

**Universiti Teknologi MARA**

**EstiCal: Food Calorie Image  
Recognition Mobile Application by  
using Feature Descriptor Technique**

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**Thesis submitted in fulfilment of the requirements  
for  
Bachelor's in Computer Science (Hons.) Netcentric  
Computing  
Faculty of Computer and Mathematical Sciences**

**December 2018**

## **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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DECEMBER 26, 2018

## ABSTRACT

Food is a part of life. Without food we could not be able to survive. Food has many categories, which is carbohydrates, proteins, fibers, fats, and such. With a perfect meal that follows the food pyramid and diet, it can produce a healthy people with healthy lifestyle. There have been also applications where they can track their calorie intake and could maintain a healthy diet. However, lack of automation in the application makes user taking too much time in manually record the data causes them to lose interest and does not want to use the application. To reduce the problem, there must be an automated method of tracking data. The aim of this project is to develop a prototype of food recognition for calorie estimation application via mobile that could help user to recognize a food by taking a food photo and can obtain the food data automatically. This mobile application could motivate user especially those who are aware of their health and wants to monitor the food intake by using the application. The application could become an alternative to reduce time consumption when using the application to track food nutrition. The methodology used in this project is Rapid Application Development methodology while the technique applied in this project is Scale-Invariant Feature Transform feature descriptor. The accuracy testing has been done for determining the accuracy of image processed to be computed and collect the data from database. The findings of the project are the results from testing that has been conducted in the last phase of the methodology. A few discussions about image processing and development are also elaborated in this thesis. The future work of the project can be done with additional features such as using a hybrid algorithm which is combining algorithms to improvise the feature descriptor or applying a machine learning technique to increase the efficiency of food recognition.

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