

Final Report

Overall, this project provided a valuable introduction to full-stack web development. While the application itself may seem straightforward at first glance, it required several robust implementations to function seamlessly. The use of React and Django significantly streamlined the development process, especially given our fast-paced timeline.

From the start, having a well-defined plan proved to be one of our biggest advantages. Because we had already outlined the core functionality, the implementation phase was straightforward—we simply followed the roadmap we had created. One of the most important takeaways from this experience was the value of reading documentation thoroughly and understanding how different components of our system interact. Without a full understanding of our system this application would have been impossible to implement. I think This foundational understanding helped us effectively translate our plans into working, maintainable code.

We were also able to adapt to new ideas and change our methods in order to improve our application and the engineering process, which is fundamentally necessary for any kind of software engineering. We initially began with a Django database, and then changed to postgres when we reached a point in the development process that required an easier interface for data entry. We originally needed to start the frontend and backend separately, but pivoted to using docker which proved incredibly helpful in a variety of ways. We began planning to create our own AI model, but adapted to a much easier to incorporate pre existing model that allowed us to stay within our desired timeline and focus on other features of our application. Most importantly, we were able to collaborate when making these decisions, help each other in the process of learning new technologies, and work together to make a functional and satisfying final product.

Another key takeaway from this project was the ability to effectively debug a codebase that we had set up entirely from scratch. Since we were in control of the tech stack and project structure, it was much easier to trace how changes and updates impacted the application. The modular nature of Node packages and Python dependencies also contributed to this clarity. When we did encounter issues we couldn't immediately resolve, simple google searches or using AI tools often helped identify even the most obscure errors. This experience reinforced the importance of leveraging all available resources to develop a functional and reliable product.