

## **CHAPTER 1. INTRODUCTION**

### **1.1. Background of the Study**

Islam is deeply rooted in China with a history of over 1,400 years (Gladney, 2013), however, Muslims live as communities among many other minority groups.

According to the data from country's National Bureau of Religious Affairs, China currently has almost 2 percent of the total population of China (Ahmad et al, 2014).

Since China is not Muslim country, it is hard to find halal foods. Because the food is part of the basic necessities of every living being and creature in order to live and survive, food is considered the number one need especially for muslims who can only eat Halal food according to Islamic dietary standards (the literal meaning of Halal is lawful or permitted).

It is hard to determine the food is Halal (permitted) to consume or not, but not for the food that has ingredients and barcode. But still, there is some ingredients that hard to understand such as Gelatin, Vinegar Balsamic, etc.

Based on this problem, it comes an idea of how to let someone can know the products is halal (permitted) or not. To solve this problem, it is expected to facilitate the data of the product and let someone to determine instantly by using scanner barcode to scan the barcode of the products.

For this system, the author will develop the application based on iOS device. Why? Because in China, a lot of people using iOS devices. So, it is good to start developing this application on iOS rather than on Android.

Based on the above descriptions, the author intends to conduct research by taking the thesis paper title "Application to Recognize Halal Products by Using Barcode on iOS Device".

### **1.2. Problem Identification**

Based on the background, the author can identify the problems for the development of this application, as follows:

- a. How to design scanning application that can let someone know the Halal status of the product?
- b. What kind of information that the application should be shown?
- c. How to update the Halal status of the product that doesn't yet exist?
- d. How can this application be easily understood by users?

### **1.3. Purpose of the Study**

The purposes of this system development are listed as follows:

- a. This application is used to make it easier to determine the status of the product that is halal or not, only the product from china.
- b. This application is designed to give alternative product in same type of product when the product isn't halal.

### **1.4. Limitation of the Study**

Some limitations of this study are listed follows:

- a. This application need use VPN when the location of user is in China.
- b. This application only can be used on iOS platform.
- c. This application can only display in English language.

### **1.5. Benefit of the Study**

The benefits of this research are as follows:

- a. This application can make muslims who live in china easier to identify the halal status of the product that they want to buy.
- b. This application can give alternative product based on similar product if the product isn't halal.

### **1.6. Research Methodology**

The methodology used in this research is *Rapid Application Development* (RAD) software development method. The author chooses RAD, because of the limited time that the author has to endeavor this application. RAD method is a method intended for the development of short-term software in accordance with the application developed. So, developing an application doesn't require a long time. In the development of systems that use the RAD method, there are the following stages (Kendall, 2010):

#### **a. Requirement Planning Phase**

At this stage the author analyzes the problem requirements and system planning for the development of mobile applications on iOS, determines the purpose of making the application, then determines the requisite requirements.

#### **b. Design Phase**

At this stage the author will design the processes that will occur in the created system, as well as doing interface design (user interface). At this stage the author uses UML as a tool to simplify research and system development.

#### **c. Construction Phase**

At this stage, the author does the coding program in accordance with the requirements and design those have been specified before. In this study, the author uses Xcode as IDE (Integrated Development Environment) to create application for the iPhone Operating System.

d. Implementation Phase

At this stage the author will test the application that has been made. Testing is done by black box method to all parts and each application functions.

## **1.7. The Writing Structure**

As for the systematical structure, this thesis is divided into five chapters, with an explanation for each chapter is as follows:

### **CHAPTER 1. INTRODUCTION**

This chapter, the author discusses the background of the study, problem identification, and limitation of the study, purpose and benefits of the study, research methodology, and schedules.

### **CHAPTER 2. THEORETICAL BASIS**

In this chapter discusses the basic theories that support and relate to this research.

### **CHAPTER 3. ANALYSIS AND DESIGN**

This chapter discusses the analysis and design of the system. Analysis of the general description or the current condition, analysis of the current system, analysis of system needs and write the conceptual framework to generate a new system. This chapter also discusses the system design.

### **CHAPTER 4. IMPLEMENTATION AND TESTING**

This chapter discusses the implementation of the results of analysis and design of the system into coding to produce a system that can be used by the user. Moreover, it also illustrates the user interfaces of the system and conducts testing of the system to determine whether the system is already OK or still in need of improvements.

### **CHAPTER 5. CLOSING**

This chapter contains the conclusions of this thesis and advices those are used as references for future development.

### 1.8. Schedule

Scheduling will be implemented in this thesis as follows:

Table 1.1 Schedule

No	Activities	Weeks								
		1	2	3	4	5	6	7	8	9
1	Analysis of needs/requirements	■	■							
2	Design		■	■						
3	Prototype			■						
4	Coding			■	■	■	■	■	■	
5	Testing				■	■	■	■	■	
6	Documentation									■

The process of arrange this thesis takes approximately 9 weeks, with the first week starting on March 22<sup>th</sup>, 2019 until May 26<sup>th</sup>, 2019.