**B. Software Project Management Plan**

**1. Problem Definition**

**1.1 Name of this Capstone Project**

The roll system using mobile device (RSM)

**1.2 Problem Abstract**

Roll system was known with HPLite32, SimplePass of HP fingerpint system; roll system with ID card using by almost corp or com around the world; the system face identify by Uniqul – Finland publish on 7/15/2013 or LogonSmart by Asus. Today, the trend machines replace humans in the hard work or the work does not require high intelligence became popular. So roll system face recognition becomes ever more necessary. The number of students in a university as well as the number of employees in large corporations in Vietnam is increasing dramatically, which means that the system should have professional roll with accuracy high.

**1.3 Project Overview**

**1.3.3 The Current System**

RSM just used for device from cheap to expensive, just need minimum requirements hardware about camera 1.0 to 3.0 or more. And current price for that device about 1mil-3mil or more. So, that system really comfortable for all people.

**1.3.2 The Proposed System**

The system needs to support capture, send image to server and checking with data. The system will help management, add course, detected new stranger. The system will be hosted on webservices, which provides easy access for admin and client to using on any device. In detail, the system will enable following functions:

**1.3.2.1 Web**

- Admin can control who can use this system by set role, course, subject …

- The system help admin or user insert course (subject, date, time, human …), update course (set date, time, add new stranger …), delete a course or user when out off day.

- The system check attendance by using result from user’s image capture between 15’ before and after class time.

- The system help detected stranger in class and find out who absent.

- The system support user check attendance again for who missing (just today and one days before).

**1.3.2.2 Mobile**

- User login system and view about course, human, date & time.

- View attendance the days before and check again for someone.

- Users using roll system to capture image, send to web services.

- Receive result who present on that time, who absent and who is stranger.

**1.3.3 Boundaries of the System**

- The system used for internal & external VN’s university. User for some com/ corp.

- The system had supported by 2 languages: E & V

- Used for another device: mobile, tablet, laptop, pc …

**1.3.4 Development Environment**

**1.3.4.1 Hardware requirements:**

**For server**

|  |  |  |
| --- | --- | --- |
| Windows | Minimum Requirements | Recommended |
| Internet Connection | Cable, Wifi | Cable, Wifi |
| Operating System | XP, Vista, 7, 8 | XP, Vista, 7, 8 |
| Computer Processor | CPU Pentium 4, Core or Atom | Intel(R) Core(TM) i5 CPU , M 460 @ 2.53GHz |
| Computer Memory | 1GB RAM | 3GB or more |

**For application**

|  |  |  |
| --- | --- | --- |
| Mobile | Minimum Requirements | Recommended |
| Internet Connection | Wifi | Wifi |
| Operating System | Android 4.0 or later version | Android 4.4 |
| Hardware | Android touch-enabled smartphones with camera 1.0 | Android touch-enabled smartphones with camera 3.0MP |
| Memory | 128MB or more | 512mb or more |

**1.3.4.2 Software requirements:**

Microsoft Windows 7: operating system and platform for development

SQL Server 2008 Express: used to create and manage the database for system

StarUML: used to create models and diagrams

Microsoft Project 2010: used to manage process and work schedules.

Skype: used for communication and meeting

Visual studio 2010: used to implement system.

Eclipse Juno 4.4, Android SDK 22.0.5, ADT 22.0.5 & JDK 7u25: used to implement apps.

**2. Project organization**

**2.1 Software Process Model**

Project is developed under agile model.

**2.3 Tools and Techniques**

- Front-end technologies: Html, css …

- Back-end: C# & java

- Web Server: IIS

- Database Management System: SQL Server 2008 Express

**3.3 All Meeting Minutes**

Refer to Meeting Minutes folder.

**4. Coding Convention**

Follow Code Conventions for the Java TM Programming Language, by Sun Microsystems, rev April 20, 1999.

Illustrated C# 2008 (Expert's Voice in .NET) by Daniel Solis.