

**Panic Button Mobile Application for  
Emergency Assistance**

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**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

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**Panic Button Mobile Application for  
Emergency Assistance**

**CHUAH YIN BOON**

**This report is submitted in partial fulfilment of the requirements for the  
Bachelor of Computer Science (Media Interactive)**

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
UNIVERSITI TEKNIKAL MALAYSIA MELAKA  
2015**

## DECLARATION

I hereby declare that this project report entitled

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

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## **DEDICATION**

I would like to dedicate this report to my beloved parents for supporting me all the way during this undergraduate journey

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## ABSTRACT

Most people in stressed situations often panic and could not remember what to do and who to call for help even if they have a smart phone. A useful mobile application to solve this issue is to have a panic button that can be pressed in times of an emergency such as a robbery, accident, car breakdown, fire, floods, heart attack, and intimidation from road bullies, gangsters, rapists, stray dogs or wild monkeys. The application can automatically sound an alarm to scare the intruder or attract the Police, call pre-set numbers to inform the relevant authorities, next of kin or friends on the user's location and a pre-set SOS message for help. In a more calm and relaxed situation, the user can easily key-in the relevant and favourite telephone numbers or type a typical SOS message. The telephone numbers and SOS message can be edited later when necessary to personalize them to the user's needs.

The mobile application prototype was developed using Intel Xdk for an Android based platform but could be easily ported to an IOS platform for Apple products. The application uses Google map functions to locate the user exact coordinates and send it to the relevant receivers by the smart phone SMS functions. A database to store the contact information and SOS messages was also built for the application. To test the application, an Intel Xdk App Preview software was used as a simulator.

The mobile application was based on a study made on people reactions in emergency cases. From the study, it was found that there are two typical scenarios. In the first case for situation like a medical emergency, natural disaster and intimidations, a loud and noisy alarm is useful while in a crime scene where the user need to hide from intruders in a burglar or break-in, a silent mode is more effective. To solve this issue, two buttons were introduced in the application instead of one button. The buttons were coloured differently and placed far apart so that the user can easily push the right button in a panic situation.

A guide on how to handle emergency situations was also implemented in the application to assist users during non-emergency situations.

From the tests conducted, the mobile application was found by many users to be useful and they would use and buy the product if it is available.



## ABSTRAK

Kebanyakan orang dalam keadaan tertekan sering panik dan tidak tahu untuk berbuat apa walaupun mereka mempunyai telefon pintar di tangan. Satu aplikasi mudah alih yang berguna untuk menyelesaikan isu ini adalah dengan mempunyai butang panik yang boleh ditekan apabila dalam kecemasan seperti rompakan, kemalangan, kerosakan kereta, kebakaran, banjir, serangan jantung, dan ugutan daripada pembuli jalan raya, samseng, perogol, anjing liar atau monyet liar. Aplikasi ini secara automatik boleh membunyikan penggera untuk menakutkan penceroboh atau menarik perhatian pihak Polis, menghantar mesej S.O.S dengan lokasi pengguna dan memanggil nombor pra-set untuk meminta pertolongan kepada pihak berkuasa yang berkaitan, keluarga terdekat atau rakan-rakan. Dalam keadaan yang lebih tenang dan santai, pengguna boleh memasukkan nombor telefon yang berkaitan atau disukai dan menaip suatu mesej S.O.S berkenaan boleh diedit kemudian apabila perlu untuk menjadikannya lebih peribadi kepada keperluan pengguna..

Sebuah prototaip aplikasi mudah alih telah dibangunkan dengan menggunakan Intel Xdk di atas pelantar berasaskan Android tetapi boleh dengan mudah dipindahkan ke pelantar IOS untuk produk Apple. Aplikasi ini menggunakan fungsi Google Map untuk mencari koordinat sebenar pengguna dan menghantarkannya ke penerima yang berkenaan melalui fungsi SMS telefon pintar. Sebuah pangkalan data untuk menyimpan nombor telefon kenalan juga telah dibangunkan. Untuk menguji aplikasi ini, perisian Intel Xdk App Preview telah digunakan sebagai simulator.

Aplikasi mudah alih telah dibangunkan berdasarkan kajian reaksi orang ramai dalam kes-kes kecemasan. Daripada kajian tersebut, terdapat dua senario biasa. Dalam kes pertama, apabila berada dalam keadaan seperti kecemasan perubatan, bencana alam dan diancam, bunyi penggera yang kuat amat berguna. Manakala, dalam keadaan kejadian jenayah seperti pencerobohan, rompakan, pecah rumah yang mana pengguna perlu bersembunyi daripada penceroboh,, mod senyap adalah lebih

berkesan. Untuk menyelesaikan isu ini, dua butang telah diperkenalkan dalam permohonan berbanding satu butang . Butang-butang tersebut telah diberi warna berbeza dan diletakkan berjauhan supaya pengguna dengan mudah boleh menekan butang yang betul dalam keadaan panik.

Sebuah panduan mengenai cara untuk menangani situasi kecemasan juga telah dilaksanakan di dalam aplikasi untuk membantu pengguna semasa dalam keadaan bukan kecemasan.

Daripada ujian yang telah dijalankan, aplikasi mudah alih ini didapati telah diterima baik oleh ramai pengguna. Ramai antara mereka mengatakan akan mengguna dan membeli produk tersebut apabila sudah boleh didapati.

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## CHAPTER I

### 1. INTRODUCTION

#### 1.1. Introduction

The project proposed is a mobile application named Panic Button. This mobile application was developed to help people in emergency situations such as road accidents, crime case happening, medical emergency and so on. This mobile application contains several features such as S.O.S message, S.O.S call, GPS location information, emergency services, alert sound, learning and user guide. The S.O.S message aims to give people immediate request for help by sending out S.O.S message that contains the users' GPS location. Users can send messages to multiple receivers with only one click. Besides this feature, the emergency services provide an easy way to find and get directions to the nearest hospital and police station. Furthermore, there are also alert sounds like S.O.S tones and police siren that can help people in emergency to attract attention or deter threats. Moreover, users can learn defensive techniques to be prepared to handle emergency situation before unexpected things happen at learning contents of the mobile application.

Users can use this application even the screen is lock. A shortcut icon displaying at lock screen allow user quickly launch this application. This will decrease time taken to request help from friend, family, and service centre in emergency situation. Furthermore, Panic Button Mobile Application consist easy to

use interface, so that user will not confuse while in emergency situation. S.O.S message allow users to add or remove favourite contact. Moreover, it allows fresh users learn using app through user guide. A complete guideline and manual is created for fresh user. This will be a helpful app for people in case of emergency.

### **1.1.1 Project Background**

Smartphone is a combination of mobile phone with mobile application and advanced mobile operating system. It is also been called as digital assistant device. Most of us use smartphone every day to surf internet, play games, watch video, listen to music, time managing by using time planer, take photo, check emails, read the news and also original phone purpose to make phone calls and send message. The well-knows currently smart phone operating system are Android based smart phone, Windows mobile based smart phone and IOS smart phone.

This project going to develop a Android based smartphone application because the usage of Android based smart phone is the largest portion compare to others smart phone platform. From the article by J Koetsier, 2013 state that Android captured almost 70% global smartphone market share in 2012, IOS just under 20%.

Most application design and develop according demand of public. There were many difference types of emergency help application such as patient health application, emergency touch light, sound and so on. Since many peoples will panic during an emergency or distressful situation and they could not do anything due to being too stressful and do not have ample time in critical situation to call or text anyone for help. Therefore, come out the ideas of Panic Button Mobile Application that help people in thearted situation.

## **1.2. Problem Statements**

There has been many cases where people panic during an emergency or distressful situation but could not do anything due to being too stressful and do not have ample time in critical situation to call or text anyone for help. These cases include people in a threatening situation or already a victim of crime, road accidents, natural disaster like fire, floods, landslide and emergency medical condition like heart attack.

## **1.3. Objective**

To investigate the various scenarios of user response in emergency or distressful situations

To design and develop a mobile app provides effective assistance and information to help users in emergency or distressful situations.

To test the mobile app effectiveness in simulated emergency.

## **1.4. Scope**

This project mainly focus on give affective assistance and information to help users in emergency and distressful situation. The target user are people in a threatening situation such as victim of crime case, road accidents, natural disaster (fire, floods, landslide) , medical emergency (heart attack). The project will be completed in six months from 23 FEB 2015 until 21 AUG 2015.

## 1.5. Project Significance

This project is relevant and useful to assist smart phone users in stressed and threatening emergency situations. Currently there are mobile applications available to assist in emergency cases but does not have the functionality planned for this application. Hence this mobile application has a commercial potential. The application will give user immediate request for help by calling or sending out S.O.S message & location to multiple receiver in One click. Moreover, to help people in a threatening situation by providing effective assistance and information location of the nearest hospital and police station and the contact number of hospital and police station. Alert sounds (S.O.S tones and police siren) help attract public attention. So, this mobile application will be useful in threatening situation.

## 1.6. Conclusion

In conclusion, this application aims to give affective assistance and information to help users in emergency and distressful situation. To produce a user friendly mobile application, I choose to design simple interface. So that user will not confuse while in emergency situation. Furthermore, to give user faster launch the app, an shortcut icon aim to display at lock screen, this will help user shorten time taken to request help from friend, family, and service central. Moreover, mobile application provides features that allow users to add or remove favourite contact at contact list. Apart from this, fresh users can learn using app through user guide. A complete guideline and manual is created. It provides GPS guide to nearest hospital and police station. This will be a helpful app for people in case of emergency.

This chapter is about the brief view of whole project; next chapter will be literature review and methodology.

## CHAPTER II

### LITERATURE REVIEW AND PROJECT METHODOLOGY

#### 2.1. Introduction

The Panic Button is a mobile application to help people in emergency situations. Users can click that button and get help by sending out sos message and current location. Moreover, this mobile app contains alert sound that would attract public attention. There were GPS guide and emergency service also. However this project required some research and findings to support. So, literature review importance for us to enable the researcher to learn from previous theory on the subject. It is an assessment of a body of research that addresses a research question.

While methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge.

Project methodology describes every step in the project life cycle in depth. So you will know what the next task that you have to do is. These help to manage projects from beginning until complete the project.

## 2.2. Domain

The domain for this project is Panic button mobile application. Mobile application is a computer program designed to run on smartphones, tablet computers or other mobile devices. Apps are usually available through some application distribution platform such as the Apple App Store, Google Play, Windows Phone Store, and BlackBerry App World. Panic Button mobile app is an assistive technology specially designed for people in emergency situations such as accidents, crime happening and medical emergency to help people by providing effective assistance and information.

Mobile app can be built using online software available in the market such as appery.io, Mobile Roadie, The App Builder, Android sdk (eclips), flash, Intel xdk and so on. This project choose to use Intel xdk as software to create mobile app. This app contains interactive media that provides user-interactive experiences as well as user-friendly interface. The app will provide information on contact and location of emergency centre and some useful defend technique. The app interface will be designed using illustrating and design software such as Adobe Photoshop and Illustrator. The app also includes SOS message feature that enables the users request for help by calling or sending out SOS message in one click. Moreover, this mobile app provide Alert sounds like SOS tones and police siren to attract attention or deter threats. Sound will be recorded using Audacity or suitable online source.

## 2.3. Existing System

There were several existing emergency purpose mobile applications. In this topic, 2 selected application are discussed such as “The Emergency App” and “SahAya - Emergency Alert”.

The first existing emergency application is “The Emergency App “ that can be download at the google play store