TOUR TRACK APPLICATION

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BORANG PENGESAHAN STATUS TESIS*

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TOURTRACK APPLICATION

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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
2017

DECLARATION

I hereby declare that this project report entitled

TourTrack application

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

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STUDENT: _____ DATE: _____
(Leong Wai Ken)

SUPERVISOR: _____ DATE: _____
(Dr Massila Kamalrudin)

DEDICATION

I would like to dedicate this project to my family for their endless support. Without their support, it would be not being possible. Besides that, I also would like to dedicate this project to those who give endless support and encourage.

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ABSTRACT

Travel is the kind of activity that almost everyone loves. They may prefer to travel in personal or group. Group package tour was planned by a travel agency and offered at a fixed price. Group leader is main of the whole tour and has a complicated role to lead their client in travel and provide direction and relevant information to them. To ensure the overall tourist satisfaction and safety in the whole tour, group leaders have to monitor their clients 'activity. However, group leaders are difficult to monitor their client 'activity when there are a crowd in touristic landmark. Besides that, group member is easily to get lost or separate with group in the unfamiliar environment. It will bring some trouble to group leader to find their group member because there are a lot of people in the touristic landmark especially peak season. When people travel to foreign countries, they do not know the emergency contact number. If they are in emergency, they unable to contact the emergency service. To solve the problem, an application named TourTrack will be built. This application can help group leader to know where his group member located. Group leader able to track the location of the group member in case they get lost or separate with group. TourTrack application also allow a person who under duress call for help quickly in the event of an emergency. By using TourTrack application, people will feel safe and comfortable. When they are facing emergency especially medical emergency, they able to use the application to contact the ambulance. For safety purpose, group leaders can be using TourTrack application to ensure his group members are secured.

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ABSTRAK

Melancong adalah jenis aktiviti yang hampir semua orang suka. Mereka mungkin lebih suka melawat secara peribadi atau kumpulan. Lawatan pakej kumpulan dirancang oleh agensi pelancongan dan ditawarkan pada harga tetap. Pemandu pelancong adalah seorang yang memimpin ahli kumpulannya dalam perjalanan dan memberikan arahan dan maklumat yang berkaitan kepada mereka. Untuk memastikan kepuasan dan keselamatan pelancong keseluruhan dalam keseluruhan lawatan, pemandu pelancong perlu memantau aktiviti pelanggan mereka. Walau bagaimanapun, pemandu pelancong sukar untuk memantau aktiviti pelanggan mereka apabila terdapat orang ramai dalam mercu tanda pelancongan. Selain itu, ahli kumpulannya mudah terpisah dengan kumpulan dalam persekitaran yang tidak dikenali. Ia akan membawa masalah kepada pemandu pelancong untuk mencari ahli kumpulan mereka kerana terdapat ramai orang dalam mercu tanda pelancongan terutama musim puncak. Apabila orang pergi ke negara asing, mereka tidak mengetahui nombor telefon kecemasan. Jika mereka berada dalam keadaan kecemasan, mereka tidak dapat menghubungi perkhidmatan kecemasan. Untuk menyelesaikan masalah ini, aplikasi yang dinamakan *TourTrack* akan dibina. Aplikasi *TourTrack* dijangka digunakan dalam lawatan kumpulan. *TourTrack* ini boleh membantu pemandu pelancong dalam mengesan lokasi ahli kumpulannya sekiranya mereka hilang atau terpisah dengan kumpulan. Jika ahli kumpulan tersesak, dia boleh guna *TourTrack* aplikasi untuk hantar *Panic Notification* kepada pemandu pelancong. Ketika pemandu pelancong menerima *Panic Notifcation* tersebut, dia boleh mengesan lokasi ahli kumpulannya. Ahli kumpulan juga boleh mendapat maklumat tentang perkhidmatan kecemasan melalui *TourTrack* aplikasi. Mereka boleh menggunakan aplikasi ini dalam perjalanan mereka. Kesimpulannya, pemandu pelancong boleh menggunakan aplikasi *TourTrack* untuk menjaga keselamatan ahli kumpulann

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CHAPTER I

INTRODUCTION

1.1 Introduction

Travel is the kind of activity that almost everyone loves. They may prefer to travel in personal or group. Group package tour was planned by a travel agency and offered at a fixed price. Group leader is main of the whole tour and has a complicated role to lead their client in travel and provide direction and relevant information to them. In order to ensure the overall tourist satisfaction and safety in the whole tour, group leaders have to monitor their clients 'activity. However, group leaders are difficult to monitor their client 'activity when there are a crowd in touristic landmark. Besides that, group member is easily to get lost or separate with group in the unfamiliar environment. It will bring some trouble to group leader to find their group member because there are a lot of people in the touristic landmark especially peak season. When people travel to foreign countries, they do not know the emergency contact number. If they are in emergency, they unable to contact the emergency service.

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To solve the problem, an application named TourTrack will be built. This application can help group leader to know where his group member located. Group leader able to track the location of the group member in case they get lost or separate with group. TourTrack application also provides local emergency contact number to users.

Therefore, a person who under duress able to call for help quickly in the event of an emergency.

1.2 Problem

- Group leader is difficult to monitor group member ‘activity
- Group member is easily get lost or separate with group in crowd
- Group member is difficult to get help in unfamiliar environment

1.3 Objective

- **To monitor group member activity easily by tracking location**

  Group leader can ensure the safety of group member by tracking the location of group member.

- **To send panic message when group member needs helps**

  When a group member is getting lost or separate with group, he or she can send panic message to other group member to seek some help. If the group member received the panic message, they can find him by using application.

- **To provide local medical emergency services contact number to those who need medical emergency services**

  When travel in foreign countries, we do not know the local emergency service contact number.

1.4 Scope

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The users of this project are admin, group leader and group member. The responsibility for admin is add new leader, create new group and add member. Group leader able to track the location of the group member. Group member able to send panic message to group leader if they are getting lost or separate with group. Besides that, users such as group leader and group member can get the medical emergency service contact number when they need emergency services.

1.5 Project Significance

By using TourTrack application, group leader can ensure group member safety. Group member can be prevented from getting lost from the group and group leader able to know the actual location of the group member immediately if group members do not gather on time. Group leader able to set a meeting point so that group member can gather in meeting point on that time.

1.6 Expected Output

This project expected to be used in group tour. They may use this TourTrack when they are travelling in a group. TourTrack allows group leader to track the location of group member. It helps entire group so they able to know each other 's location. Moreover, users able to use TourTrack when they need medical emergency service. TourTrack provides medical emergency contact number so user able to contact the local medical emergency service.

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1.7 Conclusion

To ensure group member 's safety, TourTrack will be a good tour application in group tour. It can help group leader to track the location of group member even if group

members are getting lost or separate with group. Group member able to contact the local emergency service if they need emergency service immediately.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

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2.1 Introduction

This chapter of report discusses about the literature review and methodology used in project. The facts and findings about the domain and the existing system of TourTrack are going to be explained in this chapter.

2.2 Facts and Findings

This section will discuss about the domain, the existing system and the technique that used in this project.

2.2.1 Domain

2.2.1.1 Mobile Application Development

Mobile application is application software that designed to run on mobile devices such as smartphones and tablet. There are many languages can be used to develop an application such as Java, C#, PHP, HTML and so on. Most of mobile devices run on one of two operating systems which are Android and iOS. Android is developed and

supported by Google. Android often considered a more open platform compared to Apple. Android is an open source operating system and allows anyone can use their own code to run in the device. iOS is developed and supported by Apple but it is used on only their own iPhones and iPad.

There are various types of mobile applications which are native application, mobile web application, hybrid application. Native application is an application program that has been developed for use on a platform or device. Native applications are built for specific platform and they can be interacting or dealing directly with mobile operating system. Native applications can make full use of all the functionality that modern devices must offer.

Mobile web applications are mobile-optimized that look like an application and they are developed by using web technologies such as HTML, CSS and JavaScript. It can be accessed through the mobile device 's web browser. Some of API are only partially to web applications.

Hybrid application is an application that combine native development with web technology. Hybrid applications can be integrated with a device 's file system and web-based services.

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2.2.1.2 Location Based Services

Location based services (LBS) is defined as a software-level service that uses the location data to control features. According to Andrew McNamee(2005), location based service is defined as the broad spectrum of technologies which can calculate the position of a receiver. Location based service use the real time geo-data from a mobile device or smartphone to provide information data, entertainment or security. Some services are allowing users to check in at shop mall, restaurants, coffee shops, concerts and other places or events. For examples, Facebook Places, Foursquare and Google Maps are among the more popular services that allow users to check in.

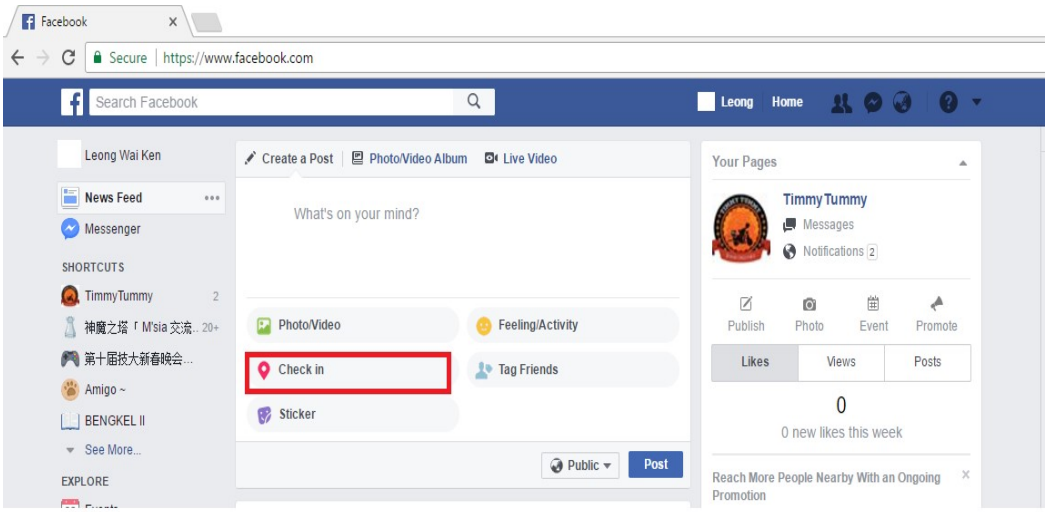

Figure 2.1 Facebook

Emergency 911 is most widely used LBS in the United State while Emergency 112 is used the LBS in the European Union. (Aleksander Buczkowski 2011). LBS able to use the ability to locate a person calling to emergency response agency who does know his or her exact location or unable to reveal it because of an emergency. Therefore, those emergency agencies such as ambulance, police and firefighters can provide help in a fast and efficient way based on the location information.

Addition, data from LBS can be used as well for disaster management. platform is a greatest example for LBS in disaster management. Ushahidi platform is an open source project which allows users to collect source crisis information that was sent by location-enable mobile devices. During 2010 Haiti earthquake, this platform was a great help tool. (Patrick Meier, 2012). It helps to get the real picture of the problem and manage rescue service in the most effeciency way.

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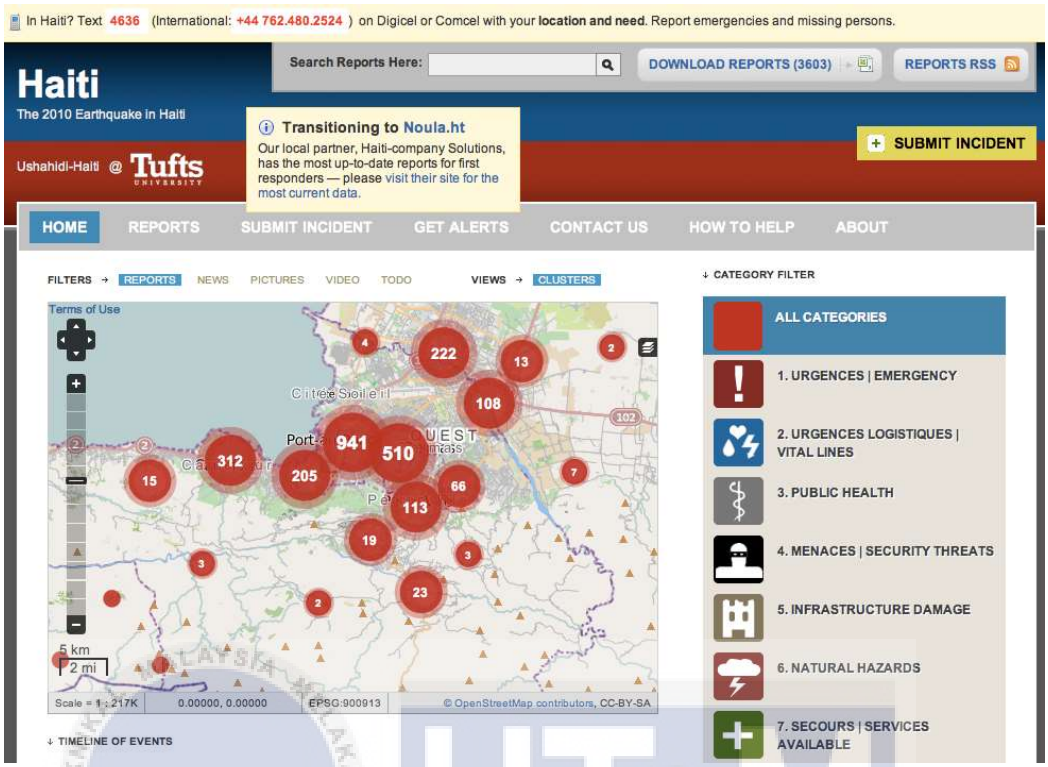

Figure 2.2 Ushahidi platform used in Haiti earthquake 2010

LBS also provide navigation service which allows to locate the precise geographical position of a mobile device by using positioning systems and captures the direction and navigates the user to desired location including vehicles, craft and pedestrian. Google Maps in mobile application is one of example of LBS navigation.

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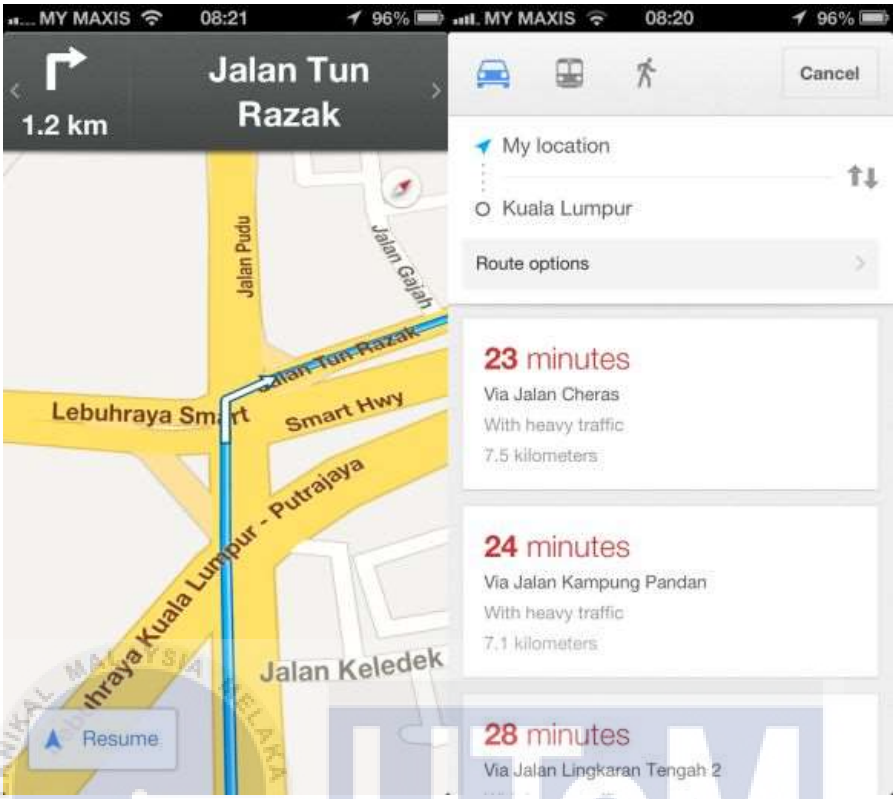

Figure 2.3 : Navigation in Google Map

2.2.1.3 Global Positioning System

Global Positing System (GPS) is a satellite-based navigation system that made up of at least 24 satellites. (Andrew McNamee ,2005), These satellites orbit the earth once every 12 hours and work in any weather condition. Each satellite transmits a unique signal and orbital parameters that allow GPS devices to decode and compute the exact location of the satellite. GPS receiver will use information and then takes trilateration method to calculate user's exact location. For example, Garmin multinational technology company used GPS technology in their wearable product such as watch and waist band. Those wearable products able to track a person's activity and share with others. Besides that, precise timing calculation can be carried out by triangulation method. Triangulation works if GPS receiver received signal from two or three different points. (Bajah et al., 2002).

GPS are extremely versatile and can be found in any industry sector. It can be used to map forest, to help farmers harvest their field, to navigate airplanes on the ground or

in the air. Besides that, GPS are used in military application and emergency response agency to locate those people in need of assistance. Nowadays, many new cars are installed with GPS device to assist in navigation.

Besides that, GPS is very useful in tracking the movements of certain groups of people especially Alzheimer and dementia suffers. Those sufferers can be tracked if they have GPS device in body. By using GPS device, they can be easily found if they are lost (Shimizu et al, 2000). Their current positon is always known because GPS receivers will keep receive location data from satellites.

2.2.2 Existing System

In this section, the comparison between existing system will be discussed. There are 3 selected applications in this comparison between systems.

Table 2.1: Comparison between existing system

	Life360 **By Life360**	**BSafe** **by Bipper AS**	**Trail Buddy** **By Pluribus Web LLC**
Compatible to android	√	√	√
Compatible to iOS	√	√	
Track user location	√	√	√
Calculate distance between users	√	√	√
Send panic notification	√	√	
Location Sharing	√	√	

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