Project experience report

IFoundMovie

Xufeng Liu, Yixu Zhou

1. Project Initialization

In September 2022, we started our capstone project, the ENSE 400 course. We thought about the project title for a long time before settling on it, because we wanted to find a subject close to our lives and easy to reach. After several discussions with Tim, we decided to focus on the movie. Firstly, we both love movies. Secondly, the capstone aims to improve some of the problems we usually encounter that are not well-solved, Combined with my experience, I found that sometimes choosing a movie is really time-consuming, and even the desire to watch a movie will be diminished. So we wanted to build a system for recommending movies to improve this problem. After we had the basic idea, we started the basic design and the creation of a series of documents such as the business needs and requirement surveys. Then is the front-end development, the addition of interactive functions, back-end development and AI algorithm coding, and last but not least overall testing and modification.

2. Teamwork (Role)

For our teamwork, Xufeng is the front-end programmer, mainly responsible for UI design and the implementation of various interactive functions, as well as database

compilation and arrangement, etc. Yixu is the back-end programmer, mainly responsible for algorithm debugging, SQL running and later server deployment. The final testing phase and improvements were done by all of us. Since there are only two people on our team, we will help each other besides the detailed division of labour.

3. Result & Conclusion

As for the result, we can now implement the TMDB website data through API access to get and process. We took about 5,000 pieces of information about the director, the title of the movie, and the genre of the movie and collated them into our data set. With respect to this data set, it can implement manual training, if the user searches for a certain movie and there is no match, the data will be created in this data set. At the same time, TMDB data can also be displayed by us in a variety of categories in real-time, such as rotation poster recommendations, streaming movie recommendations, popular recommendations and some classic movie series.

Our AI algorithm can match the result according to the keywords entered by the user, calculate a matching value according to a certain proportion of the movie name, director, genre and the number of clicks of the user, and recommend similar movies to the user based on this matching value.

In addition, users can also comment on the website, copy the URL of specific information about a movie on our website and paste it to other social platforms for sharing, as well as view the available playback sources of the movie.

After a series of debugging and improvements, the IFoundMovie website can roughly achieve the functions we originally envisioned, satisfying the two core themes of recommendation and sharing.

4. Future Improvement

We also know that there are many shortcomings in our website, which need to be improved in the future. The most important improvement can be made in our AI algorithm. Since we do not use the neural convolutional network, it takes a while to load a movie every time the user clicks on it. The user may think that it takes such a long time to load some movie information, which is actually because AI is calculating and only after all the recommended operations have been calculated the corresponding movie page will be loaded. In particular, it takes longer time to load some movies with foreign translated names, which may be due to the language library and lead to more time for the algorithm, which we did not get a good solution in the development.

There are also some further issues that could be addressed, such as the cause of copyright problems when playing source skipping. Because we have not found a suitable API for us to check the proper playing source of each movie, we hope that this problem can be solved in the subsequent study.

5. What We Learned

We have learned a lot about this project. After all, it was a two-semester project. We have learned a lot from the initial prototype establishment, the building blocks in the process, and finally the realization of the finished product. This includes the preparation of various files, the design of UI template and the operation of the acquired algorithm, which has experienced many times of polishing. At the same time, we also pay attention to listen to the opinions from students and professors, and after learning from our products to constantly improve to meet the needs of more users. Including the production of the final commercial and the final presentation, we learned a lot, which will certainly provide a lot of help for our future study and research.