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JUDUL : SMART TRAVELLER: LANGUAGE TRANSLATOR AND HALAL INGREDIENTS DETECTION USING IMAGE PROCESSING

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SMART TRAVELLER: LANGUAGE TRANSLATOR AND HALAL INGREDIENTS DETECTION USING IMAGE PROCESSING

NADIAH BINTI DAUD

This report is submitted in partial fulfilment of the requirements for the Bachelor of Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2012

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FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

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DECLARATION

I hereby declare that this project report entitled

SMART TRAVELLER: LANGUAGE TRANSLATION AND HALAL INGRIDIENTS DETECTION USING IMAGE PROCESSING

Is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date : 9 SEPT 2012

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DEDICATION

Thank you to everyone who involved to complete my Projek Sarjana Muda and especially to my beloved supervisor, Pn Rosmiza Wahida binti Abdullah.

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ABSTRACT

In ICT country many application and system already being be develop ang will be develop to make sure follow all the trends as a country grow up. Smart phone which is popular gadget which is people will have as the main communication to communicate and also to use the useful application.

Smart Traveler is the application that make user easier to travel to anywhere they want to travel. It will make user easier to communicate and also to make sure the food that they want to eat especially to Muslim traveler because they only focus on Halal food to eat.

Besides that, user will easier to communicate with local resident because this application also includes translator application. It will make user easy to travel anywhere without to worry about the local language that has been use in the country the user travel.

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ABSTRAK

Negara ICT, banyak aplikasi dan system telah dibangunkan dan akan dibangunkan untuk memastikan mengikut semua trend sebagai Negara yang membangun. *Smartphone* adalah *gadget* yang popular dimana kebanyakan semua manusia menggunakan sebagai kegunaaan utama dan juga untuk menggunakan aplikasi yang berguna.

Smart Traveller adalah aplikasi yang mudah digunakan untuk melancong kemana sahajaa yang mereka ingin melancong. Aplikasi ini akan memudahkan pelancong untuk berkomunikasi dan jugak mamstikan makanan yang pelancong ingin makan terutama kepada pelancong Muslim kerana mereka focus kepada makanan yang Halal untuk dimakan.

Selain itu, pelancong mudah untuk berkomukasi dengan penduduk tempatan kerana aaplikasi ini termasuk *translator* aplikasi. Ini memudahkan pelncong untuk melancong tanpa risau berkenaan bahasa tempatan yang digunakan di negara tersebut.

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ATTACHMENT	TITLE
1.1	Appendix A: Gantt chart
1.2	Appendix B: User Manual

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CHAPTER I

ANALYSIS

1.1 Project Background

Nowadays, most people already have their own Smartphone i-Phone, android Smartphone, window 7 Smartphone and etc. Usually Smartphone are integrated with different type of applications that make user easy to use because Smartphone is portable and can be bring to anywhere. Mostly applications are free download from market, so, user can easily get any latest version of application offered in market.

Mostly, traveller that purchase food in various countries of different religious never aware about the foods content whether it is 'Halal' and vegetarian foods. Supermarket there is no specific for department of 'Halal' or not. In Malaysia awareness on 'Halal' and 'Non-halal' foods is high and that's the reason they separate 'Non-Halal' food from 'Halal' food for the convenience of traveller on choosing 'Halal' foods easier.

But now many foods contain 'Non-Halal' ingredients, such as chocolates or etc and that the reason this application is develop to make sure the travellers believe that the food is 'Halal'. Smart traveller application is about scanning the ingredients of food

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to make sure the food ingredients do not contain any 'Non-Halal' ingredient and vegetarian foods or not. Basically, 'Non-Halal' can be easily found in any market, supermarket and anywhere else. It can make Muslim people wrongly choose which food they want to eat and make sure all kind of food is 'Halal'. This android application is develop to make sure the travellers can noticed contains of food by scanning all the ingredients which is written on the food packet by easily install in their Smartphone. Usually, all the suspicious food represent in E-code. This android application can make sure Muslim travellers can choose the 'Halal' food without suspicious whether that food is 'Halal' in anywhere throughout their journey.

Besides that, Smartphone is also one way to interact and communicate with others besides chatting, messaging or calling. Languages are important to communicate through traveller's journey. If travellers unfamiliar with local languages, traveller will be difficult to communicate with local resident. Such as want ask anything to local resident such as ask for a direction. Languages translators are included in this application are English, Malay, Arabic and etc. From the language that offered in this application, it can help travellers easy to communicate and the application can help them to communicate easily with the local resident such as to ask a price of things they want to buy in a market or ask for any direction.

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1.2 Problem Statements

Below is some problem statement that had been identified:

i) **Difficulty to identify contains of food whether the food is 'Halal' or 'Non-Halal'**

If the traveller does not have knowledge about any code of ingredient, so that traveller might choose wrong food which is 'Non-Halal' food.

ii) **Difficulty in local language through journey.**

If the traveller doesn't know how to speak in that particular country language it will trouble that traveller to survive along their journey.

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1.3 Objectives

Objective for this application system are as below:

- **To provide the travellers to determine the ingredients of food**
  Traveller can make sure the ingredient of food is 'Halal' and 'non-Halal' by scanning the ingredients of food. It will provide Muslim traveller from buy any 'Non-Halal' food.

- **To assist the travellers with the selected language translator for convenience of communication.**
  To make sure travellers easy to communicate with local resident while journey because communication is the most important while their journey.

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1.4 Scope

Scopes for this system are as below:

i) **Traveller and their roles.**

- Traveller use to identify the ingredients of food whether the food is Halal or non Halal by scanning the ingredients of food by using scanner application.
- Traveller use to translate other language to other language such as English to Japan using translation application.

ii) **Application System and their roles.**

- System can only used to scan any type of ingredients of food to identify the food is Halal.
- System can translate languages such are English, Malay, Arabic and etc

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1.5 Project Significance

Smart traveller is a good solution for all travellers who are concerned about Halal or Non-Halal food especially for Muslim traveller. It also can be guidance to traveller to notice whether the food is contain Non-Halal ingredients or not. This software can make sure traveller did not easily choosing the wrong food because it will read the code of ingredient to make sure the food is Halal without suspicious anything in anywhere throughout their journey.

Languages are important to communicate through traveller's journey. Smart traveller also is a good solution for travellers who do not know how to speak other languages. Usually travellers need to communicate with local resident such as ask for a direction or ask for price when they want to buy something in market. This software can help them easy to communicate with local resident with their local language because this software included English, Malay, Arabic and etc.

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1.6 Conclusion

Smart traveller is a good software that can be used by to all travellers which concerned about status of food which Halal or Non-Halal especially for Muslim traveller which is contains any kind of ingredients. Usually, Halal food is difficult to find in other country, so, that will make traveller difficult to find a food along their journey. This application can make traveller convince with their choice when they use it. For Muslim travellers, it will make them easier to travel anywhere without have doubts whether in country they want to travel have a Halal food or not.

Smart traveller also can make traveller easier to communicate to local resident with their local languages. Communication with local resident is important because sometimes traveller need to communicate with local resident such as want to ask a direction for their destination. When they want to but a food in market, they can ask a price to a customer in the market easily. Form here can be conclude that, this software can make traveller easy to travel anywhere without anything to worry such as food and languages which is most important along journey.

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CHAPTER II

ANALYSIS

2.1 Introduction

Chapter II is discusses about literature review and project methodology. Literature review is discussed about the comparison and explanation about the existing similar system as proposed system. The explanation about the comparison between existing similar system and proposed system is discussed in fact finding part with more details with an interface attachment of existing similar system.

Facts about existing similar system were found based on the similarities in the term of functions, modules, features and also the main topic about. In this case main topic is about scanning ingredients to make sure either the ingredients is Halal or non-Halal and language translation. Fact finding is about discussed about the approaches and also about any applicable features that can be integrated into the proposed system according to the existing similar system's advantage and also disadvantages. Project methodology is important to develop a system because to make sure the system is efficiently developed.

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2.2 Facts and Finding

Nowadays, android phone is very familiar among the people all over the world and its application also very useful to people who use android phone. There are many type of application in android market that android user can download if they want to use such as communication, education, lifestyle, sport, medical and many more.

Smart traveller falls to tools category which is this application is combine with two more sub-application which is determine either the ingredients of food is Halal or Non-Halal and other sub-application is language translator. Smart traveller is to make them easy to travel anywhere without worrying about their food whether the food is contains Non-Halal ingredients or not. Mostly Muslim traveller is concerned about food because Halal food is important to them. This sub-application can make sure they make sure that the foods are not containing any non-Halal ingredients during their travel.

Language translator for sub-application is integrate with the main application is to make sure traveller easy to communicate with the local resident if they have any question such as want to as for direction and many more. Its can make traveller easy to use without need to download other application to use both on the same time and also can use it on the same time with the same application.

Examples of one existing systems that have some similarities to smart traveller is found based on research in android application market which is Google Play. This application is will be elaborate more into case studies. This application is have some similarities with proposed application system which is to make sure status of food either the food is Halal or Non-Halal. Table 2.1 shows the selected application that has some similarities with the propose application system.

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