

# Software Eng. Project Individual Reflection:

## **Introduction:**

The project was to create a CRUD application, acting as a front-end interface to a database about world population. I was required to use pug for front-end, Node.js for back-end, and Express.js as a means of communication between the two. The project would also have to be deployed through Docker.

## **Design Process:**

For the front-end design, I started with creating wireframes to visualise the user interface, and layout of the website. Both low-fidelity and high-fidelity mockups were created, and the low-fidelity simple sketches proved more useful initially, as they allowed for me to quickly iterate through ideas without taking up much time. The high-fidelity mockups did look better overall, but they were also more time consuming to create, and make changes to.

## **Development:**

The front-end development using Pug was straightforward, as it's similar to HTML, but with features for templating and other conveniences. This part of the project was the simplest, and least time-consuming.

However, the back-end development was where I found difficulty in my project, as Node.js and Express were both new to me, a lot of my time was spent learning how they work, and implementing the back-end of the project. In future projects, I might consider using alternatives.

Another short-term issue I had for a while was getting the database to link, trying to run the project through docker used to occasionally bring up issues, and running the project as a web server, working without docker served as a temporary fix while I was working on pug development.

Using GitHub was a worthwhile investment of time, it provided version control and access to branching the project, so I was able to work on different things without having them interact. Having CircleCI to ensure everything was working properly integrated within GitHub was also very useful.

### **Teamwork:**

For this project, I was unable to collaborate with a team. It would have made both the design and development process a lot easier, as well as providing me with different perspectives on the project, and would've allowed me to have made a more fleshed-out and complete project, with more features than initially foreseen.

### **Reflection:**

An area for improvement would be adding a functional login system. Currently, any user is able to edit the population data, which compromises data integrity. This would be circumvented by adding the login system, as user authentication and authorisation would allow for me to give certain users privileges to edit data.

Also, I'd like to do more work on the user interface, as I feel it lacks personality, and I could also improve on the overall user experience. An advancement on the project would be adding data visualisation, or other data analysis tools, so users would be able to use the data to draw information straight from the database rather than having to use other tools.