# Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

### Problem Abstract

### Project Overview

#### Current Situation

#### The Proposed System

Based on current issues, combined with researches traffic system of HCM city and the cutting edge technologies related. We came up with a proposal of a system which can help participants traffic easily search for route to quickly and intelligently by the suggestions, notices. In addition to support on mobile devices, the system supports both smart watches.

Our system includes three main subsystems: an online website for company’s staffs, a mobile application as well as watch application for Participants traffic.

##### Website

Website provide following features:

* For staffs:
  + - Staff edit information for bus route and bus timetable.
    - Notify new update data from server to staff
    - Check new data periodically at 0 AM each day

Beside above, website system also provides an API interface for mobile, wear applications to retrieve data

##### Mobile Application

This mobile application is used by participants traffic. This application do followings:

* Find bus route through from two points to four points.
* Find bus route through from two points to four points with optimize.
* Find motorcycle route through from two points to four points.
* Find motorcycle route through from two points to four points with optimize.

##### Wear Application

* Bus:

App will notify for user when bus  nears the station that user should to leave.

* Motorcycle:

App will notify when user has to turn route.

* Map:

Show current user location on map with route user should to go (including bus or motorbike).

#### Boundaries of the System

1.3.4 Future Plans

#### Development Environment

##### Hardware requirement

* For continuous integrating server:

|  |  |  |
| --- | --- | --- |
| Hardware | Minimum Requirements | Recommended |
| Internet Connection | 512Kbps | 8 Mbps |
| Operating System | Ubuntu Server 12 LTS | Ubuntu Server 14.04.2 LTS |
| Computer Processor | Intel® Core 2 Duo | Intel® Core(TM) i5 CPU , M 460 @ 2.53GHz |
| Computer Memory | 1GB RAM | 3GB or more |

Table 3 Hardware requirement for continuous integrating server

* For web development:

|  |  |  |
| --- | --- | --- |
| Hardware | Minimum Requirements | Recommended |
| Internet Connection | 512Kbps | 8 Mbps |
| Operating System | Window Vista, 7, 8 | Window 7, 8 |
| Computer Processor | Intel® Core 2 Duo | Intel® Core(TM) i5 CPU , M 460 @ 2.53GHz |
| Computer Memory | 2GB RAM | 3GB or more |

Table4 Hardware requirement for web development

* For mobile development:

|  |  |  |
| --- | --- | --- |
| Hardware | Minimum Requirements | Recommended |
| Internet Connection | Wi-Fi Connection 2MB  Bluetooth Connection 4.0 | Wi-Fi Connection 12MB  Bluetooth Connection 4.0 |
| Operating System | Android 4.0 | Android 5.0 |
| Hardware | GPS supported | GPS supported |
| Memory | 1 GB RAM | 2 GB or more |

Table 5 Hardware requirement for mobile development

* For wear development:

|  |  |  |
| --- | --- | --- |
| Hardware | Minimum Requirements | Recommended |
| Internet Connection | Bluetooth Connection 4.0 | Bluetooth Connection 4.0 |
| Operating System | Android 4.3 | Android 5.1 |
| Hardware |  | GPS supported |
| Memory | 512MB RAM | 1 GB or more |

Table 4 Hardware requirement for wear development

##### Software requirement

|  |  |
| --- | --- |
| Software | Name / Version |
| Operating system | Windows 7 or above, MacOS 10.10 or above |
| Environment | JDK 1.6, Java EE 6, Android SDK minimum API 19 |
| Modeling tool | StartUML |
| IDE | Intellij IDEA 14.1, Android Studio 1.3.1 |
| DBMS | MySQL 5.6 |
| Source control | Source Tree 1.6.20.0 |
| Web browser | Chrome 42 or above |
| Team Collaboration | Slack 1.1.3 |
| Others | Microsoft Word, Microsoft Excel, Adobe Photoshop |

Table Software requirement

## Project organization

### Software Process Model

This project is developed under waterfall model. We apply customized waterfall model to capable with current situation in our team. We choose this model because the following reasons:

* This project is 4 months long due to the FPT University Capstone Project timeline, which can be consider a short project.
* Based on researches and clarify Vietnam laws of insurance for motorbike and current system in insurance companies, the requirements of this project are stable, clear, fixed and well understood by all team members.
* This project use NFC technology, which we have strong background knowledge and well practice skills. We also have experience in designing, building web and mobile application system.



Figure 1: Waterfall model

Reference: Page 30, chapter 2, Software process model, SOFTWARE ENGINEERING 9th Edition, by Ian Sommerville.

We customize the waterfall model from the reference to make the process more capable with current situation of our team.

### Roles and responsibilities

|  |  |  |  |
| --- | --- | --- | --- |
| No | Full name | Role in Group | Responsibilities |
| 1 | Kiều Trọng Khánh | Supervisor / Project Manager | - Clarify user requirement.  - Technical support and business analysis.  - Tracking development process.  - Review document and product. |
| 2 | Đinh Quang Trung | Team leader, BA, Developer, Tester | - Tracking process.  - Planning project, distribute tasks.  - Requirement analysis.  - Database design.  - Documentation.  - GUI Design.  - Coding.  - Testing.  - Deploy product. |
| 3 | Nguyễn Hữu Phúc | BA, Developer, Tester | - Requirement analysis.  - Database design.  - Documentation.  - GUI Design.  - Coding.  - Testing. |
| 4 | Phùng Quang Minh Trí | BA, Developer, Tester | - Requirement analysis.  - Database design.  - Documentation.  - GUI Design.  - Coding.  - Testing. |
| 5 | Nguyễn Chí Kha | BA, Developer, Tester | - Requirement analysis.  - Database design.  - Documentation.  - GUI Design.  - Coding.  - Testing. |

### Tools and Techniques

|  |  |
| --- | --- |
| Tool / Technique | Name / version |
| Frontend | HTML, CSS, JavaScript, jQuery, Bootstrap |
| Backend | JavaEE, Servlet, JSP, Hibernate |
| Web server | Apache Tomcat 7 |
| Mobile | Android Development, Bluetooth |
| Wear | Android Wear Development, Bluetooth |
| Development tool | IntelliJ IDEA 14, Android Studio 1.3.1 |
| DBMS | MySQL 5.6 |
| Source control | Source Tree 1.6.20.0 |
| Modeling tool | StarUML 5.0, Lucid Chart |
| Document tool | Microsoft Word 2013, Microsoft Excel 2013 |

## Project Management Plan

### Task sheet

### All Meeting Minutes

## Coding Convention