Universiti Teknologi MARA

Grocery Recommender System

Naajihah Mustapa

A thesis submitted in fulfillment of the requirements for Bachelor of Computer Science (Hons.) Computer Science Faculty of Computer and Mathematical Sciences

January 2022

ACKNOWLEDGEMENT

Alhamdullilah praises and thanks to Allah because of His Almighty and His utmost blessings, I was able to finish this research within the time duration given. With the completion of the project, I would like to thank every person who is involved in this project.

Firstly, my special thanks go to my supervisor, Dr. Norlina Binti Mohd Sabri for his patience, understanding, and endless guidance throughout my journey to complete this final year project.

Special appreciation also goes to my beloved parents and siblings for endless moral support and encouragement to me to complete this journey and not to miss it, beloved CSP650 lecturer, Norulhidayah Binti Isa that has guided and given out the task that help me to complete this project.

Finally, I would like to give my gratitude to my dearest friend who gave me endless support and encouragement from the beginning till the end of this project.

ABSTRACT

Retail industry is the largest contribution to the country but with the immerse growing of the retail industry, an increasing number population and unstoppable growth of technology, the retail industry needs a solution to keep maintain their business. Instead of staying offline purchase, they have to venture into online business. In early 2020, a Covid-19 outbreak has changed everything. A new norm needs to be adopted by everyone. Since then, supermarkets, hypermarkets, and other store departments start to sell online due to restricted movement control orders by promoting on a social media platform and some of the big companies even create an application that allows the user to place an order and deliver on the same day and people tend to spend less time in the store. However, the implementation still has their limitation, the number of daily products only could reach a thousand with different brands lines. As a user, it would be helpful, if the website/application could help them to decide to choose the products. A recommender system is a well-known system that has been used for a long time, the advantages of the recommender system has given benefits on both side, retailers, and consumer. To understand how the recommender system work, a preliminary study helps to understand more and choose the best algorithm to be implemented into the application. A collaborative filtering algorithm is selected. The development of the application is successfully developed with the result of precision 94%, recall 88%, and f-measure 91%.

TABLE OF CONTENTS