**Personal Project Diary**

**Team : Poseidon**

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| **Week 3**  This week, we made planning our meetings easier by using Calendly. We shared a link in our group chat so everyone could choose the best time to meet. This made organizing our project smoother. |
| **Week 4**  This week, we finalized the topic of our project. We decided to create a University Recommendation System. In our system, users will input various details like GRE scores, IELTS scores, and their 10th and 12th grades. Based on these inputs, our app will recommend universities that match their profiles. This idea came from a group discussion where we aimed to make university selection easier and more personalized for students. |
| **Week 5**  This week, we started working on our initial project draft. Everyone was assigned specific tasks to contribute to the draft. My responsibility was drafting the management approach section of our project's initial draft. Also In this week, we created our initial architecture as well and also decided which tech stack we are using for our project. |
| **Week 6**  During week 6, our team engaged in discussions regarding the selection of machine learning algorithms for our backend recommendation system. Specifically, we explored the possibility of utilizing Support Vector Machines (SVM) or K-means clustering. . It was important to choose the right method to make our recommendation system work well. We finally decided to go with the SVM model for our recommendation system after the group discussion. |
| **Week 7**  In week 7, we continued working with our backend development. We divided up tasks within our team, ensuring everyone had a specific role. My responsibility was to work on the backend layer, starting with the model layer and then creating a REST API for our backend application. |
| **Week 8**  In week 8, We started with our work on the front-end interface. we created basic template for user interface, we are using React, Typescript and Vite for our frontend development and also meanwhile we continued working with the backend development. |
| **Week 9**  In week 9, We tested the backend application using postman, we created Rest API **/submit** endpoint, which gathers data from a JSON payload in a POST request. This includes details like the user's name, age, residence, GRE scores, and CGPA. After collecting this data, we create a new user entry in the database using SQLAlchemy. Then, we use a machine learning model (SVM) to predict suitable universities or programs for the user. We organize the prediction scores into "High", "Medium", or "Low" categories based on predefined thresholds. Finally, we send back a response in JSON format with a success message and the predicted categories and their scores. And also in week 9 we made the front-end even better by adding more features. |
| **Week 10**  In Week 10, we focused on testing and refining our code in both the front-end and back-end. We conducted thorough testing to ensure everything works smoothly, and we made improvements to the code structure to enhance performance and readability. |
| **Week 11**  In week 11, We connected our backend application with our frontend. Also we conducted various testing whether everything is working fine or not. |
| **Week 12**  In week 12, we wrapped up our project by completing the final report. we summarized our project in this final report. We submitted the report along with a video presentation, to our professor. |

Lessons Learned:

In reflecting on what I've learned from this project, I realized that despite my background in Backend Java development, I had the chance to explore new technologies. For instance, I got to work with Flask framework for the backend, which was a new experience for me. I also explored frontend development, learning about React, Typescript, and Vite. These are all important skills that are in high demand in the industry. Moreover, integrating a machine learning model into our application was a standout moment for me, expanding my skill set even further. Additionally, I also realized the importance of making our application accessible to users based on their language preferences. This feature allowed users to choose the language they preferred to use our application in, enhancing the overall user experience and catering to a broader audience.

In this project, mostly I worked in the backed part of the application and working on integrating and maintaining the SVM model was challenging part for me. We have to ensure that the SVM model performs accurately and efficiently on new, unseen data for our project which was our primary goal and which can be challenging as well sometimes. Given the time constraints we faced, I believe our group did a great job.

Going forward , we organize task earlier to prevent the need last minute changes. I think this is the only one area for improvement in our project.