UNIVERSITI TEKNIKAL MALAYSIA MELAKA

EMERGENCY VOICE DETECT TRACKING SYSTEM USING MOBILE PHONE

This report submitted in accordance with the requirements of the UniversitiTeknikal Malaysia Melaka (UTeM) for the Bachelor of Computer Engineering Technology (Computer Systems) With Honours

by

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I hereby, declared that this report entitled "Emergency Voice Detect Tracking System Using Mobile Phone" is the results of my own research except for quotes as cited in the references.

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APPROVAL

This report is submitted to the Faculty of Engineering Technology of Universiti Teknikal Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the award of Bachelor Of Computer Engineering Technology (Computer Systems) With Honours. The member of the supervisory is as follow:

…………………………………

(En. Zulhasnizam Bin Hasan)

ABSTRAK

Projek ini dibangunkan bertujuan untuk membantu pengguna ketika berada di dalam keadaan kecemasan. Projek ini juga membantu mengurangkan kadar jenayah dinegara kita dan juga membantu untuk memudahkan pengguna apabila berada dalam keadaan kecemasan. Projek Sistem Pengesanan Suara kecemasan menggunakan telefon bimbit sebagai medium untuk mengesan suara apabila pengguna perlu bantuan. Suara 'Help' dikesan menggunakan google perakam suara. Sistem suara yang dikesan akan menghantar maklumat lokasi pengguna untuk system pangkalan data di balai polis melalui sambungan internet. Pangkalan data menghantar pemberitahuan amaran kecemasan segera kepada polis yang bertugas melalui telefon mudah alih dengan ID berdaftar. Apabila pihak polis mendapat amaran notifikasi kecemasan, pegawai polis yang bertanggungjawab mengesan mangsa melalui lokasi koordinat mangsa yang diterima melalui GPS dan melalui sambungan internet. Selepas itu, pegawai polis yang bertanggungjawab juga menggunakan telefon mudahalih untuk menerima koordinat lokasi mangsa dan mencari mangsa menggunakan lokasi koordinat dihantar dari system pangkalan data polis melalui sambungan internet.

ABSTRACT

This project aims to help the user when they are in an emergency situation and help to reduce the crime rate in our country also at the same time could help to facilitate the user when in a state of emergency. Emergency Voice Detect Tracking System is a project that uses a mobile phone as a medium for the sound detection when used in an emergency situation. The user that shout 'Help' is tracked through by google voice and then the sound system is detecting and send the user's location information to the police station database system via an internet connection. The system generates store in a database would send an emergency with alert notification immediately to the police on duty via mobile phone with a registered ID. When the police got an emergency alert notification immediately, the police officer who is responsible for identifying the victims through the location coordinates received through GPS and through an internet connection. After that, the police officer responsible also uses mobile phones to receive the coordinates of the location and use the location coordinates to find the replies of the police database via an internet connection.

DEDICATION

Alhamdulillah, praise to Allah SWT S.W.T this thesis can be completed successfully.

Special dedication is aimed at,

My beloved parents were always there and support all actions taken, family members, friends who always give an idea, the project supervisor who is always helpful to highlight, always encouraging, understanding, counsel, and gratitude.

May Allah bless you all.

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For my parents, you are the best "things" that I have. I don"t know what are the best word to describe your patience, love and cares towards me. Thanks for your moral support and encouragement.

To all my friends, thank you very much for helping me to finish this project.

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INTRODUCTUON

1.0   Introduction

This part was explained about the background and overview of this project. This part includes the objective of this project and scope. This part also was explain the problem statement this project..

1.1   Background

Since lately, much crime in our country such as theft, kidnapping, robbery, burglary and so on. Mostly, when a person is in a panic and they do not know what to do, the first thing they did was to shout for help from an emergency call. The purpose of this system is to reduce crime by using a number of methods that was discussed.

Emergency Voice Tracking System project using mobile phone as a medium to detect voice when the user shout 'help'. The voice is detect through a google voice. After the system detect the voice, it will send the information of the user location to police station database system through an internet connection.

At the police station, after the information receive to the database it will send an urgent emergency alert notification to the police android through police mobile device ID registered. When the police get the alert notification urgent emergency,

police officer in charge detects the victim through the coordinate location of the victim received via GPS and through an internet connection.

1.2 Objective of project

To ensure that the work of this project goes according to plan, there are several objectives that are to be achieved the goal of this task.

1. To develop a tracking system to detect voice using a mobile phone.
2. To analyze the detecting voice using android application.
3. To ensure the system able to detect a user's location using GPS.

1.3 Problem Statement

Most of the people in this technology era nowadays are capable of having a mobile phone as for their communication tools. There are many kinds of mobile phone invented with some particular function, but most of it has the internet services. For some reason, in emergency situation happens a victim are probably in shock and unable to make a move such as making a call, sending a text message and so on. As for that, it is not effective if someone kidnaps and hardly to move and need a help. Hence, in this kind of situation a simple yet effective method need to be implements to ease people.

Furthermore, in such a situation, people may totally become blank and can easily forget what to do. Moreover, the only way to ask for help is to shout even for a while. Apart from that, if any worst case happens, a police officer is not directly inform about the situation. Somehow, it will take a long time to detect the user. Because of that, the system of the voice tracking could ensure that the user tracked to detect through a GPS tracking system. The security of the citizen is very important and the police department needs to be more alert and efficient.

1.4   Scope of project

The voice tracking system is programmed using the android and database to enable the system to trigger the voice press button and use the MIT application inventorsoftware to develop a program that detect voice in mobile phone. The system of the project is connected via internet connection. The connection via internet is used to detect victim's location for tracking the system coordinates and location. Then, the database system that detects the coordinate location of the police station will notify the police officer in-charge the coordinate location that receive from the victim"s mobile phone.

Firstly, when the tracking system is turned on at the user mobile phone, the user need to insert the username and save it. By pressing the design button, the voice trigger matches the voice to pattern 'help'. If the voice pattern does not match with the variable set, the system will not function and the system is looped until it gets the voice pattern that match. When the system trigger the matching voice, the GPS will try to find the current location of the victim. The internet connection must be checked whether it is connected or not. Only if the internet connection is connected, the coordinate location enables to send information to the police station database system. However, if the internet connection is not connected, the GPS will still functioning, but the coordinate location cannot be send.

At the police station, the internet connection is also needed for obtaining the coordinate location of the victim to receive information. The coordinates location of a victim are receive, the alert notification urgent emergency direct send to a police officer in-charge through their mobile phone using their ID device. Each police officer must register their ID device for direct notification urgent emergency receive if there any emergency case happen. The location will keep display at the police officer"s phone until the case is solve and the case close. The ID device of a police mobile phone is register using pushover application. The pushover application use as a link to a database system and the notification urgent emergency send is from the database into a mobile phone.

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1.5 Significant of study

In the new technology advances smart phone trends with various functions available and many people use smart phones for daily activities. However, its highly advanced smart phone users still not able to take action, such as make calls and send messages in an unexpected situation such as snatch theft, robbery, kidnapping and so on. If the victim calling for help, police can only ask the location information of the victim and the police were taking action based on the information from the caller. If the information provided is not accurate, the police can"t take any action and the victim may be in danger. Therefore, the main significance of the study is to create a system that can detect emergency voice using user smart phone and automatically the current location of the user were detected and the location of the user was sent to the police station. The police can solve the problem as on as possible using the current location of the user. The advantage of this project is to allow users when users in an emergency situation. Besides, the consumer information received by police quickly and also the help police were arriving quickly. Hereby, crime in our country can be reduced with cooperation that good.

1.6 Structure Of Project

The methodology procedure is to conduct the project in order to achieve the objectives are as shown in figure 1.6.
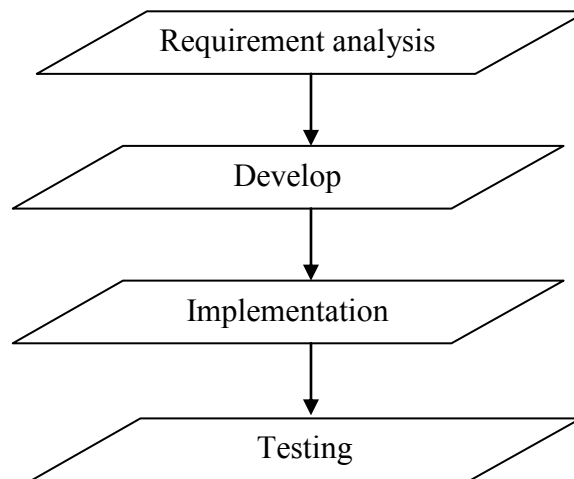

Figure 1.6: Process of project

1.   Requirement analysis – find a research and literature review about the "Emergency Voice Detect Tracking System Using Mobile Phone" notification system on the internet, journal, and a book. From the research, obtain the information about the tools that can be used to complete this project. Besides, watching you tube or video that relates to this project and gain more knowledge.

2.   Develop – At this stage, develop a program of voice and using the software App inventor. Then, trigger the voice using an android and database try to simulate voice used mobile phone.

3.   Implementation – construct coding used in this project such Android and database.

4.   A testing – process that overall all of the system that was designed and explained in this project. For this stage, the system of hardware and software able to operate well. The hardware component would be tested to see the result, whether the project has achieved target or not.

CHAPTER 2

LITERATURE REVIEW

2.0   Introduction

This part discusses of the existing research as an extra reference to developing this project is mostly sourced of journal, article and book. The reference results have been collected from various different sources like internet, library and others. Therefore, all referenced obtained should be investigated and studied in greater depth when improvement is required in the development process of this project. After that, this chapter also covered about the previous system and the past study that related to this project. Besides, this section also explains about a component that use in this project.

2.1   Previous Systems and Existing Technologies

Various technologies nowadays have been developed for the emergency case. For emergency cases, users will use a mobile phone to make a call to get help. Then, the information that was depending on circumstances users at that time. After that, the aid will arrive to the location the user received either faster or slower it all depends on the information provided by the user.

Next generation, the emergency voice tracking system will detect introduced and the function is the same as the emergency case, but it will be replaced from making a call to shout ' help ' word. This system, the user can shout ' help ' word to get help by using the user mobile phone. After that, the location information of the user will be sent to the police station. The police on duty will be alert for any case and will be taking action quickly and the user in case of will be saved.

2.2   Past Related Research

There is some related that research had been done. This research consists of previous project that have some related software and hardware with this project.

2.2.1   Android Based Emergency Alert Button

According(Gogoi.D.& Sharma, R.K,   2013)proposed "Android Based Emergency Alert Button" which is a SOS application which works on android platformThis system helps the people   unexpected   are in a situation where communication of their situation emergency where becomes necessary to be informed to certain persons which will helps them in this condition. This proposed model is drawn up and implemented with the aim must be user friendly and trigger an application should take less time. The location of the user in the problem is sent to certain people must be exact.

2.2.2   Emergency Call and Location Tracking System for Android

According (Raut & Patil 2015)In this phase of the proposed system user are capable of saving the numbers which they want to send SMS and calls for help in emergency situations. This phase is very important in the perspective of connecting to the people in their family, also with the hospitals and police stations. Using

"Setting" button present on "Help" button of the mobile screen user can save, edit, and delete any contact numbers and make changes which they want.

Location tracking is the most valuable and promising phase in the proposed system to make the system more enhanced and useful. With the help of GPS the system, an example of a mobile device will automatically track the location of the user from Google Map. The device will track the location in the form of longitude and latitude along with the address of that area where the user is present. Along with location tracking system can detect police station and hospital are located closer to the user that the system will send messages and make calls to contact police and hospitals. Many a systems fail to find the exact location of the user, but proposed system had worked to improve this phase. But this newly proposed system is able to track the exact location of the person who fall in the emergency situation and unable to help themselves.

2.2.3 Domain Specific Search Of Nearest Hospital And Healthcare Management System

According (Nimbalkar & Fadnavis 2014)This system detects the nearest hospital, contact the emergency ambulance system, access electronic medical records patients critical for emergency help in the treatment of pre-hospital. The system can be identified the existence of the nearest hospital which provided all the EMS Server provides continuous information about the patient's admission to the hospital. This paper suggests an Android Based Tracking for EMS (emergency medical system) in the cloud.

2.2.4   Android-Based Emergency Alarm and Healthcare Management System

According (Du et al. 2011) This system mainly deployed in an android-based phone that is easy to used and carried. This system suitable all people. With the help of the GPS and GSM network, the system can detect the location of the users when they are in trouble and the alarm is on.When the doctor or family receives the alarm message, they immediately take measures to rescue the user.It can also control user's medical records. Users can take the medicine online to tell their physical condition and then getting a prescription from a doctor who will send a prescription at the phone's user. After that the alert system life can remind users to take medication on time and so on.

2.2.5 Android Based Safety Triggering Application

Refer to (Kalyanchakravarthy et al. 2014)The proposed model is designed and implement with the objective that it has to be user friendly and triggering of the application should take less time .The location of the user in problem should also be precisely known to all those persons whom message has been sent. Automatically to the registered emergency phone numbers in the application. The application for full functioning demands GPS service to be available in the handset .If the handset doesn't have GPS service, attempt to trigger this application will show an error message, but still sending a message to the registered phone numbers. This feature is very useful talking those users who don't have GPS enabled handset. If the user is not triggering the alert button, then the default home screen of the mobile continuous to be displayed. Another Extension of our application is that the location traces continuously and send text messages on updating locations when once the user clicks on the safety triggering button. The user can only stop message on clicking password based stop button in the mobile to avoid waste of time navigating to the application stored somewhere else.Pressing the safety triggering button triggers the application in the background and immediately the location of the user in terms of latitude.

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