

Thailand Quest Hunt

Project Proposal

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Abstract

Most travellers head to Thailand which well known as "Tourist Destinations" because Thailand has many most tourist attractions such as lifestyle, traditional, cultural, historical sites, old markets, historic towns, old arts, architectural artifacts, historical place, ancient temple, beach and island. Although Thailand has many famous things, but many travellers include foreign and domestic tourists do not know about on the history, relationship and how importance. Some problem of travelling without guide tour is a wasting time to get the direction, communication, information and waste time for travelling. "Thailand Quest Hunt" is a mobile application that can solve this problem. It is useful for travellers when they travelling in Thailand.

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Chapter One | Introduction and Background

Nowadays, Tourism is a main economic factor in Thailand's economy, and it makes a larger contribution than that of any other Asian nation. Many tourists come to Thailand for various reasons such as traveling for relaxation, and the number of tourists has seen a large increase in tourism over the years because Thailand has various attractions. Including with a beautiful mountain, hundreds of tropical islands, attractive view, white sandy beaches, varied night-life, beautiful of ancient architecture, museums, hill tribes with oriental flora and many Buddhist temples. This is among the reasons to the increasing the number of tourists in Thailand. Domestic tourism and foreign tourism has grown significantly in the past decade. Revenues from both of tourism have also gone from the large number that is show why the tourism is a main economic factor in Thailand's economy.

Although Thailand has many most popular tourist destinations, but many travelers do not know about on the history, relationship and how importance, direction, communication, information and inefficient time to travel for each place. "Thailand Quest Hunt" is a mobile application that used the concept of quests game. User can download new quests from internet, install on this application and run to play the game. Quest as same as the rally game, user will receive information about the condition to clear the game. The condition to clear the quest is traveling along many tourist attractions in Thailand that relate to that quest and check-in. Example is Kru bar Sri vi chai Quest". User can complete the quest by going to three difference places are Wat Phra that Doi Keung, Wat Suan Dok and Wat Phra That Doi Suthep in Chiang Mai which all related in Kru bar Sri vi chai' history. On the quest detail, User will know about history background on each place which user had to visit, how that place related to Kru bar Sri vi chai history, how many day user use to complete the quest, quest map with the directions and co-ordinates point on The Global Positioning System (GPS). User will receive the traveling guild information such as nearest hotel, local restaurant and shopping mall, souvenir stores and the market place. To completing the quest, user must check-in via Thailand Quest Hunt application when the user get to the place correctly. If user travel along all in their place and check-in correctly, user will receive the reward from the application. Sharing reward and the adventure experience to the other people via social network to build a good social network society. This way can help and encouraging in-house tourism. Moreover, user can share information, biography of a famous person and place background history in Thailand to other people for conservation of Thai tradition and Thai culture to the next generation.

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Chapter Two | Literature Review

2.1.0 Business Review

2.1.1 Current Traveling Application



Figure 1.0 Amazing Thailand Mobile Application

Nowadays, there are the traveling services website and applications about tourism from various institutes and product owners worldwide. In Thailand, the most applications have the common objective to giving information about the tourist attraction to the user. The most common types are informative, where a traveller able to find or search on the travel information about the interested destination easily. Now the media and technology just like a Mobile Phone, Internet, GPS (Global Positioning System), Geo Tracking and Social Network had become advanced and more development. Then the user has many ways to choose the application on the market to satisfy on their desire. We have many website and mobile application in the market, but they emphasize on giving the informative to the tourist. It is a similar way with other applications. There are less interest and can make the user feel boring.

From the above mentioned, these are general steps that are often founds. Firstly, user run the application and register on the system. Secondly, user will select the theme of traveling or the famous place on their interested. The system will send the information include text and pictures to the user. In actual, many application in the market has focused on giving the information to the user. It is a similar as other applications.

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2.1.2 How is this project going to satisfy the customers?

The project is aim to meet the users needs and give information about the tourist destinations in Thailand to the users, Thailand Quest Hunt will give history, relationship and how importance to the users in the same time. "Thailand Quest Hunt" use the concept of "Play and Lean" in the form of quest game. User can download and update the new quests to join the new adventure while traveling in Thailand. Users will feel like playing the rally game. User will become part of the adventure not receive only information. User will feel exciting and enjoy while traveling to clear the quest.

This mobile application will perform the tour trips and deliver to the users as the game quest. The system will manage the mission before deliver to the users. Including with the time that users will use to complete the quest with more efficiency, the direction from one place to another place in that quest, the relation between the places and how to relate with the main history and the other information that users need to know. Such as the traveling guild information such as nearest hotel, local restaurant and shopping mall, souvenir stores and the market place. Todays the technology on Mobile Phone, Internet connection, GPS (Global Positioning System), Geo Tracking and Social Network had become more advanced and grow quickly. Building mobile application is the way to connect and support users quickly and easily.

Therefore, the integration of quest game with mobile technology is powerful systems along with well-designed and necessary tools that possibly facilitate the mobile traveling application to users. Especially, the mobile application is the main factors to promote in-house tourism in Thailand. Moreover, mobile application is flexible to extend and customize to meet a users requirement and easy to satisfy on their desire.

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2.2.0 Business Tools and Software Review

2.2.1 TripIt



Figure 2.0 TripIt Mobile Application

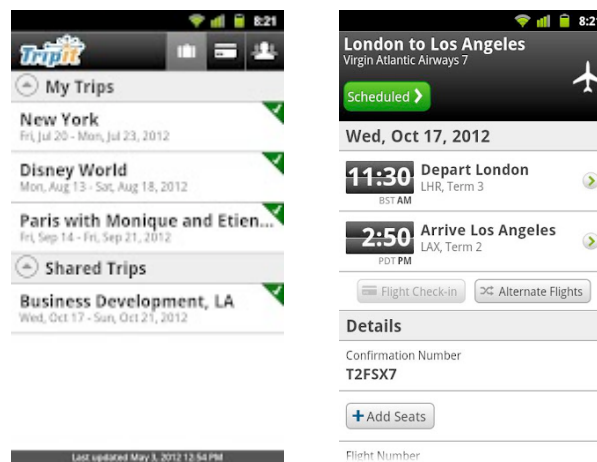


Figure 2.1 TripIt Mobile Application User Interface

2.2.1.1 Software Description

TripIt is the travel organizer application links to your e-mail account. This application will picks up every confirmation number on your e-mail. Such as dinner reservation, flight, hotel, or any even which contains an importance information or confirmation number and put all of them into one place. If any flight delays, the application will automatically update to your e-mail address.

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2.2.1.2 Pros

- Takes all of user traveling plans and organizes them into one convenient itinerary.
- Forward all of user email about confirmations and service to create a travel plan and sync it with user phone's calendar.
- Allows users to scan or log their receipts to be compiled into expense report
- User can add people to your Inner Circle, and they can automatically access all your trip details by using auto-sharing.
- Helps the user to book the flight easily.
- Alerts when flight delays, cancellations, and gate changes.

2.2.1.3 Cons

- There are similar with other application in the market.
- This is informative application with many functional that can make users confuse.

2.2.2 Instaplace



Figure 2.2 Instaplace Mobile Application



Figure 2.3 Instaplace Mobile Application User Interface

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2.2.2.1 Software Description

Instaplace is the application that make the user can share photo of location on Instagram photos with various descriptions from the place where are the now. User can decide where are to put the description in top or bottom photo by one finger move. User can customize photo on this application and then post the picture to Instagram, Facebook or Twitter.

2.2.2.2 Pros

- Having customize feature to edit photo before sharing.
- More skin set and new navigation.
- Easy to use.
- Can insert short description into the photo.
- Can share the pictures to other social network such as Instagram, Facebook or Twitter.

2.2.2.3 Cons

- Focus on photo sharing.
- Can input the small of text description into the photo.

2.2.3 Tourism Thailand eBook version 1.3.2



Figure 2.4 Tourism Thailand eBook Application

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2.2.3.1 Software Description

This is electronic book(e-book) application which produce by the Tourism Authority of Thailand. This application offers many attractive places, for example, Wat Phra that, Khao Yai, Pai and fascinated beaches like Hua Hin or Pattaya. This e-book will be your partner along your vacation. It tells the user for attractive place details, local restaurants, map and direction. In this e-book has many provinces attractive places details, traditional cultures, local festival and even restaurant, Shopping centre, Souvenirs including location and how to get there.

2.2.3.2 Pros

- This electronic book offers many attractive places.
- More attractive place details.
- Have map, direction and how to get there.
- Use a beautiful picture to show the description.
- Interactive reader improved.
- Use a lovely cartoon as a presenter.

2.2.3.3 Cons

- Not clear text.
- Informative application.
- Text is too small.
- Similar to other application.

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2.2.4 Tourism Thailand Application



Figure 2.5 Tourism Thailand Application

2.2.4.1 Software Description

An application to sustainable by the Tourism Authority of Thailand. This application will provide the information on the various tourist attractions in Thailand such as accommodation, restaurants, shopping, Events and festivals, Thai food and Tourism promotion. In addition, This application support the QR (Quick Response) code scan for searching service, map and GPS navigation to Check-in on the location, user can also save to favorites, or share via email and social network.

2.2.4.2 Pros

- It is a mobile application with beautiful pictures about many attractive places in Thailand.
- Support QR code Technology.
- Support GPS navigation and Geo tracking.
- Sharing the pictures and activities to social network.

2.2.4.3 Cons

- Not up to date for a new event and promotion to the user.
- Focus on giving information to the user.
- Similar to other application.

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2.2.5 Amazing Thailand version 2.1.2



Figure 2.6 Amazing Thailand Mobile Application

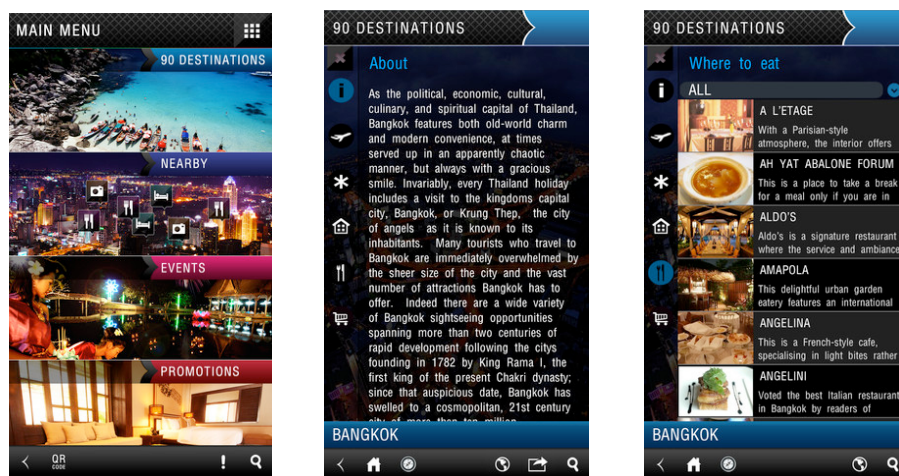


Figure 2.7 Amazing Thailand Mobile Application User Interface

2.2.5.1 Software Description

This application will promote Thailand how is a wondrous kingdom about the spectacular islands exotic wildlife and Buddhist temples. Along with an unique culture and fascinating history includes Thai food and Thai massage, Thailand have many friendly people who epitomize Thailand's "land of smiles".

2.2.5.2 Pros

- Quickly find information about Thailand by using mobile devices.
- The layout, Graphic User Interface (GUI) is easy to understand.
- Provide information by the Tourism Authority of Thailand.

2.2.5.3 Cons

- Small of functional.
- Similar to other application.

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2.3.0 Technology Review

2.3.1 Wireless local area network (WLAN)



Figure 3.0 Wireless Local Area Network

2.3.1.1 Technology Description

Wireless Local Area Network(WLAN) is the technology which a mobile user can connect to the network(LAN) through a wireless connection by using the properties of radio frequency wave. IEEE had specific the standard of wireless LAN is 802.11. These standards use in the Ethernet protocol and CSMA/CA for path sharing and include the Wired Equivalent Privacy algorithm and an encryption method and the Wired Equivalent Privacy algorithm(WEP). The advantage of Wireless technology is high-bandwidth that possible to send and receive the large files along this network. That support for new lifestyle such HD-video and hi-definition media on the internet.

2.3.1.2 Alternative Technology

- Metropolitan Area Network (MAN) is a medium size of communication network that connect networks (or LANs) in each area together.
- Wide Area Network (WAN) is a telecommunication network that covers a broad area. Normally, it is called World Wide Web.
- Local Area Network : LAN, A local area network (LAN) is a computer network had always been based on wire. Such as coaxial cable-copper and fiber-optic.

2.3.1.3 The selection of this technology

- WLANs are capable of transmitting data at fast rates, easy, and cheaper than data that transmitted over a line.
- WLANs is capable of transmitting data at fast rates, easy, and cheaper than data that transmitted over a line The distances and some environment can be interfere the signal, so it is not stable when compare with wire network.
- The number of computers that can be attached to a WLAN is more than LAN.

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2.3.2 Google Map Application programming interface (API)



Figure 3.1 Google Maps API

2.3.2.1 Technology Description

Google Maps API is the application programming interface developed by Google and launched in 2005. The API has designed to facilitate integration of Google Maps into an application, especially a website.^[1] Currently over 350,000 websites some version of Google maps, thanks to Google Maps API.

2.3.2.2 Alternative Technology

- Bing Maps Platform (previously Microsoft Virtual Earth) is a geospatial mapping produced by Microsoft. It allows developers to create applications that layer location-relevant data on top of licensed map imagery. The imagery includes samples taken by satellite sensors, aerial cameras, Street side imagery, 3D city models and terrain.

2.3.2.3 The selection of this technology

- Google Map APIs have many sample code on the internet. Google provides completely code for developers. We can get the complete code from Google and adapt to our project. It can help us to self-time to create new code about map. This mobile application requires the smart phone with Android operating system.

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2.3.3 Enhance Data Rates for GSM Evolution (EDGE) and Third Generation (3G)



Figure 3.2 EDGE and 3G

2.3.3.1 Technology Description

Enhance Data Rates for GSM Evolution (EDGE) is a digital mobile phone technology that allows improved data transmission rates as a backward-compatible extension

Third Generation (3G) is the third generation of wireless technologies. It comes with enhancements over previous wireless technologies, like high-speed transmission, advanced multimedia access and global roaming. 3G is mostly used with mobile phones and handsets as a means to connect the phone to the Internet or other IP networks in order to make voice and video calls, to download and upload data and to surf the net.

2.3.3.2 Alternative Technology

- Wide Area Network (WAN) is a telecommunication network that covers a broad area. Normally, it is called World Wide Web.
- Worldwide Interoperability for Microwave Access (WiMAX) is a wireless communications standard designed to provide 30 to 40 megabit-per-second data rates.
- Metropolitan Area Network (MAN) is a medium size of communication network that connect networks (or LANs) in each area together.

2.3.3.3 The selection of this technology

- The application need to send and receiver data between the application and web-server then the internet are require.
- The high speed internet with high-speed transmission, advanced multimedia access will improve the performance of this application.

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2.3.4 Java Programming Language



Figure 3.3 EDGE and 3G

2.3.4.1 Development Tool Description

Java is a high level programming language which supports the Object-Oriented programming. It has developed by Sun Microsystems (and now merged into Oracle Corporation). A purpose of development is to be used instead of C++ in order to reduce the complexity of language. While we implement and then run the program, it will check errors both on compile time and runtime. Therefore, we can avoid some faults. In addition, the Java program is compatible for any operating system without modifying program. The program implemented from Java programming language is more secure than others; it consists of low level and high level security like electronic signature, public and private key management, access control, and certificates. Today, the standard of Java programming language had controlled by Java community process.

2.3.4.2 Alternative Tool

- Objective-C language is a simple computer language designed to enable sophisticated object-oriented programming. Objective-C is defined as a small but powerful set of extensions to the standard ANSI C language. Its additions to C are mostly based on Smalltalk, one of the first object-oriented programming languages. Objective-C is designed to give C full object-oriented programming capabilities, and to do so in a simple and straightforward way.
- C# is a multi-paradigm programming language encompassing strong typing, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. It was developed by Microsoft within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2006). C# is one of the programming languages designed for the Common Language Infrastructure.

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2.3.4.3 The selection of this technology

- JAVA is the basic computer language for creating and developing an android application. So we think JAVA is suitable for our project.
- It supports the concept of Object-Oriented Programming (OOP) so it is suitable for implementing complex system.
- Reduce error because of checking error both on compile time and runtime.
- It can be used via any operating system.

2.3.5 JSON



Figure 3.4 Jason

2.3.5.1 Development Tool Description

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write.^[2] It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language, Standard ECMA-262 3rd Edition - December 1999. JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C-family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others. These properties make JSON an ideal data-interchange language.

2.3.5.2 Alternative Tool

- Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. It is defined in the XML 1.0 Specification produced by the W3C, and several other related specifications, all gratis open standards.

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2.3.5.3 The selection of this technology

- XML is simpler than SGML, but JSON is much simpler than XML. JSON has a much smaller grammar and maps more directly onto the data structures used in modern programming languages. And JSON is not extensible because it does not need to be. JSON is not a document markup language, so it is not necessary to define new tags or attributes to represent data in it.

2.3.6 Android Operating System



Figure 3.5 Android OS

2.3.6.1 Development Tool Description

Android OS is an operating system which bases on Linux for mobile devices such as smart phone and tablet. This technology includes an operating system, software, and applications. Android is maintained and developed by the Android Open Source Project (AOSP). Android technology is based on JAVA software applications that require the use of a special software development kit (SDK) to create the applications.^[3]

2.3.6.2 Alternative Tool

- iOS from Apple Inc.'s mobile operating system. Originally developed for the iPhone, it has since been extended to support other Apple devices such as the iPod Touch, iPad, and Apple TV. Unlike Windows CE (Mobile and Phone) and Android, Apple does not license iOS for installation on non-Apple hardware.

2.3.6.3 The selection of this technology

- Android OS is the open source. This application from Android developer can test on Mobile, but iOS must upload to Appstore then this application can run on mobile. The platform evolved as the developer community work together for building the mobile application. It will have more references and tutorials. It can help when we have the problem, and Android application use JAVA language to base on developed application.

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2.3.7 Mobile Application



Figure 3.6 Mobile Application

2.3.7.1 Technology Description

The Mobile application is the application running on a mobile device such as smartphone, mobile internet device, handhelds, and etc. It has developed on various programming language for supporting users in any groups. Nowadays, mobile business has increasing rate on the market share. The major group of user operates on Android OS and iOS. Therefore, mobile application is more widely use comparing to the past for supporting user requirements. Using a mobile device is familiar to computer and sometimes more; it supports many services like navigation, browsing on mobile, payment, and any others.

2.3.7.2 Alternative Technology

- Tablet Application is an application run on tablet platform. It has developed by using the same JAVA or Objective-C programming language as mobile application.

2.3.7.3 The selection of this technology

- The market share of mobile application is increasing steadily.
- Mobile application makes more comfortable for user in order to transfer data via network.
- Mobile device is small size so it can be easily carried.

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2.4.0 Development Tools Review

2.4.1 Eclipse Juno with android bundle



Figure 4.0 Eclipse Juno With Android bundle

2.4.1.1 Development Tool Description

Eclipse is a software development environment tools comprising a base workspace and an extensible plug-in. It is most written in Java programming language. It can be used to develop applications in Java with various plug-ins. Eclipse can be develop the android open source project which use the same java programming language and Java development tools (JDT) environments. Eclipse SDK is free and open source software. Eclipse Juno with android bundle integrated with the necessary android project development tools. Such as Eclipse and ADT plugins, android SDK tools, Android Platform-tools, the latest android platform and the latest Android system image for the emulator.

2.4.1.2 Alternative Tool

- NetBean
- IntelliJ Idea

2.4.1.3 The selection of this technology

- It is compatible well with the eclipse with android bundle package It is all in one program can create android project easily.
- Some version of android API and extra are not compatible

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2.4.2 SQLite



Figure 4.1 SQLite

2.4.2.1 Development Tool Description

SQLite is the way to connecting between android and Database. SQLite is famous because its has small database size on the application with run on the smartphone. Working process of SQLite is standalone then it has a basic structure and easy to use with other application. Then SQLite has suitable for application that working on smartphone. This can solve the problem of the limited in hardware and memory usage on Smartphone.

2.4.2.2 Alternative Tool

- Microsoft SQL Server Management Studio
- MySQL Enterprise Edition

2.4.2.3 The selection of this technology

- It supports the mobile application with small size of database, reduce on the memory usage
- Work well with android application

2.4.3 Web Application

2.4.3.1 Development Tool Description

The Web application is computer software that can be operated on web server over a network as the internet and intranet. It can be accessed via web browser such IE, Firefox, Google Chrome, and so on without installing clients' computer. It can be run on both desktop and client-server. Because it can be accessed via internet connection so it is widely use in everywhere having internet access and no need to upgrade and expense for client's program since the program is installed only for server side. Besides, the application requires no disk space on client or sometimes only little. And it provides cross platform compatibility for client also. It can be run on web browser window so Windows, Mac, Linux, and etc can support.

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2.4.3.2 Alternative Tool

- Web Browser
- Blog
- Social Bookmarking
- RSS Feed
- Widgets

2.4.3.3 The selection of this technology

- No need to install application on clients' computer.
- Eliminate the problem about Firewall because of connecting via HTTP.
- It is easy to upgrade application.

2.4.4 PHP CodeIgnitor framework



Figure 3.7 Php Code Igniter

2.4.4.1 Development Tool Description

CodeIgniter is a PHP framework with an extremely small footprint. It is an open source rapid development web application with PHP framework. CodeIgniter helps the developer to building a dynamic web sites. It is suitable for create PHP project with many featured to manage data and information between web applications and mobile application. The developer can handle the problem of shared hosting accounts and clients with deadlines. Its purpose is to improve developer run the projects much faster than writing code from scratch. It use software engineering concepts as Model-View-Controller (MVC).

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2.4.4.2 Alternative Tool

- Cake PHP framework is an alternative open source php web application framework.

2.4.4.3 The selection of this technology

- It is the framework for PHP web application project.
- It is the free license software.
- Work well with web application.

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Chapter Three | Quality Standard

3.1 ISO29110 for Very Small Entity (VSE)

ISO29110 is a guide applies to a Very Small Entity (VSE), enterprise, organisation, department or project up to 25 people, dedicated to software development. The Guide provides Project Management and Software Implementation processes which integrate practices based on the selection of ISO/IEC 12207- Systems and Software Engineering — Software Life Cycle Processes and ISO/IEC 15289 Software Engineering – Software Life Cycle Process – guidelines for the content of software life cycle process information products (documentation) standards elements.

3.1.1 Project Management process

The purpose of the Project Management process is to establish and carry out in a systematic way the tasks of the software implementation project, which allows complying with the project's objectives in the expected quality, time and cost.

Selected process

- 3.1.1.1 Project Planning Process
- 3.1.1.2 Project Plan Execution Process
- 3.1.1.3 Project Assessment and Control Process
- 3.1.1.4 Project Closer Process

3.1.2 Software Implementation process

The purpose of the Software Implementation process is the systematic performance of the analysis, design, construction, integration and tests activities for new or modified software products according to the specified requirements.

Selected process

- 3.1.2.1 Software Implementation Initiation Process
- 3.1.2.2 Software Requirements Analysis Process
- 3.1.2.3 Software Architectural Design Process
- 3.1.2.4 Software Construction Process
- 3.1.2.5 Software Integration and Test Process

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Chapter Four | Project Plan

4.1 Motivation

Firstly, according to the economic research and the in-house tourism in Thailand, Tourism is a main economic factor in Thailand's economy. The domestic tourism and foreign tourism have grown significantly in the past decade. Revenues from both of tourism have also gone from the large number that is show how its importance. This project is aim to meet the traveller requirement and give information about the tourist destinations in Thailand to the users along with the history, relationship and how importance to the users in the same time.

Secondly, "Thailand Quest Hunt" use the concept of "Play and Lean" in the form of quest game to perform the tour trips and deliver to the users as the buddy with travel with the user along the trip. User can join to the new adventure. They will become to part the adventure. It can make user will feel exciting and enjoy while traveling to clear the quest.

Finally, when the user complete on any quest and receive the reward from the application. Sharing reward and the adventure experience to the other people via social network to build a good social network society. This can help and encouraging in-house tourism. Moreover, user can share information, biography of a famous person and place background history in Thailand to other people for conservation of Thai tradition and Thai culture to the next generation.

4.2 Aims and Objectives

Aims:

This mobile game application is the rally game which that more interest and differ from other application on the market. It is encouraging and support the Thailand tourism by managing the quest to the user. Giving information about the famous person and place background history to the user can share Thai tradition and Thai culture to new young generation. User can share the adventure to other people on social network will make a good social online.

Objectives:

- Build the mobile game application Support and promote in-house tourism in Thailand by managing the quest to the user.

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- Sharing information, biography of a famous person and place background history in Thailand to user.
- Sharing achievements into a social network for make a good social network society to help and encouraging in-house tourism.
- Apply the knowledge about JAVA programming language, Database, Web application, OOP and Mobile device technology into this project.

4.3 Deliverables and Limits

4.3.1 Deliverables

- Proposal
- Project plan
- Software requirement specification
- Software design document
- Testing document
- Traceability record
- Software quality assurance document
- Certification Testing Client and Server System
- Video clips for demo program
- Poster A1 for presentation

4.3.2 Limits

- The application require the internet connection.
- The application is set up on smartphone with android application.
- The project does not include hardware installation.
- There are the limitations of importing information to system to prevent importing failure.
- The web application part needs the internet connection and compatible web browsers.

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4.4 Schedule & Milestones

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4.5 Progress Report

4.5.1 Progress Report

- Project Proposal Presentation
- Progress I
 - Feature 1: Complete database design and registration function in order to record user information to database via this mobile application.
 - Feature 2: Users can edit and update to change on their information. The application can show all available users information detail and description.
 - Feature 3: The application can show all available quest list view and detail that including quest name, duration, how many place, description, distance and map.
 - Feature 4: Users can check-in via this mobile application.
 - Finished Android application and all document approximately 50% of Feature 9
- Progress II
 - Feature 5: System can check the quest completeness when users submit the quest.
 - Feature 6: System can send the reward to the user.
 - Feature 7: User can share the reward to Facebook.
 - Feature 8: System can provide the quest on web server application.
 - Feature 9: The application can download and install quest.
 - Finished Android application and all document.
- SE Show Pro : Finished Web application
- Final Project Presentation

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Chapter Five | References

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