MOTORCYCLIST APPLICATION – AN EMERGENCY TREAT

By

Asnawi Bin Anuar

Dissertation submitted in partial fulfillment of the requirements for the

Bachelor of Technology (Hons)

(Business Information System)

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Universiti Teknologi PETRONAS

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CERTIFICATION OF APPROVAL

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Approve by

_____

(Mr. Saipunidzam Mahamad)

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements and that the original work contained herein have not been undertaken of done by unspecified sources or persons.

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ASNAWI BIN ANUAR

ABSTRACT

"Motorcyclists Application – An Emergency Treat" is an emergency treat android mobile application that use when a motorcyclists have a minor vehicle breakdown or emergency incident. This project aims to cater or meet the need of Malaysians by creating an application that suites Malaysians motorcyclists that currently lacking in minor vehicle breakdown or emergency incident application available today. This dissertation will focus on the introduction of the project, followed by the literature review, the methodology used, results and discussion of the project and lastly conclusion and recommendation resulting from this project. It is concluded that application develop has hold some potential as their potential for the application to be commercialize in the future. The application aim to be bridge between mobile technology and motorcyclists.

ACKNOWLEDGEMENT

First and foremost, I would like to praise Allah Al-Mighty as without His blessing and grace this project would not have been complete. Secondly, I would to express my upmost appreciation to my supervisor, Mr. Saipunidzam Mahamad for his guidance and support for the entire duration of the project. Lastly, I would thank family and friends who have given support throughout the duration of this project.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLE

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Mobile electronics have become incredibly popular in recent years due to their portability and convenience. As the popularity of mobile devices - for example the Android devices - grows, so do the security concerns of having so much personal information in a vulnerable device easily accessible to anyone with the right tools. While Android has implemented a complex and impressive security system to prevent attacks, methods around the system that even the sophisticated security cannot yet identify are present. To study how applications use permissions, the developer tool Taint Droid is utilized in conjunction with other developer tools to record and analyze private data transfer on a running Android system.

Specific utilization techniques have been shown to give positive results in helping a motorcyclist. Suggested guide approach is by using multimedia in application, whereby the motorcyclist is taught using the mobile application. For example, many motorcyclists have their minor accident on the road or any kind of emergency and this mobile application will help them if they need a help.

Being aware of the minor vehicle breakdown or emergency incident, I want to propose Motorcyclists Application – An Emergency Treat. The main parts of this mobile application are need help, guidelines, and lessons. Furthermore, in suggested guide for motorcyclists, interactive elements are important in the mobile application for the motorcyclists. For example, incorporate creative and clear methods such as guidelines or lessons.

1.2 Problem Statements

There are the occurrences whereby Malaysian users not have the suitable application or lack choices of application that are suitable for the Malaysia motorcyclists for a emergency purposes. This is proven during the a survey conducted with 50 Malaysian that are android smart phone users in which the majority states that the current application in the Play Store Market are not compatible with them. Below is a figure taken from the survey conducted.

Figure 1: Survey Question

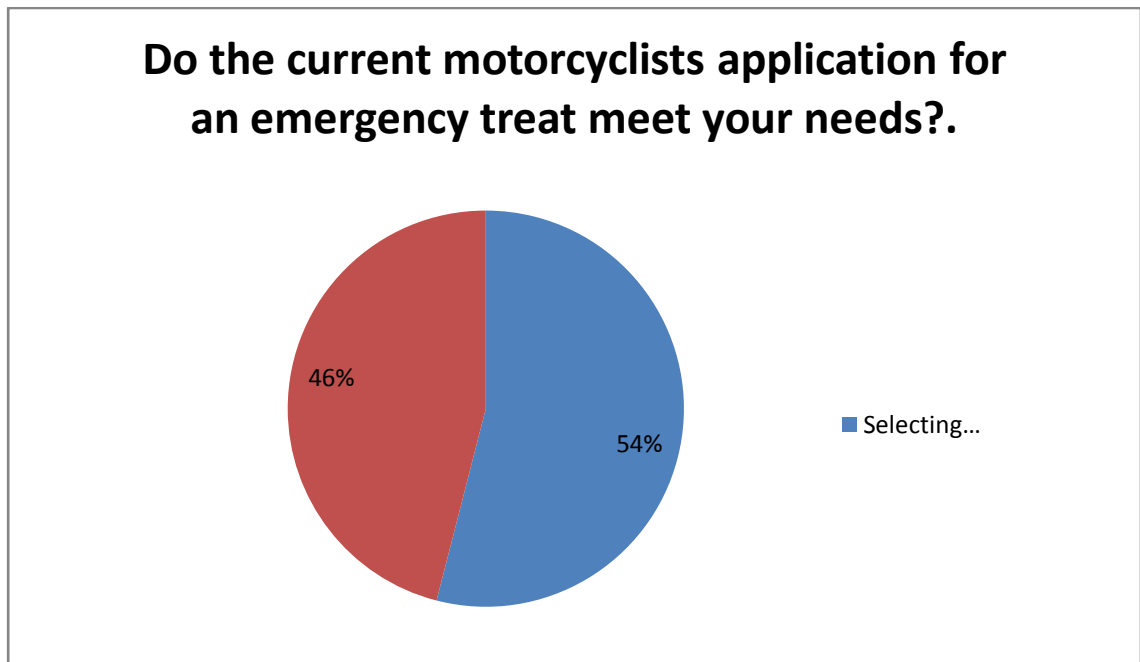This shows that Malaysian users feel that there is a lack or limited choice for emergency treat that meet their needs. The majority or most of the available emergency treat application are based on the injury incident and this would not meet the needs of Malaysians. Hence, this discourages Malaysian smart phone users to use current applications which in turns increases disregard for their emergency purposes.

Furthermore, there are occurrences whereby Malaysian will settle for convenience rather than choosing to take the trouble to find emergency treat. Below is a figure that supports the statement above.

What is the first factor you consider when want to use application for emergency purposes?
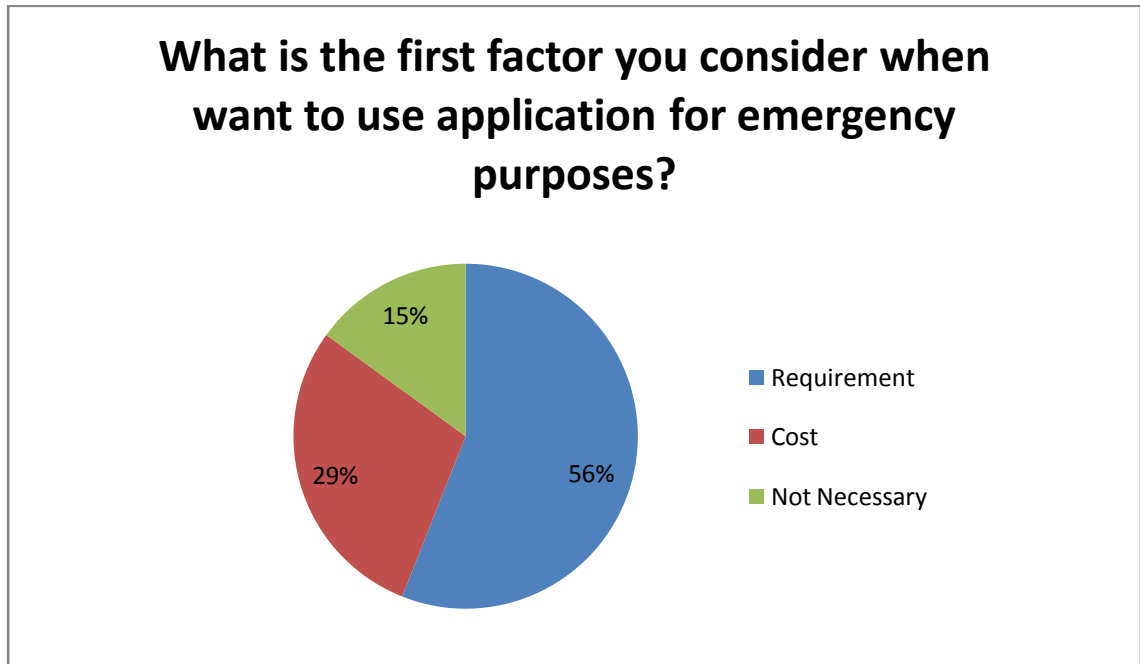
Figure 2: Survey Question 2

This figure is based on a survey conducted on 50 smart phone users. The user consists of working adults and university students that have demanding schedule. This proves that nowadays the majority would settle for convenience rather than emergency options. The propose application will help a motorcyclists when they have a minor vehicle breakdown or emergency incident. The application will help the create awareness regarding the emergency or minor vehicle breakdown that the user is planning to take and help users to better options. With that, users are able to make the best choice with the options available to them.

The mobile application that will be developed will contain user friendly interface with interactive elements. User friendly feature is the most important element in a Motorcyclists Application – An Emergency Treat. Users sometimes

get frustrated when they are lost or do not understand the interface. This can interrupt their concentration and make them lose interest. In this project, the Motorcyclist Application – An Emergency Treat that will be developed will focus on four important factors which are; the contents of runner for motorcyclists' minor accident, the presentation of these materials, the way in which they are taught to use this mobile application and the overall functionality of the Motorcyclists Application – An Emergency Treat. The contents of these materials have to be complete. The overall functionality of the Motorcyclists Application – An Emergency Treat has to be satisfying to the users.

1.3 Objectives and Scope of Study

1.3.1 Objective

The first objective would be to analyze requirement and features that would be included in the application. The analysis phases would include undertaking a user requirement analysis in order to build an application that would best fit the targeted users.

The second objective would be to design and develop the mobile application. Design and development is based on the analysis. The design phase will include design of interface and function. Design phase will begin by design the system architecture first to receive a general idea of the overall system. Then will proceed with the interface design. Interface design will begin with the main page then continue with other pages corresponding to the main page. After completion of the design phase, the development phase will commence based on works that have been done in the design phase. The development phase will be on coding and programming of the system. The design for the mobile application is subjected to change according to difficulties faced during the development stage.

The third and final objective of this project would be testing and evaluation of the mobile application developed. The testing is being focus on the functionally of the overall application.

1.3.2 Scope of Study

In order to develop and complete this mobile application, there are several fields that I need to revised and studied

- Research on the application inventor that need to be use to develop the mobile application.
- Research on the framework of the mobile application.
- Design and understanding the flow and process of the mobile application.
- Develop and implement the prototype of the mobile application.
- Develop and testing the final product of the mobile application.

The project will focus on android-based smart phone users aged between 18-45 years. This age is chosen as android-based smart phone and android based application are popular among this age group. Furthermore, this age group would be considered to be technology savvy. The area of the project would be Malaysia to be ensured the feasibility of the project.

1.4 Limitation

The limitations of this project are:

- Motorcyclists need to have smart phone and internet connection in order to access the mobile application. Besides the variety of modem communication speed will be a problem. Low speed of the internet connection will take more time to loading multimedia elements.

■ Developer not really familiar with the application inventor that will be used.

1.5 Feasibility Study

For this project, the first semester will focus on methodology formulation and design conceptualization. The second semester will focus on detail design and development of application. The objective of this project is considered achievable within the given timeframe.

The second semester will focus on development, testing and evaluation. Works executed during the second semester will be based on the design conceptualization completed during the first semester. Development, testing and evaluation of the application are achievable given the timeframe of the second semester.

In addition, the area and target users mention in the project scope adds to the feasibility of the project.

CHAPTER 2

LITERATURE REVIEW

Before designing and developing the mobile application, there is a need to understand the fundamentals of android application and components relating to it. Research papers are the foundation of methodology formulation and generation of concept that applies the theoretical knowledge.

2.1 Definition of User Interface

A user interface is the means in which a person controls a software application or hardware device. A good user interface provides a user-friendly experience, allowing the user to interact with the software or hardware in a natural and intuitive way [1].

Most hardware devices also include a user interface, though it is typically not as complex as a software interface. A common example of a hardware device with a user interface is a remote control. A typical TV remote has a numeric keypad, volume and channel buttons, mute and power buttons, an input selector, and other buttons that perform various functions. This set of buttons and the way they are laid out on the controller makes up the user interface. Other devices, such as digital cameras, audio mixing consoles, and stereo systems also have a user interface [2].

While user interfaces can be designed for either hardware of software, most are a combination of both. For example, to control a software program, you typically need to use a keyboard and mouse, which each have their own user interface. Likewise, to control a digital camera, you may need to navigate

through the on-screen menus, which is a software interface. Regardless of the application, the goal of a good user interface is to be user-friendly. After all, we all know how frustrating it can be to use a device that doesn't work the way we want it to [3].

User interface is most important issue to people. It already proof by Adipat and Zhang (2005) in their research which is interface design is arguably one of the most important issues in the development of mobile applications. Mobile users often suffer from the poor interface design that seriously hinders the usability of those mobile applications. The major challenge in the interface design of mobile applications is caused by the unique features of mobile devices, such as small screen size, low resolution, and inefficient data entry methods. In their research Designing effective interfaces for mobile applications involves several challenges posed by unique features of mobile devices and context of use (York and Pendharkar, 2004). With the compact size of devices, information presentation can be aesthetically unpleasant and difficult to read, thus demanding intensive cognitive effort from users. Data entry with mobile devices is difficult. Users who enter data using stylus and small physical or soft keyboards may reduce the input speed and increase errors. For the context of use (e.g., walking/sitting, dark/bright, quiet/noisy environments), since users can use the same mobile application in a variety of situations, users' interaction with mobile devices is generally distracted by other tasks (e.g., talking and walking) (York and Pendharkar, 2004). Although both desktop and mobile applications can access the same sources of information, their purposes of use and characteristics of devices and environments are profoundly different. Traditional guidelines of user interface design for desktop computers may not be directly applicable to mobile applications. Therefore, it is essential to develop new frameworks or guidelines for designing effective interfaces for mobile applications [4].

2.2 Understanding Motorcyclists and Motorcyclists Behavior

2.2.1 Motorcyclists in Malaysia

Malaysia has the highest road fatality risk (per 100,000 populations) among the ASEAN countries and more than 50% of the road accident fatalities involve motorcyclists. The findings reveal that the highest numbers of motorcycle fatalities occur in rural locations, on primary roads and on straight road sections. The majority is riders, 16 to 20 years old, and 90% of the motorcycles are privately owned. Of those involved in fatal accidents, 75% of the motorcyclists wear helmets, and 35% do not have proper licenses. While male motorcyclists predominate, female motorcyclists aged 31 to 70, possessing 'no license', not wearing helmets and travelling during the day, account for a higher percentage than male motorcyclists. Malaysia must acquire more motorcycle exposure data and establish an injury recording system and database based on hospital-records. To reduce motorcycle fatalities, it first has to understand why young male motorcyclists are prone to fatal crashes in the evenings and on weekends on rural primary roads, especially on straight road sections.

2.2.2 Definition of Motorcyclists Behavior on Road and Accident

Based on Google research, as a developing country, the population of Malaysia is increasing day by day. Until 26 October 2012, the population of Malaysia has been increase to the total of 29,509,774 according to the Department of Statistics Malaysia. Due to this matter, the number of vehicle is also increasing. According to the statistics released by the Ministry of Transport Malaysia, the total registered vehicle in Malaysia until 2012 is 22,702,221 including car, motorcycles, buses, lorry and others.

The increasing numbers of the vehicle somehow contributing to the increasing number of accident involving road users. Nowadays, accidents that caused deaths on the road had become a national problem which is regularly reported every day either in television or newspaper. Statistics released by the Polis DiRaja Malaysia for the year 2002 until 2011 shown that 6,501,263 accidents reported and it still increasing. Throughout that year, accident that involving motorcycle is the highest in total of 1,069,449 cases reported.

Various programs have been implemented by the government in an effort to reduce the rate of road accidents. Some of the method used by the government to ensure Malaysians are safe while on the road are Ops Pacak, Ops Sikap, Ops Statik as well as using helicopters to monitor the movement of vehicles, distribution of posters, awareness campaigns and also law enforcement have been done. Unfortunately, until this year, there are no sign that the number of accident will be decrease.

Despite of the government effort to minimize road accidents, the reality is the road accidents keep increasing and road deaths has now become the number one threat and becoming critical issue in Malaysia especially with increasing number of vehicles each year. Moreover, voracious drivers have make the roads as a place to race, as well as taking advantage of the testing the capabilities of their vehicles speed or acceleration. All the rules of the road, as well as warning signs are guide for the road user to be safe in road and should not to be ignored.

2.2.3 Causes and prevention of Motorcycle Accident

Today as the number of motorcycle injuries and accidents are on the rise, taking a look at the exact causes of motorcycle accidents can always be helpful and makes one prepared for an emergency. A recent report observed several accidents across the country and came to an understanding of the possible causes and ways to prevent them.
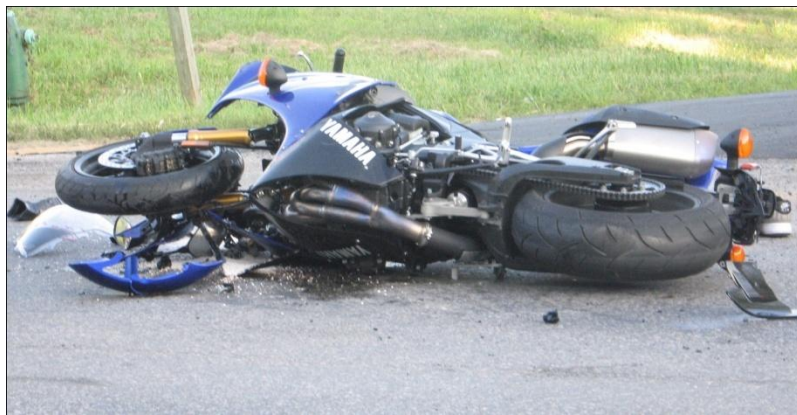
Figure 3: Motorcycle Accident.

Large vehicles – large vehicles like pickup trucks, SUVs and supersized cars are one of the reasons why most motorcycle accidents happen. Surprisingly, the driver behind the car wheel can hardly see motorcycles and run into them by making efforts to avoid the motorcycle or make direct contact as negligence. Sometimes the clothes worn by motorist may camouflage them until the vehicle comes really close, only to realize it's too late. The rider, in this case should wear clothes that do not blend in with the ambience and try to keep away from large vehicles.

Sudden braking – yet another common yet surprising cause for accidents is sudden braking. Almost 70% of motorcycle accidents on the road happen when the rider suddenly stops which throws the rider off his bike and land

him on the ground. It is better if the rider keeps moving around the object than putting a sudden break.

Out of control – the second reason most negligent riders is often their loss of control over their bikes which end them up running onto the pavement or hit any side objects. This leads to injuries on the back as well as the neck, broken bones and spinal fracture. Often these accidents occur when the rider avoids an object and takes sudden diversion. It is recommended to go slow if you have not mastered the art of maneuverability.

Alertness - back of alertness is yet another cause for motorcycle accidents, as most riders lose concentration over a long journey without any obstacles. However, this lack of concentration can be met with hidden objects and in an attempt to save an accident, the rider usually puts a sudden break or hit the object, both resulting in serious injuries. Alertness should be maintained under any circumstances because you never know what's going to come suddenly, as not all of us are perfect.

2.3 Mobile Computing

Mobile devices are a revolution as it has become an object or a tool used in our daily life use for communication purposes and to access information. The combination of mobile devices, third generation wireless services with multimedia capabilities, internet and portal technology, this allow data and information to be received "anywhere", "anytime", and by "anyone". [5] As the ability to retrieve data increase so will the need to retrieve data. This will result in application being built to cater to those needs thus having positive effect on the community as a whole. The paper focused on the impact that Mobile Computing and the opportunity that it opens for application development.

The process of obtaining or discovering new information is a form of learning. Without realizing it we go thru the process of learning in our daily life. Nature of receiving and obtaining information is changing due to the influence of mobile connectivity. Mobile connectivity increases learning opportunity thru project collaboration and media sharing. [6]

2.4 Android

Android is software for mobile devices that has operating system, middleware and key applications. The architecture of the Android is like a stack with Application being the top layer and Linux Kernel being the bottom layer of the Android. [7] Core applications of Android include e-mail client, SMS program, calendar, maps, browsers and contacts which are mostly text input based.

CHAPTER 3

METHODOLOGY

3.1 Research Methodology

The methodology that will apply for the purposes of this project is Rapid Application Development Process (RAD). This particular software development methodology is widely throughout the world. This is because Rapid Application Development Process takes an approach whereby minimal planning is required and focuses more rapid prototyping. The methodology is an integration of various structure techniques mostly focusing on data-driven Information Engineering with prototyping accelerating the development of system. (Whitten, 2004)
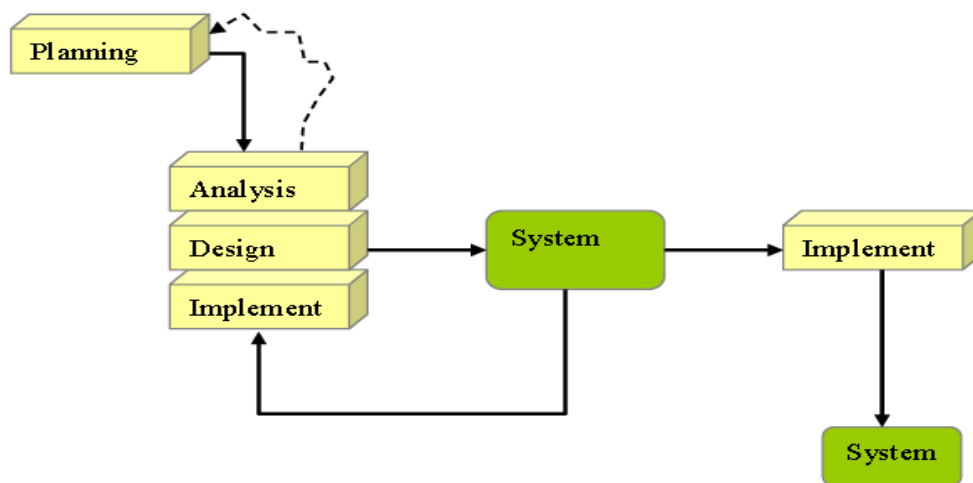

Figure 4: Rapid Application Development (RAD) Diagram.

Rapid Application Development is chosen as the method for this project because of its approaches. The approaches clustered in Rapid Application Development

include development and refinement of data model, process model and prototyping in parallel using iterative process which is a repetition of prototyping, testing, analyzing and refining the output. Advantages of using this methodology is that help to reduce time consumption. This is because the method for planning, analysis, design and implementation to be done in a parallel process. Furthermore, the method help to better identify the user requirement throughout the analysis and design phase up to the development of the prototype itself.

3.2 Project Phases

Phase1: Requirements Planning or Problem Definition

To start the project, the author needs to determine the problem and plan on how to solve it. First, the author needs to search about the idea which is interactive mobile application for motorcyclists. The author needs to know about the current situation in the mobile application market regarding this application for motorcyclists. Then, the author will do a research on mobile application for motorcyclists. This will assist in obtaining a clearer and better understanding of the subject matter. In addition, new modification or new findings can be observed thru studying new projects related to motorcyclist applications.

In the nutshell, the main objective of this phase is for information gathering and to gain full understanding regarding all components. The planning phase is vital as it is the foundation for the project and the planning phase will determine the course of direction for the project.

Research or information gathering and information analyzing will need to be done after the author knows the problem. In order to develop this project, first, the author plan to conduct a survey about motorcycle and about the idea for this project from motorcyclists who will be the target users.

Furthermore, the author plans to do the research about the mobile application, the framework on how this application will operate and interact with user, and also the tools to develop this project. Besides that, the author also plans to do the research if there is any familiar project to avoid plagiarism.

Phase 3: User Design

During the third phase of RAD life cycle, end users and the developer participate in discussion, where those involved used integrated CASE tools to support the rapid prototyping of system design. Users and the developer work closely and quickly to create prototypes that capture systems requirements and that become the basis for the physical design of the system being developed. In the designing process, the author is planning to do the development of the basic architecture design for the system that will describe the hardware, software and network infrastructure that will be used in this project.

Besides, the author will start to design the interface that will specify how the user will move through the mobile application, the layout of the mobile application, and how many buttons will be displayed.

Phase 4: Mobile Application Prototype

During this phase, the developer who created the design now generates code using the Application Inventor. End users also participate, validating screens and other aspects of the design as the application system is being built. Prototype can be combined with user design into one phase when developing smaller mobile application. This phase is to test the built prototype of the mobile application and to find if there are any changes to be made or any ideas to improve the prototype.

Phase 5: Implementation

After satisfied with the prototype, there will have an implementation process to make the prototype as a final mobile application to be demonstrated to the user. The complete mobile application will be transferred from the tools that the author uses to develop it to smartphone and running it.

Phase 6: Final Mobile Application System

A complete mobile application will be delivered to the user. User will get the application through downloading this mobile application for their smart phone.

3.3 Testing and Evaluation

The output of the project would be a prototype. Hence this eliminates the need for system training. However, user acceptance test will be conducted to see if the application is fully functioning. This test will determine the success of the project.

3.4 Key Activities

The activities that have been undertaken for this product would be conducting a literature analysis, conducting a survey, design the system architecture; design the interfaces and coding for the interfaces.

The literature analysis was carried out with the objective to obtain a clearer understanding regarding mobile application development. The literature was the base or foundation of this project as without understanding the matter the project would be successful.

The author conduct a survey to understand the user wants and needs. The objective of this project is to design and develop an application that meets the needs of Malaysian user. Hence, this calls for the need to conduct a survey to know function and feature that the application must have to meet the needs of Malaysian users.

Design the system architecture illustrates the overall idea of how the system would work. The system architecture is design based on the finding of the survey. From the system architecture, interfaces for the prototype were design. Design of the interfaces started with the main page that followed with the other sub-pages.

Coding and programming for the system began after interfaces had been design. Coding and programming are the most important part of the project as failure to do so will result in the project being deemed unsuccessful. Since the author has limited experience in development of mobile application, the author took time between the months of June and July to familiarize with the platform used to develop an android mobile application.

Others key activities include presentation of the prototype along with a poster summarizing the entire project to Prof. Alan Oxley and Dr. Yong Suet Peng, a lecturer of the Computer Information Sciences of Universiti Teknologi PETRONAS. Suggestion and opinions made by Prof. Alan Oxley

and Dr. Yong Suet Peng were taken into account to assist for the upcoming assessment.

3.5 Key Milestone

Key milestones that have been identified for the project include:

- Completion of literature survey
- Completion of survey
- Completion of user assessment
- Completion of interface design
- Completion of coding and programming

Each of the activities is considered a milestone, in a waterfall sense that the first activity is finished before being able to continue to the next.

Activities	Week
Submission of Progress Report	**4**
Pre-Engineering Design Exhibition	**10**
Dissertation (1st Draft)	**11**
VIVA Presentation	**13**
Final Dissertation and Technical Report	**14**

Table 1: Key Milestone

3.6 Gantt Chart

A Gantt chart was created in the beginning, but after experiencing a number of unpredictable roadblocks, more rapid development model has been adapted in this project.

DETAILS WEEK																												
	FYP 1														FYP 2													
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Planning Phase	■																											
Problem identification & feasibility study	■	■	■																									
Initial background study			■																									
Literature review			■																									
Construct questionnaire			■																									
Analysis Phase			■																									
Conduct a survey			■																									
Study on Android			■	■																								
Data gathering				■																								
Tabulation of data/data analyzing					■	■	■																					
Design Phase							■																					
Modeling							■	■																				
Interface sketch and design								■	■																			
Prototype design									■	■	■	■	■	■														
Implementation															■	■	■	■	■									
System development																			■									
Usability testing																			■									
Tabulation of usability data & feedback																			■	■	■							
Improvement of prototype																					■	■	■	■	■			

Table 2: Gantt Chart

3.7 Tools Required

3.7.1 Hardware

Hardware that will be used to develop this mobile application is personal computer. The specifications for the personal computer as followed:

Operating System	Microsoft Windows 7 Home Premium
Processor	Intel Pentium CPU P6200
Memory	2.00GB of RAM
Disk Space	400GB

Table 3: Specification of personal computer used

3.7.2 Software

- The platform used is Microsoft Windows 7 Version 2007
- Tool to develop – MIT Application Inventor

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

In Chapter 3, there are explanations about the methodology that will be involved in this project development. In addition to this Chapter 4 will discuss more on the progress of the mobile application system.

4.2 User Needs Assessment and Analysis

The user needs assessment and analysis was carried out through survey with parties that are android smart phone users and are use to purchasing android application thru the play market. The survey conducted involved 50 respondents aged between 18 and 45 year that use motorcycle as their transportation. The respondents consist of working personal and student. The reason as to why this age range was chosen is because the majority in this age range is currently use a motorcycle in a daily live and android smart phone and applications are popular among the individuals in this age range.

The first finding found by the author is that the majority of the respondents are currently not using any motorcyclist application. Among the 50 respondents only 14 respondents are currently using some motorcyclist application. The figure below shows the number of respondents currently using a motorcyclist application.

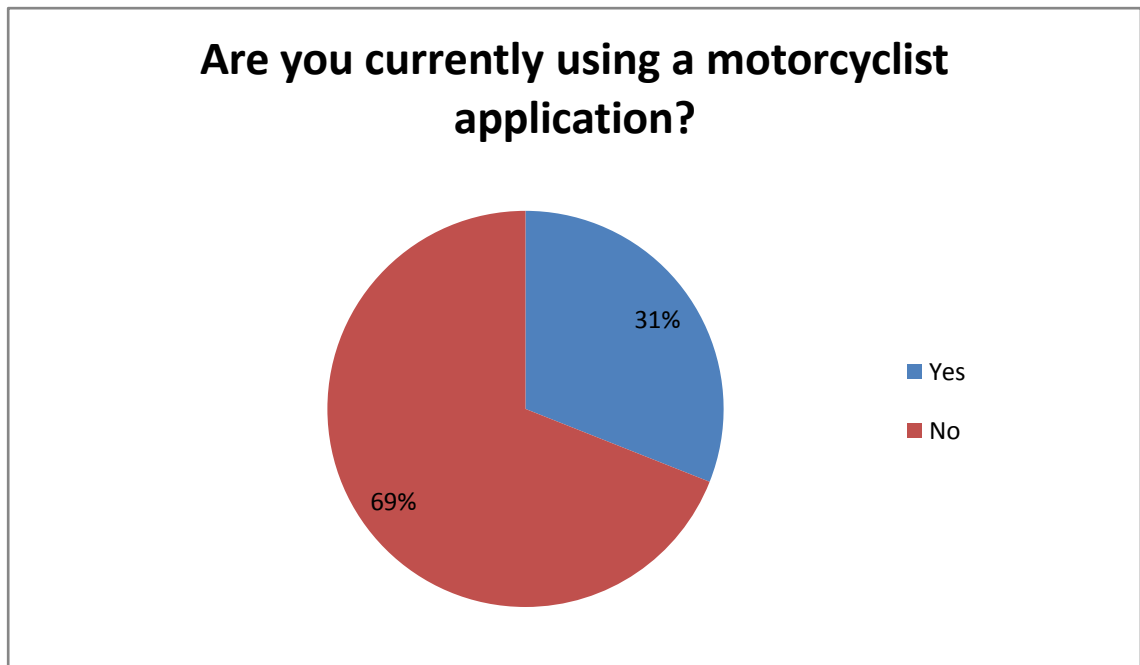**Are you currently using a motorcyclist application?**

31% Yes

69% No

Figure 5: Survey question

This figure shows that only 31% of the respondents are currently using a motorcyclist application. The respondents that are currently using a motorcyclist application are mostly student and aged below 30. Another interesting finding is that the majority of motorcyclist application comes from the Malay race.

For the respondents that are do not use any emergency treat application, the respondents were given a list of reasons as to why they we not using a emergency treat application. Among reasons that were given was that the applications were costly, emergency treat is not a priority and that the applications were not suitable for them. Respondents were also given an option allowing them to state their own reasons if their reasons had not been listed. The figure below shows the responds to the question.

Why are you not using or do not wish to purchase a emergency treat application?

- Not necessary
- Costly
- Emergency not priority
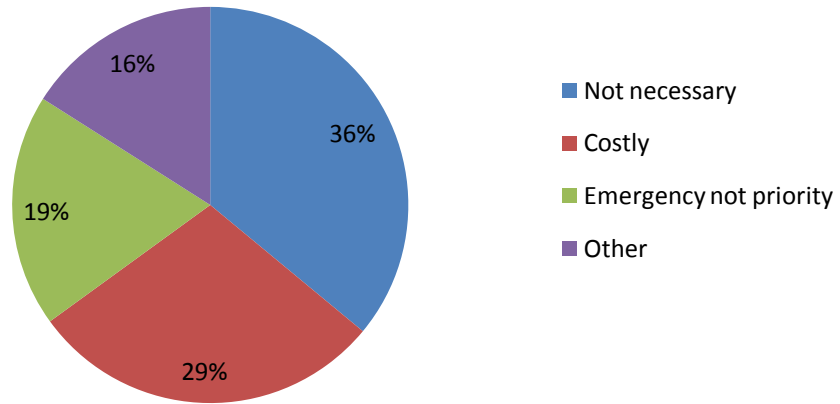- Other

36%
29%
19%
16%

Figure 6: Survey Question 2

The majority answered that the application in the market were not suitable for them and did not meet their need therefore the respondents did not see the reason as to why they should invest in a emergency treat application.

Another finding that was found is that the majority of the respondents are willing to purchase a emergency treat application consists of Malaysian motorcyclists for a reasonable price. This part of the survey was address to all 50 respondents. Below shows the results of the survey questions.

Would you buy this application if reasonability priced?
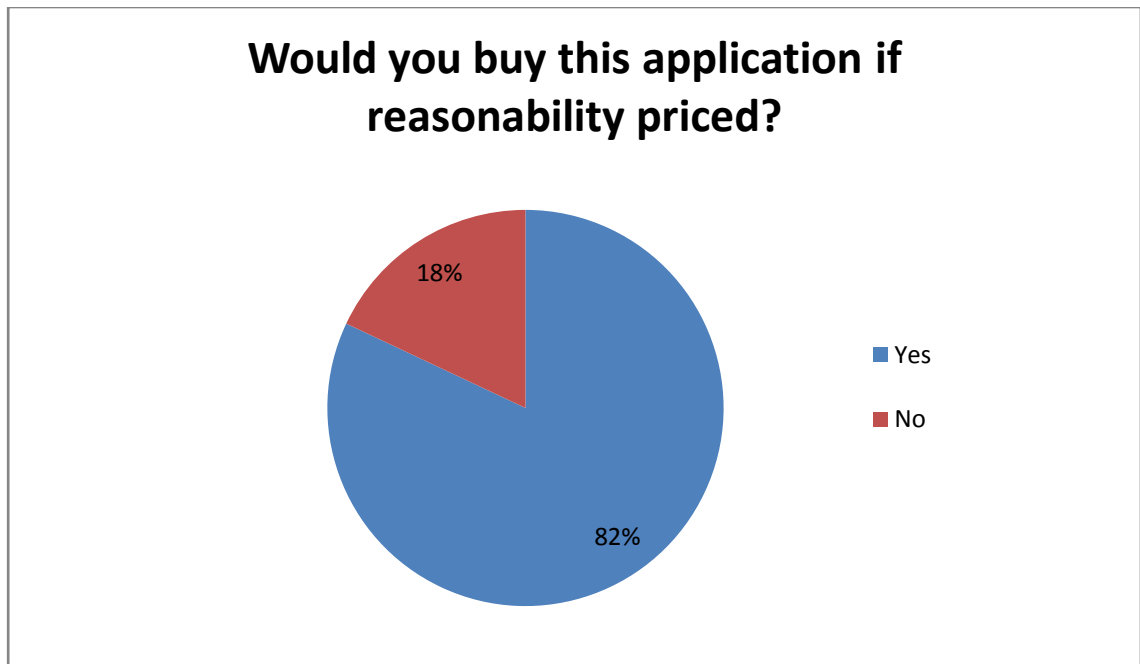
18%

82%

■ Yes

■ No

Figure 7: Survey Question 5

The figure shows that the majority would want to purchase the application if it were price reasonably. The figure shows that 82% of the respondents would want an application that meet their need and in this case it would mean that a emergency treat application consisting of motorcyclists requirement.

4.3 Experimentation and Modeling

Test had been done after development of the system had been completed. The objective of the test was to see areas which needed improvement and to identify any system flaws.

One of the tests done was for compatibility. This was to test if the application is able to run on the android operating system. Four devices are test. Three of the devices were a smart phone while one was a table. Below shows the result of the test

Device	Results
Samsung Galaxy Ace Plus	Successful installation
Sony Erikson Xperia	Successful installation
HTC Incredible S	Successful installation
Samsung Galaxy Tab 7.7	Successful installation

Table 4: Compatibility Test

The figure above shows that the application has been successfully install in four different mobile devices. Hence, this proves the compatibility of the application with the android operating system.

The second test that is conduction is to test the user satisfaction. The components that are tested include:

- Ease of application installation
- Interface
- Functionality
- Application runtime
- Application presentation

Ease of application installation covers area on the ease the application can be install on the hardware. In other words, users did not find difficulty when installing the application.

For interfaces, it covers the aspects regarding the user friendliness of the interface and how easy the user can navigate from one interface to another. Interfaces focuses on it user friendliness and easement of use.

Functionality focuses on functions and features that have been created and seen if the function and features have meet the user requirements.

Runtime test on aspect on which the time is taken for the application to run on the devices and how long it would take to launch the application.

Presentation of the application focuses the overall attractiveness and visual appeal of the application.

Users would rank these components on a scale of one to five. The scale would convey meaning as follows:

1 = Very dissatisfied
2 = A little dissatisfied
3 = Neither satisfied or dissatisfied
4 = Satisfied
5 = Very satisfied

Below shows the results of the test conducted.

Components	Rating	Remarks
Ease of installation	5	The installation is simple
Interfaces	4	The interfaces are easy to use and navigate. However, improvement can still done.
Functionality	4	Current function are working but new functions can be added
Runtime	5	Runtime is not time consuming
Application presentation	3	Presentation needs improvement

Table 5: User Satisfaction Test

Based on the results of the test, the author has identified the areas where the application needs improvement. However, there element whereby the author has managed to satisfy the user. The author has identified on elements which need to be added in order to make the application more attractive to the user. The author has noted on one error at this stage which is that the author did not emphasis enough on the presentation. This error would be corrected immediately and the correction will be show in the next phase of the project.

4.4 Prototype
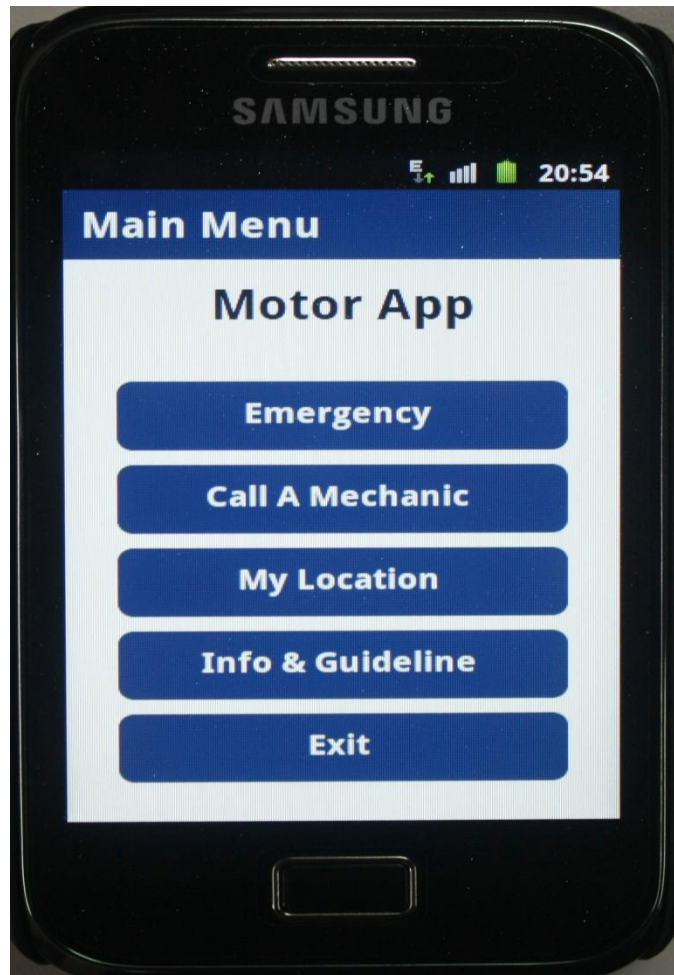
4.4.1 Home Page and Main Menu

Figure 8: Home Page and Main Menu Page

From the main page or home page, users will then select the menu button and from the menu button have a Emergency button, Call A Mechanics button, My Location button, Info & Guidelines button and Exit button.
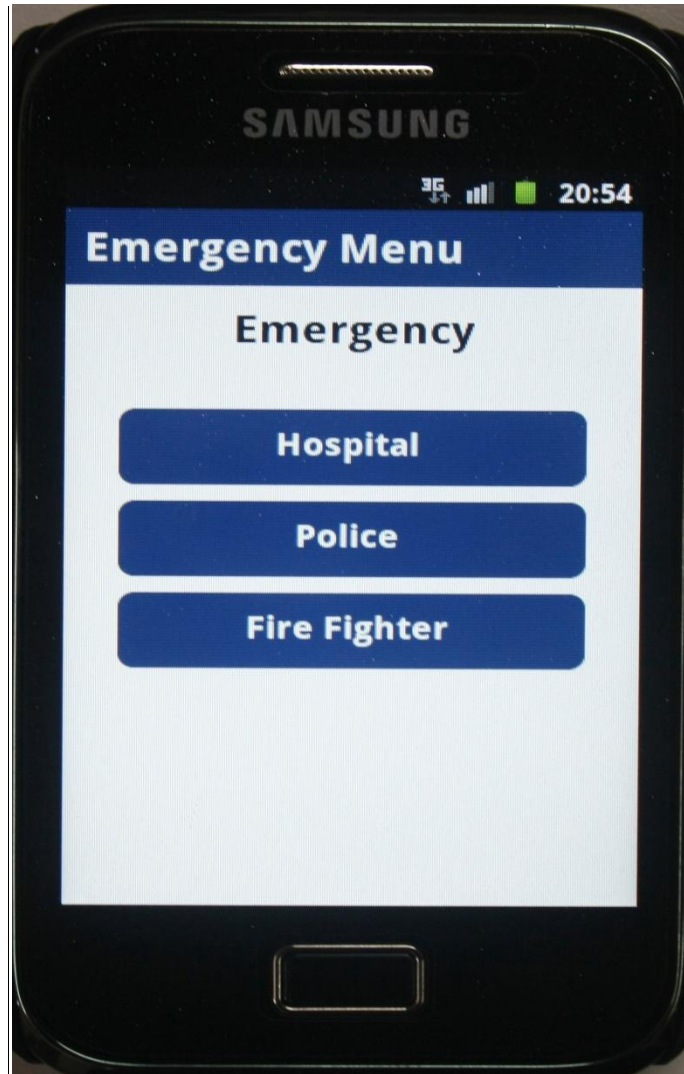
4.4.2 Emergency Page

Figure 9: Emergency Page

From the emergency page, users will then select the menu button and from the menu button have a Hospital button, Police button, Fire Fighter button. All buttons will directly locate where the hospital, police station or fire fighter station is. And can call directly to the hospital, police station of fire fighter.
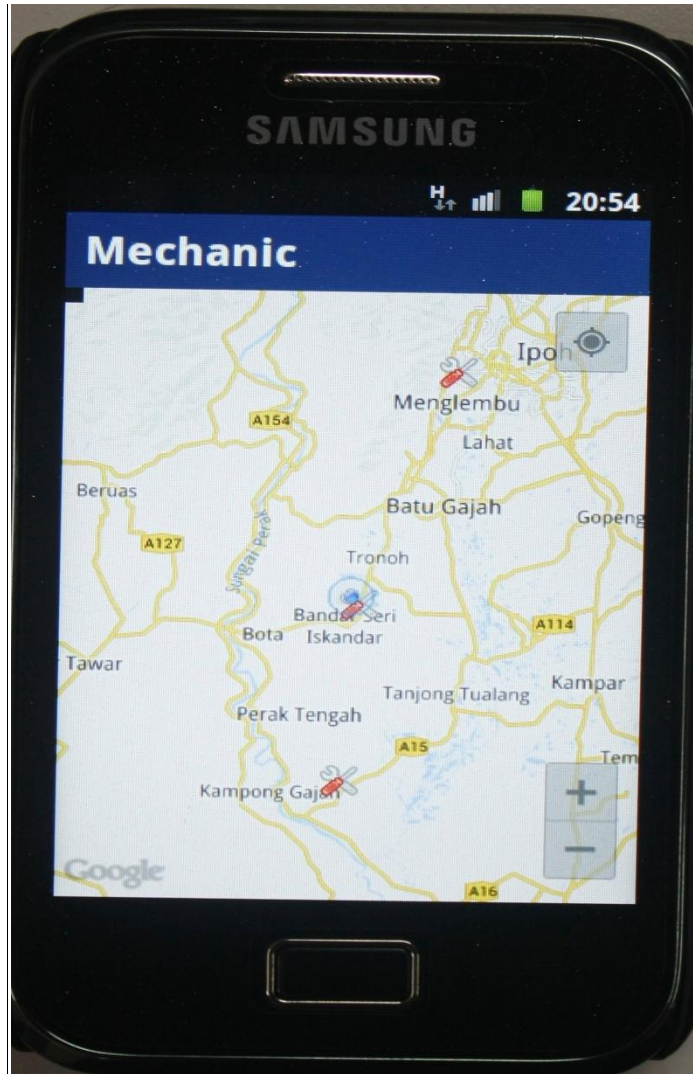
4.4.3 Call a Mechanics Page

Figure 10: Call a Mechanics Page

From the Call a Mechanics page, users will then select the nearest workshop and call it directly or Re-locate button to make sure the locations is true.
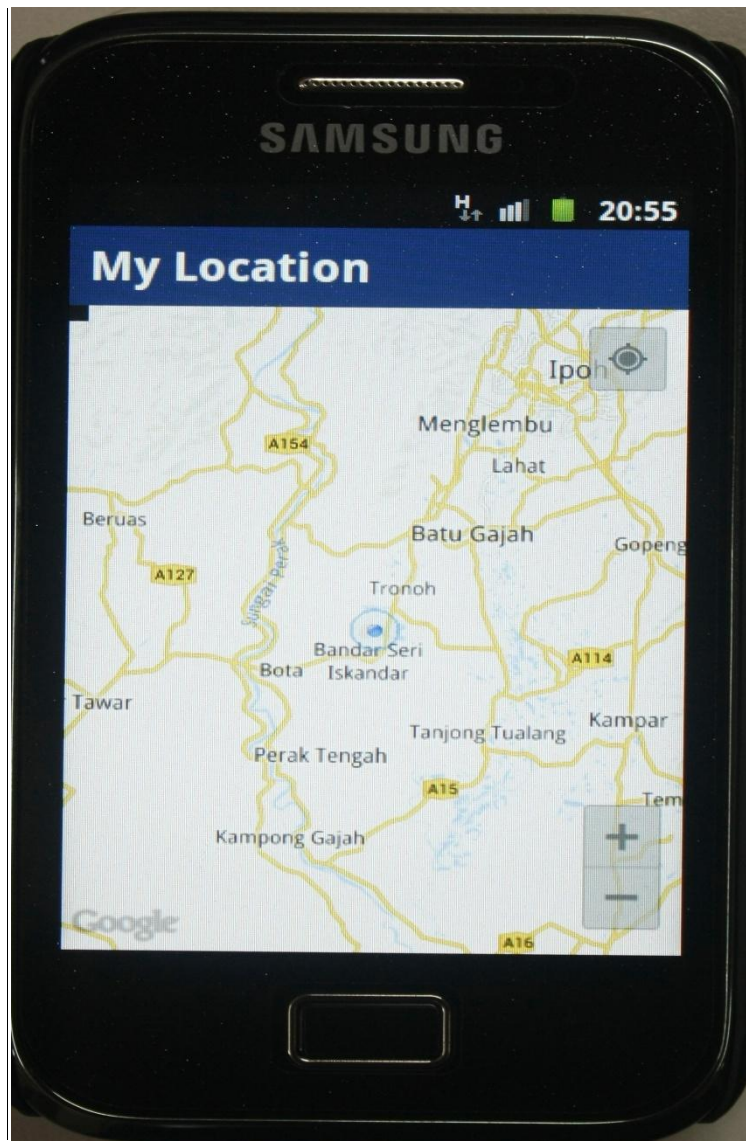
4.4.4 My Location Page

Figure 11: My Location Page

From the My Location page, users will confirm their location for just information for them.
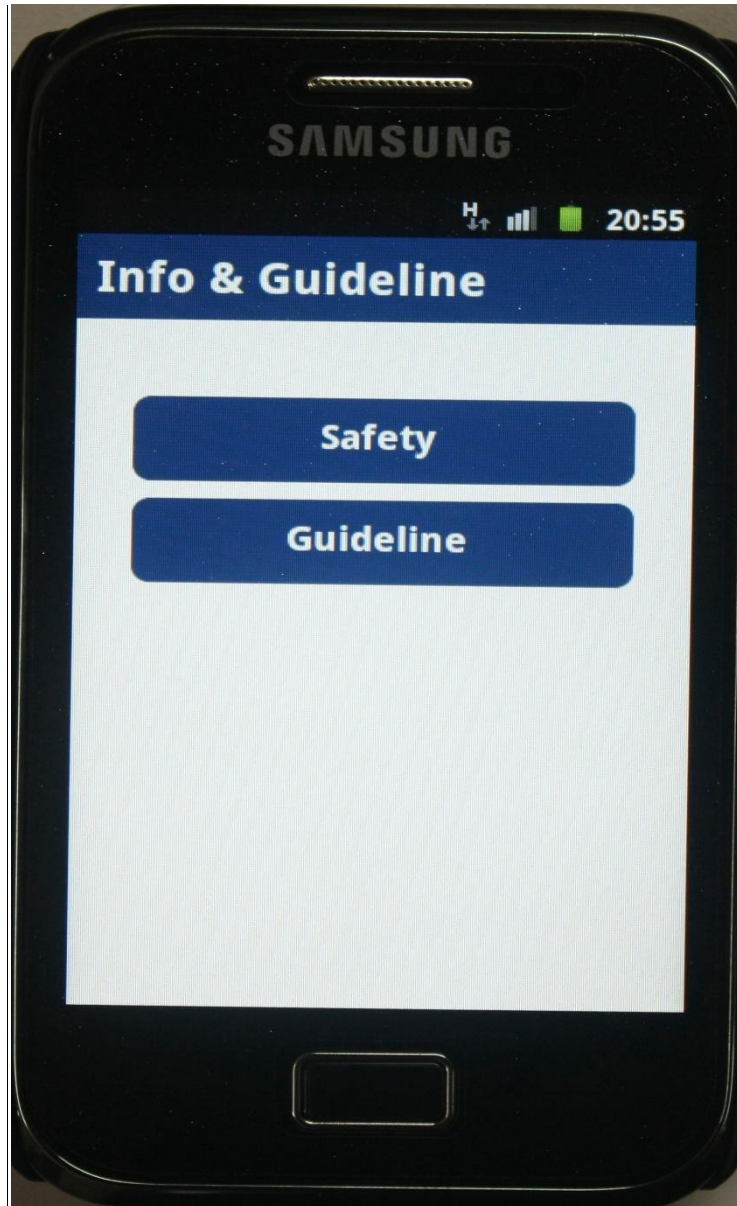
4.4.5 Info & Guidelines Page

Figure 12: Info & Guidelines Page

From the Info & Guidelines page, users can get know about the Safety, Guidelines.

4.5 Project Deliverables

The deliverable of the project is the submission of reports from Final Year Project 1 (FYP 1) that is completed and submitted during the May 2013 semester and the remaining reports to be completed and submitted during the September 2013 semester. Reports that are included during the entire duration of the projects are as follows:

- FYP / 1 : Extended Proposal (Submitted)

- FYP / 1 : Proposal Defense (Presented)

- FYP / 1 : Interim Report (Submitted)

- FYP / 2 : Progress Report (Submitted)

- FYP / 2 : Pre-Engineering Design Exhibition (Presented)

- FYP / 2 : VIVA (To be presented)

- FYP / 2 : Final Dissertation (To be submitted)

This project delivered all the required deliverables including the prototype.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.0 Conclusion

Nowadays, motorcyclists are exposed to the technologies such as internet, computer, smart phone and also other gadgets. Besides, this mobile application is considered 80% completed because it has produce the planned meeting the project timeline. This system has the functionalities that have been design and the meet the integrate project objective which are:

- Analyze user requirement of the system
- Design and develop mobile application
- Test and evaluate application

As conclusion, this project will be a good project for all motorcyclists when they on the road, and will introduce a new knowledge method in Malaysia. In this dissertation report, it explained details about the project itself. Begin with project abstract, background of study, problem statements, and also objectives. Furthermore, the methodology also has been selected in completing this project. By the end of the stage, the mobile application system should work fine as it is intended for and the objectives of this project shall be achieved successfully.

5.1 Recommendation

An advancement of this project would to integrate content-image based retrieval so that user would not need to insert data or select data from a list but instead able to capture image and the application will return the corresponding parameters.

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APPENDICES

APPENDIX A