

**Capstone Project Report**

**Report 2 – Project Management Plan**

– Ho Chi Minh City, January 2021 –

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# I. Project Report

## 1. Status Report

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Work Item** | **Status** | **Notes (Work Item in Details)** |
| 1 |  | Pending |  |
| 2 |  | In Progress |  |
| 3 |  | Completed |  |

## 2. Team Involvements

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Task** | **Member** | **Notes (Task Details, etc.)** |
| 1 |  | HaPTN |  |
| 2 |  | NguyenLG |  |
| 3 |  | GiaNH |  |
| 4 |  | ~~PhuVT~~ | Dropped since January 28th, 2021 |

## 3. Issues/Suggestions

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Issue** | **Status** | **Notes (Solution, Suggestion, etc.)** |
| 1 |  | Pending |  |
| 2 |  | In Progress |  |
| 3 |  | Completed |  |

# II. Project Management Plan

## 1. Overview

### 1.1 WBS & Estimation

*[Create/Provide the project WBS & Estimation following the table template as below. In which, we categorize the WBS items into three levels of complexity (Simple, Medium, Complex) and estimate the total effort to complete each item in man-day]*

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **WBS Item** | **Complexity** | **Est. Effort**  **(man-days)** |
| ***1*** | ***Initiating*** |  | ***10*** |
| 1.1 | Meet customers at Viet Anh School (Major Education) | Simple | 1 |
| 1.2 | Gain requirements | Medium | 2 |
| 1.3 | Write “Current System Description” | Medium | 4 |
| 1.4 | Confirm “Current System Description” with customers | Simple | 1 |
| 1.5 | Write Report 1 (Introduction) | Medium | 2 |
| 1.6 | Collect stakeholders’ contact information | Simple | 0 |
| ***2*** | ***Planning*** |  | ***4*** |
| 2.1 | Discuss project scope with development team | Simple | 1 |
| 2.2 | Estimate time to finish the project | Simple | 0 |
| 2.3 | Discuss project’s limitations and risks | Simple | 0 |
| 2.4 | Discuss model to use for project management | Simple | 0 |
| 2.5 | Create project plan & work breakdown structure (WBS) | Simple | 1 |
| 2.6 | Assign roles in this project for each team member | Medium | 0 |
| 2.7 | Write Report 2 (Project Management) | Medium | 2 |
| ***3*** | ***Executing*** |  | ***100*** |
| **3.1** | **Analysis** |  | **17** |
| 3.1.1 | Analyse users’ requirements:   * Identify stakeholders * Identify user roles in this system * Identify needs and activities of each role | Complex | 4 |
| 3.1.2 | Analyse materials that Major provided   * Analyse Major current working process (7 steps) * Analyse Excel files (including sample data of target schools, assignment, daily reports,…) | Medium | 2 |
| 3.1.3 | Research business definitions | Simple | 1 |
| 3.1.4 | Use free trial of CRM applications (CRMViet, EasyEdu,…) | Simple | 1 |
| 3.1.5 | Create Use-case Diagram | Complex | 3 |
| 3.1.6 | Write Report 3 (Software Requirement Specification – SRS) | Complex | 6 |
| **3.2** | **Design** |  | **13** |
| 3.2.1 | Create Entity Relationship Diagram (ERD) | Medium | 2 |
| 3.2.2 | Create Database Diagram | Simple | 0 |
| 3.2.3 | Create architecture Diagram | Medium | 2 |
| 3.2.4 | Standardize provided Excel files | Simple | 1 |
| 3.2.5 | Write Report 4 (Software Design Document – SDD) | Complex | 8 |
| **3.3** | **Prototyping** |  | **9** |
| 3.3.1 | Draw draft main screens on paper | Simple | 2 |
| 3.3.2 | Create prototype for role Admin | Simple | 1 |
| 3.3.3 | Create prototype for role Salesman | Medium | 3 |
| 3.3.4 | Create prototype for role Sales Manager | Medium | 3 |
| **3.4** | **Implementing** |  | **44** |
| 3.4.1 | Install coding environment (Eclipse, Visual Studio Code) | Simple | 0 |
| 3.4.2 | Identify coding conventions (Front-end & Back-end) | Medium | 1 |
| 3.4.3 | Implement Admin module – Iteration 1 |  |  |
| 3.4.3.1 | Update SRS and SDD (Iteration 1) | Medium | 4 |
| 3.4.3.2 | Create test plan and test cases (Iteration 1) | Medium | 2 |
| 3.4.3.3 | Code and perform unit test (Iteration 1) | Complex | 5 |
| 3.4.3.4 | Deploy package 1 | Simple | 0 |
| 3.4.4 | Implement Salesman module – Iteration 2 |  |  |
| 3.4.4.1 | Update SRS and SDD (Iteration 2) | Medium | 4 |
| 3.4.4.2 | Create test plan and test cases (Iteration 2) | Medium | 2 |
| 3.4.4.3 | Code and perform unit test (Iteration 2) | Complex | 7 |
| 3.4.4.4 | Execute integration test and system test (Iteration 2) | Medium | 3 |
| 3.4.4.5 | Deploy package 2 | Simple | 0 |
| 3.4.5 | Implement Sales Manager module – Iteration 3 |  |  |
| 3.4.5.1 | Update SRS and SDD (Iteration 3) | Medium | 4 |
| 3.4.5.2 | Create test plan and test cases (Iteration 3) | Medium | 2 |
| 3.4.5.3 | Code and perform unit test (Iteration 3) | Complex | 7 |
| 3.4.5.4 | Execute integration test and system test (Iteration 3) | Medium | 3 |
| 3.4.5.5 | Deploy package 3 (product version Alpha) | Simple | 0 |
| **3.5** | **Testing** |  | **14** |
| 3.5.1 | Write Report 5 (Testing) | Medium | 5 |
| 3.5.2 | Fix bugs and retest | Medium | 5 |
| 3.5.3 | Get feedback from customers after acceptance test | Medium | 3 |
| 3.5.4 | Deploy full package (product version Beta) | Simple | 1 |
| **3.6** | **Support** |  | **3** |
| 3.6.1 | Write Report 6 (User Guides) | Medium | 2 |
| 3.6.2 | Train customers (end-users) how to use this application | Simple | 1 |
| ***4*** | ***Monitoring and Controlling*** |  | ***15*** |
| 4.1 | Evaluate project’s code quality | Complex | 2 |
| 4.2 | Refractor/Optimize code (optional) | Complex | 5 |
| 4.3 | Tracking project’s progress, scope and risks | Medium | 1 |
| 4.4 | Write Report 7 (Final Project Report) | Complex | 7 |
| ***5*** | ***Closing*** |  | ***6*** |
| 5.1 | Create final presentation | Simple | 2 |
| 5.2 | Practice Thesis presentation | Medium | 3 |
| 5.3 | Present at Capstone Project Defense | Complex | 1 |
| ***Total Estimated Effort (man-days)*** | | | ***135*** |

### 1.2 Project Objectives

*[Provide the overall project objective description and then the specific target metrics of your project in term of time, cost, and quality. For example*

* *Timeliness (%):*
* *Allocated Effort (man-days):*
* *Defect Distribution:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Quality Stage** | **No. of Defects** | **% of Defect** | **Notes** |
| 1 | Reviewing |  |  |  |
| 2 | Unit Test |  |  |  |
| 3 | Integration Test |  |  |  |
| 4 | System Test |  |  |  |
| 5 | User Acceptance Test |  |  |  |
| ***Total*** | | ***Xxx*** | ***100%*** |  |

]

To create an utility, practical and friendly sales management application for Sales Department of Major Education.

### 1.3 Project Risks

*[List out the details on project risks in the table below]*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk Description** | **Impact** | **Possibility** | **Response Plans** |
| **I** | **Requirement risks** | | | |
| 1 | Development team misunderstands or unclears customer requirements | High | High |  |
| 2 | Customers do not clear about their requirements | High | Medium |  |
| 3 | Unexpected scope change | High | Low |  |
| **II** | **Techical risks** | | | |
| 4 | Lack of technical knowledge or poor coding skills | High | Medium |  |
| 5 | Poor code quality | Medium | Medium | Strictly follow code convention, carry out acceptance test to ensure quality source code |
| **III** | **Human risks** | | | |
| 6 | Team cannot meet the customers | Medium | Low | Team can ask for meeting online or sending demo/resources via email. |
| 7 | Misunderstanding in communication between team and the customers or the instructor | High | High |  |
| 8 | Conflicts between team members | High | High |  |
| 9 | Over deadline | High | High |  |
| 10 | Lack of real experiences | Medium | High |  |
| 11 | Unrealistic timeline of project | Medium | Medium |  |

## 2. Management Approach

*[Describe the approach you would use the manage and implement your project]*

Our team choose Scrum model to implement in this project because of the following reasons:

### 2.1 Project Process

*[Draw and describe the software development process model that the team would apply into the project implementation]*

### 2.2 Quality Management

*[Provide the approach you would apply to improve the project quality, reach the project quality objectives. Some of the quality approach can include*

* *Defect Prevention*
* *Reviewing*
* *Unit Testing*
* *Integration Testing*
* *System Testing*

*]*

### 2.3 Training Plan

*[You need to plan the training activities in case any of your team member lack of knowledge/skills to handle the project works]*

|  |  |  |  |
| --- | --- | --- | --- |
| Training Area | Participants | When, Duration | Waiver Criteria |
| Java Spring Boot | All team members |  | Mandatory |
| HTML, CSS, Javascript (ES6) | All team members |  | Mandatory |
| SCSS / SASS | HaPTN, GiaNH |  | Optional |
| ReactJS | All team members |  | Mandatory |
| UML 2.0 conventions | All team members |  | Mandatory |
| Git, Github | All team members |  | Mandatory |

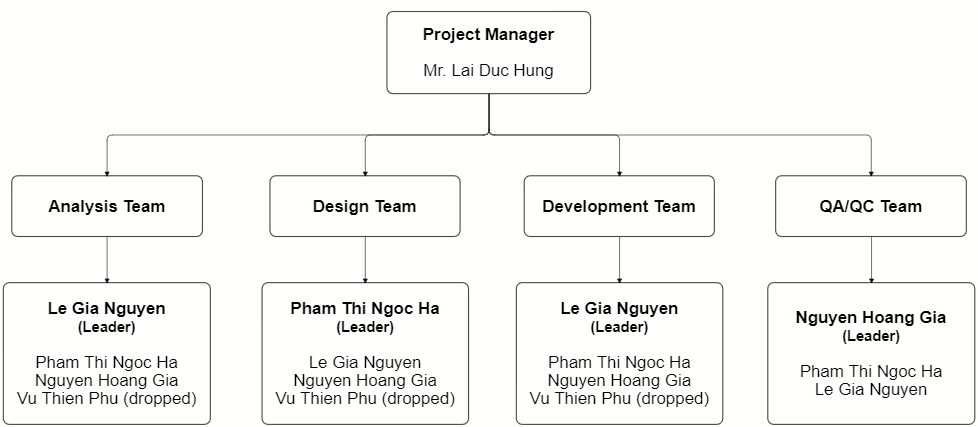
## 3. Master Schedule

*[Given the main project deliverables. Those can be internal and/or external deliverables. Students can prepare master schedule like the table format as below or in the more detailed structure as in the attached sample file -* ***Report2\_Sample High Level Project Schedule.pdf****]*

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Deliverable** | **Due Date** | **Deliverable Scope** |
| 1 | Project Plan |  |  |
| 2 | SRS |  |  |
| 3 | Design |  | Architecture Design, Detailed Design, Database |
| 4 | Code Package1 |  | Code & Unit test, System test cases |
| 5 | Code Package2 |  | Code & Unit test, System test cases |
| 6 | Code PackageN |  | Code & Unit test, System test cases |
| 7 | UAT Package |  | Codes, System test reports |
| 8 | Final Package |  | Final Codes & documents, User manual |

## 4. Project Organization

### 4.1 Team & Structures



*Figure 2. Team & Structures*

### 4.2 Roles & Responsibilities

*[Describe the roles & responsibilities in your project, in the format as the sample below]*

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| Project Manager | * Be a bridge between Major Education and FPTU development team in the initial stage of the project. * Give guidance, review deliverables during project time. |
| Analysis Leader | * Communicate with customers to get requirements. * Analyse customer’s requirements and business and explain to team members. * Generate use cases, entities, architecture diagram,… * Review and adjust project’s documents made by analysis members. |
| Analysis Member | * Communicate with customers to get requirements. * Analyse customer’s requirements and business. * Draw diagrams (Use cases, ERD,…) and write documents. |
| Design Leader | * Design prototypes for website layouts. * Assign tasks for team members. |
| Design Member | * Design prototypes for tasks assigned by the Design Leader. * Review prototypes of each other. |
| Technical Leader | * Assign tasks for development team members. * Track the work progress of the project. * Review member's code and fix errors. |
| Developer | * Implement code for tasks assigned by the Technical Leader. * Implement unit test. |
| Test Leader | * Write test cases and test plan for the project. * Assign tasks for team members. * Review test results of team members and make test strategy. * Implement the system test. * Collect and analyse customer’s comments at phase UAT. |
| Test Member | Write test cases and test modules as tasks assigned by the Test Leader. |

## 5. Project Communication

### 5.1 Communication Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Communication Item** | **Who/ Target** | **Purpose** | **When, Frequency** | **Type, Tool, Method(s)** |
|  |  |  |  |  |
|  |  |  |  |  |

### 5.2 External Interface

#### a. FU Contacts

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Contact Person  (name, position) | Contact address  (email, telephone) | Responsibility |
| Supervisor | **Lai Duc Hung**  Instructor | [HungLD5@fe.edu.vn](mailto:HungLD5@fe.edu.vn)  0976.710.580 | - Provide document template - Give instruction to project team - Review deliverables - Supervise project status |

#### b. Customer Contacts

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Contact Person  (name, position) | Contact address  (email, telephone) | Responsibility |
| Customer Representor | **Pham Duy Tien** Sales Supervisor | [duytien@truongvietanh.com](mailto:duytien@truongvietanh.com)  0963.281.235 |  |
| Coordinator | **Tran Thi Xuan Tuyen**  Account Manager | [xuantuyen@truongvietanh.com](mailto:xuantuyen@truongvietanh.com)  0938.137.949 |  |
| Supporter | **Le Quy Mai Huyen**  Vice president | huyen@truongvietanh.com  0984.388.988 |  |

## 6. Configuration Management

### 6.1 Tools & Infrastructures

|  |  |
| --- | --- |
| **Programming languages** | Java, Javascript (ES6) |
| **Framework** | Java Spring Boot, ReactJS |
| **API** | RESTful API |
| **DBMS** | MySQL |
| **IDEs/Editors** | Visual Studio Code, Eclipse |
| **UML tools** | StarUML, LucidChart, Cacoo |
| **Version Control** | GitHub |
| **Deployment server** | Azure ??? |
| **Project management tool** | Azure DevOps |

### 6.2 Document Management

*[Describe how you would manage project documents & their changes/versions]*

### 6.3 Source Code Management

*[Describe how you would manage project source codes & their changes/versions]*