time, I would focus on further enhancing the user interface. For example, I would improve the positioning on certain buttons. Additionally, I would make features like update, search, and delete case-insensitive to improve usability. I would also aim to implement unit tests to make the application more robust and reliable.

In conclusion, I am very proud of what I created in the limited time that I had. I am very grateful to have been given the opportunity to do this challenge as I was able to learn a lot about full-stack development in practice. From integrating frontend and backend systems and handling real-time API communication, to debugging, managing data reliability and improving user experience. I look forward to expanding on these skills in a real-world setting.