

Individual Project Report

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1. Your personal contribution to the project.

After brainstorming many different ideas, I suggested the idea of a News Curator application to my teammates. I spent quite some time coming up with the various requirements and features we could have within the project. Subsequently, after I pitched the idea to the team, we were able to extend the idea more and Edmund helped prepare an initial design document and rule engine and all of us discussed further on how we could link advanced concepts of intelligent systems such as NLP into the system as well. Meanwhile, I began preparing a sample prototype by creating a web application using Flask (a python library) to develop some backend API's which interact with the front end that we were creating as well. Additionally, I also created a database schema to persist user profiles, preferences and other critical information. These tasks required proper designing of API's and coming up with relevant API specifications as well. One of my most critical tasks was to integrate the different parts coded by the rest of the team which included other API's, rule engine, front-end (HTML, CSS, Javascript). This was a pretty challenging effort since we all had different coding styles but thanks to my software engineering background, I was able to do this successfully. I also spent quite some time during the early stages of the project development on figuring out ideal data sources. I reviewed different websites which provided news via API's and after a very detailed research, finalized on the News API. I was able to understand the various specifications of the API's they provided and relay this to the rest of the team who also subsequently used it for completing their parts. Another important contribution from my end was coming up with my own algorithm for the Trending News Labeler which was a challenging and engaging experience. Further, after Edmund had come up with a basic UI flow, I helped by refining the UI experience as well. As part of the system validation effort, I prepared a detailed testing plan and came up with a list of functional test cases that we executed and this has been detailed in the final report. Overall, I believe my experience as a software engineer came to the fore in this project as my teammates also benefited from my ability to quickly understand and explain the different facets of end to end web application development, testing and deployment. My teammates were very quick learners and grasped the concepts really fast and were able to independently work on various areas. I believe it was a project where I could marry both software engineering principles along with concepts in intelligent systems such as NLP, rule engine etc which made this project highly engaging and interesting.

2. What you have learnt from the project.

While I pride myself on my software engineering skills, my biggest takeaway was how I can merge my knowledge with my newly acquired skills in the field of intelligent systems. I understood that my skills are complementary and can help me significantly in ideating, designing and developing a system that is robust, maintainable and intelligent. I was able to spend a lot of time with the rest of the team in refining the design of the project by coming up with a rule engine, understanding where to apply concepts such as NLP, designing API's, designing DB schema, figuring out best data sources which were all critical elements of the project. After carrying out this project, I understood how critical the design and architecture of a project is and that we cannot proceed with a project without solidifying these aspects. There are so many moving parts in a project and without a solid design that we can fall back on, it is highly likely that the project will fall apart. Additionally, we made use of various new Python libraries for carrying out different tasks which made me more confident about my skills in Python, which is an important language to master in this field.

3. How you can apply this in future work-related projects.

I definitely have very important takeaways from this project, the most critical being the ability to design an end to end intelligent system. Like I mentioned earlier, being a software engineer, I know that I can bring together my newly acquired skills in intelligent systems to develop robust intelligent applications which is a valuable skill to have in the industry. In addition to this, being able to work with the data we have, coming up with intelligent workarounds to make sure the system is reliable with available data are all some of the various challenges that I tackled and I believe will be really useful in my future. There are several challenges that I have faced personally in my workplace that I believe can be reliably solved using some of the skills I have gained both in this project as well as the reasoning systems course. Some of these challenges are efficient project assignment across a team, optimizing meeting room availability etc. All of these challenges require the skills that I have highlighted above and I believe I will certainly be able to contribute significantly in the future to any projects that I undertake.