

**Universiti Teknologi MARA**

**SpickME: Choosing Spectacles Prediction System by  
Using Multinomial Naïve Bayes**

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**Thesis submitted in fulfilment of the requirements for Bachelor of  
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## **SUPERVISOR APPROVAL**

### **SPICKME: CHOOSING SPECTACLES PREDICTION SYSTEM USING MULTINOMIAL NAÏVE BAYES**

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## **STUDENT DECLARATION**

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



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## ABSTRACT

People seem to always have the intricacy and uncertainty of choosing things. From brisk choices of complementary style appearances to deciding where and what to eat, these simple instances do not exclude the fact that people also had trouble in choosing suitable spectacles that is befitting and comfortable for them. Choosing spectacles at one point, proves to be a time consuming task that requires total consideration based on several aspects such as age, gender, face shape, skin tone and skin sensitivity as well as perspective on how the spectacles play a big part in gaining confidence. Thus, to overcome this problem, a Machine Learning approach is proposed as a solution to help people with vision problems to choose their spectacles by predicting the best probability that leads to high rate of accuracy using Multinomial Naïve Bayes (MNB). The objectives of this study is to design the prediction system on choosing spectacles based on user's input or preference and to develop the system by using MNB. The methodology used for this approach is agile methodology that practises simplicity in its stages of research. Moving on, this project is carried out by collecting a total of 790 data with 12 Dependent Variables (DV) and 3 Independent Variables (IV) before only 8 IV were finally chosen. These data then need to go through data cleansing and data transformation before it can be processed by the classification model. Once the data has been transformed, it is split into 80% to be used for training data and 20% for testing. In training data phase, the classification model will learn what are the kind of data that will stand as an answer based on the probability for each of them. As for testing phase, the classification model is tested whether they can predict correctly on a different patterned data. Visualization features are also incorporated into the system to give an overview of information regarding the classification models. Accuracy testing has been performed to determine that the program could operate efficiently in terms of prediction and functionally testing is conducted so that the objectives have been effectively met and all the functions are working smoothly. While the result of the usability test scored a total of 87.5 which has been graded as A. To conclude, the findings of the model show that MNB is suitable to be used in solving the problems of predicting the suitable spectacles. As an extension for the knowledge of this study and future recommendation, the collection of data should be increased and uniquely varied for higher rate of prediction accuracy.

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