# Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

* **Official name**: Build an Information Management System for a datacenter
* **Vietnamese name**: Hệ thống quản lý thông tin của một trung tâm dữ liệu
* **Abbreviation**: IMS

### Problem Abstract

At current, the information management of the data center is facing many troubles. All of processes are still handled manually with Excel, Word, etc. by staff. Therefore, the staff of data center has to spend a lot of time and effort to manage customer information, server information, server location, IP address. In addition, this is easy to cause a loss of data, affect to customer satisfaction and reduce work performance.

To overcome above problems, we provide a convenient system for data center. Firstly, this system helps staff to manage easier, work faster and enhance the accuracy. Secondly, it helps the admin of data center to manage staff, control all of activities of data center. Finally, it helps customers to have comfortable channel to control information of their servers and communicate with data center.

### 1.3. Project Overview

#### **1.3.1. Current Situation**

Below are the problems encountered in this project:

* **Depend on an existed data center**: In developing time, we must contact to this data center to learn about ways which they are working and rules in data center. From that, understand their problems and find the best solution for them.
* **Knowledge about network configuration:** To deal with function named “Add network configuration of server”, the members of teams have to spend time to research about network configuration.
* **Testing:** hardly to test cover all of the cases which can happen, must list as many as possible test cases.
* **Absent of team members:** team members get sick or unexpected problems. Working time and learning time are different among members.
* **Ability of team members:** working abilities are different among members. Therefore, the leader must know about the ability of each member and assign task appropriately.

#### **The Proposed System**

From current issues, combined with research results in data center at QTSC, we create a system which is user-friendly and strictly designed to avoid as many errors as possible. It must support the most needs in information management and provide reports and logs of all basic activities or changes which take place at data center.

##### **Customer information**

* Staff can add/update customer information.
* Staff can active/ deactivate customer account.
* Customer can send request to go into data center and staff can record time customers go into data center.
  + - * 1. **Server information**
* Staff can add/edit/search/delete configuration of a server.
* Staff can comply with the necessary formalities when a server was carried on/out server room by customer.
* Customers can search and view the information and history of their servers.
* The system can create report of server delivery.
* Staff can record content when server was upgraded configuration.

##### **Server placement**

* Staff can add/update/search/delete location of server on a rack.
* Staff can add network configuration of server.
* The system can record time when server is moved from a rack to a rack.
* The system can create report of server moving.

##### **IP address location**

* Staff can add new IP addresses.
* Staff can update usage status of IP address.
* Staff can comply with the necessary formalities when IP address assigned to server.
* Staff can search available/ unavailable IP addresses.

##### **1.3.2.1.5 Usage history of IP address**

* The system can report blocked IP address.
* The system can report free IP address.
* The system can create statistic IP addresses being used by customers.

#### **­Boundaries of the System**

* The system could be used by staff and customer with a laptop, PC or MAC.
* The used language of the system is English.
* The complete product includes:

+ The website

+ All the process document involved.

#### **1.3.4. Future plans**

In the future, the function named “Record time customer go into data center” can be enhanced by the customer can use the electronic card or fingerprint to check the time they go into data center. By this way, the system will become more convenient and saving time is more accurate.

#### **­­Development Environment**

##### **1.3.5.1. Hardware requirement**

**For client**

|  |  |  |
| --- | --- | --- |
| Windows | Minimum Requirements | Recommended |
| Operating System | Windows 7 | Windows 7, 8, 10 |
| Computer Processor | Intel® Core 2(TM) i3 CPU M370 @2.4GHz 3.39GHz | Intel® Core(TM) i5-2410M CPU @ 2.30GHz |
| Computer Memory | 2GB RAM | 4GB or more |
| Internet Connection | Cable, Wi-Fi (2 Mbps) | Cable, Wi-Fi (12 Mbps) |

Table 2: Hardware Requirement for client

**For server**

|  |  |  |
| --- | --- | --- |
| Windows | Minimum Requirements | Recommended |
| Operating System | Window Server 2008 | Window Server 2008 |
| Computer Processor | CPU Intel Xeon E3 2.0GHz | 2.0 GHz CPU 6 core E5-2620 |
| Computer Memory | 2 GB RAM DDR3 | 4 GB RAM DDR2 |
| HDD | 100 GB HDD Raid 0,1 | 500 GB HDD Raid 0,1 |
| Bandwidth | 300Mbps | 500Mbps |
| International bandwidth | 2Mbps | 10Mbps |

Table 3: Hardware Requirement for Server

##### **1.3.5.2. Software requirement**

|  |  |
| --- | --- |
| Software | Name / Version |
| Operating system | Windows 7 or above |
| Modeling tool | StartUML, Gliffy |
| DBMS | SQL Server 2012 |
| Source control | GitHub, Source Tree 1.7.0.32509 |
| Web browser | Google Chrome |
| Team Collaboration | Slack |
| Issues and Task Management | GitHub and Trello |
| Implement web-application | Visual Studio 2015 |
| Others | Microsoft Word, Microsoft Excel |

Table 1 Software requirement