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| logo ngan.png | | **MINISTRY OF EDUCATION AND TRAINING** | |
| **FPT UNIVERSITY** | |
| **CAPSTONE PROJECT DOCUMENT** | |
| **BUILDING A WEBSITE SUPPORT THE ACTIVITIES “TIẾP SỨC MÙA THI” CAMPAIGN**  **Project Report #2 – Software Project Plan** | |
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| |  |  | | --- | --- | | **Group 22** | | | **Group Members** | |  |  | | --- | --- | | SE60769 | Nguyen Duy Khoa | | SE60687 | Le Nguyen Huu Tri | | 60358 | Nguyen Dinh Tuan | | 60325 | Tran Nguyen Kim Vinh | | 60339 | Nguyen Vinh Hien | | | **Supervisor** | Nguyen Trong Tai | | **Ext Supervisor** | N/A | | **Capstone Project Code** | TSMT | | |
| - Ho Chi Minh City, January 2014 - | |

TABLE OF CONTENTS

[2. Project Management Plan 3](#_Toc378017087)

[2.1 Problem Definition 3](#_Toc378017088)

[2.1.1 Name of This Capstone Project 3](#_Toc378017089)

[2.1.2 Project Abstract 3](#_Toc378017090)

[2.1.3 Project Overview 3](#_Toc378017091)

[2.2 Project Organization 4](#_Toc378017092)

[2.2.1 System Process Model 4](#_Toc378017093)

[2.2.2 Roles and Responsibilities 6](#_Toc378017094)

[2.2.3 Tools and Techniques 6](#_Toc378017095)

[2.3 Project Management Plan 7](#_Toc378017096)

[2.3.1 Task 7](#_Toc378017097)

[2.3.2 Task Sheet: Assignments and Timetable 9](#_Toc378017098)

[2.3.3 All Meeting Minutes 11](#_Toc378017099)

[2.4 Convention Rules 11](#_Toc378017100)

[2.5 Other material (if any) 11](#_Toc378017101)

# Project Management Plan

## Problem Definition

### Name of This Capstone Project

|  |  |
| --- | --- |
| Official name | Building a website to support the activities “Tiếp sức mùa thi” campaign |
| Vietnamese name | Xây dựng website hỗ trợ các hoạt động cho chiến dịch “Tiếp sức mùa thi” |
| Abbreviation | TSMT |

### Project Abstract

The idea of the project is to develop a website that mainly support candidates, which have difficult conditional in knowing tips or information about examination and discovering accommodation before and moving during the university entrance exam each year, in finding lodges, posting their information. It also helps volunteers and charities to register and submit their sponsor information.

### Project Overview

#### The Current System

There is not any current system. The “Tiếp sức mùa thi” campaign has some limitations like:

* Numbers of foundation is so much but they can’t find the way to support candidates.
* The management completely done by hand-made based on a lot of paperwork, applications, and so on that lead to errors in the statistics and searching.
* The most limitations in the “Tiếp sức mùa thi” campaign that is candidates can’t find any information about lodges, near examination location, if found, they couldn’t go there easily. So, the effect of objective factors will make candidates can’t focus completely on preparing for the university entrance exam.

#### The Proposed System

With TSMT System, we give users a new system that integrated the current activities process of the “Tiếp sức mùa thi” campaign by automating some functions of the traditional process.

There are four main groups function in the system. These are:

* User Management
* Resource Management
* Examination’s Information Management
* News Management

With the functional group of **User Management,** user can manipulate the system with their account type. Each type of account is allocated some roles that suitable for their job. There are six roles: Admin, Sponsor, Charity, Volunteer, Candidate and Guest.

With the functional group of **Resource Management,** manager of charity will assign job for volunteers to pick up candidates at station.

With the functional group of **Examination’s Information Management,** admin will post information about the location of examination, information of universities and other information involving examination.

And lastly, with the functional group of **News Management,** authorized roles will post tips, help candidate to have more skills in facing with examination, lodges’ information.

#### Boundaries of System

* The main scope of this project is to provide an efficiently and easy-to-use website that facilitate manually process of the “Tiếp sức mùa thi” campaign.
* It manages users, allocates suitable roles for each kind of users.
* It is not designed for specific foundation, but for general structure management of all foundation.
* The website only support Vietnamese.

#### Development System

Below is the list of hardware and software requirement needed for the development environment of the project

**Hardware requirements:**

* Personal computers for developing with the minimum configuration: 2 Gb of RAM, 100Gb of hard disk, Core 2 Duo 2.0 Ghz;
* A server computer for testing with the minimum configuration: 4 Gb of RAM, 100Gb of hard disk, Core 2 Duo 2.0 Ghz;
* All computers must be connected to the internet.

**Software requirements:**

* Operating system: Windows 7 or above;
* Web Server: IIS Express 8;
* Framework: .NET Framework 4.5;
* IDE: Visual Studio 2012;
* DBMS: SQL Server 2008 R2;
* Source Control: SVN, Google Code.
* Others: Software Ideas Modeler, StarUML

## Project Organization

### System Process Model

With the schedule of weekly reports for every stage, the software will be developed by using waterfall model which is very simple and require minimal resource for implementation. In the waterfall approach, the whole process of software development is divided into separate phases. These phases in the model are:

* Requirement specifications phase
* System and Software design
* Implementation and Unit Testing
* Integration and System Testing
* Operation and Maintenance

Requirement Specifications

System and Software Designs

Implementation and Unit Testing

Integration and System Testing

Operation and Maintenance

Figure 2 - 3: The Waterfall Software Lifecycle Model

Stages of the software waterfall lifecycle model explained:

* **Requirement Analysis and Definition**: All possible requirements of the system to be developed are captured in this phase. The requirements are gathered from the end user at the start of the software development phase. These requirements are analyzed for their validity, and the possibility of incorporating the requirements in the system to be developed is also studied. Finally, a requirement specification document is created which serves the purpose of guideline for the next phase of model.
* **System and Software Design:** The requirement specifications from the first phase are studied in this phase and a system design is prepared. System design helps in specifying hardware and system requirements and also helps in defining the overall system architecture. The system design specifications serves the purpose of guideline for the next phase of the model.
* **Implementation and Unit Testing:** On receiving system design documents, the work is divided in modules/units and actual coding is started. Each unit is developed and tested for its functionality; this is referred to as unit testing. Unit testing mainly verifies if the modules/units meet their specifications.
* **Integration and System Testing:** Units from above phrase are integrated into a complete system during integration phase and tested to check if all modules/units coordinate with each other and the system as a whole behaves as per the specifications. After successfully testing the software, it is delivered to the customer.
* **Operation and Maintenance:** Generally, problems with the system developed (which are not found during the development life cycle) come up after its practical use starts, so the issues related to the system are solved after development of the system. Not all the problems come into picture directly but they arise from time to time and need to be solved; hence. This process is referred to as maintenance.

### Roles and Responsibilities

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Full name | Roles in group | Responsibilities |
| 1 | Nguyễn Trọng Tài | Supervisor | * Give advices on business and technical problems * Review and approve of project documents and product deliverables * Assess the performance of team members |
| 2 | Nguyễn Duy Khoa | Team Leader, Developer, Tester | * Distribute task to the other members * Monitor the development process and review the deliverables * Work on system architecture and detailed designs * Implement * Prepare documents * Perform unit testing * Deploy the final product |
| 3 | Lê Nguyễn Hữu Trí | Team Member, Developer, Tester | * Create project management plan * Design user interfaces * Work on detailed design * Implement * Prepare documents * Perform unit testing, system testing and integration test |
| 4 | Nguyễn Đình Tuấn | Team Member, Developer, Tester | * Design user interfaces * Work on detailed design * Implement * Prepare documents * Perform unit testing, system testing and integration test |
| 5 | Trần Nguyễn Kim Vinh | Team Member, Developer, Tester | * Design user interfaces * Work on detailed design * Implement * Prepare documents * Perform unit testing, system testing and integration test |
| 6 | Nguyễn Vinh Hiển | Team Member, Developer, Tester | * Design user interfaces * Work on detailed design * Implement * Prepare documents * Perform unit testing, system testing and integration test |

### Tools and Techniques

The tools that will be used to develop the system includes:

* Developing tools: Microsoft Visual Studio 2012, Microsoft SQL Server 2008 R2
* Modelling tools: Software Ideas Modeller, StarUML
* Document tools: Microsoft Office 2013
* Source control tools: SVN, Google Code

## Project Management Plan

### Task

Below are all the major tasks that need to be performed sequentially during the development of the system.

#### Task 1: Initiating

|  |  |
| --- | --- |
| Task Name | Initiating |
| Descriptions | Perform research on real situation, user’s need research; decide upon the technology that will be used to develop the system |
| Deliverables | Report 1 – Project Introduction |
| Resources needed | All team members: 6 days |
| Dependencies and constraints | N/A |
| Risks | Team members did not know each other in advance and have a little background in term of “Tiếp sức mùa thi” campaign; the chosing tec |

#### Task 2: Planning

|  |  |
| --- | --- |
| Task Name | Planning |
| Descriptions | Create the project management plan; break the system into modules and assign tasks to each member. |
| Deliverables | Report 2 – Software Project Management Plan |
| Resources needed | All team members: 6 days |
| Dependencies and constraints | Task 1 has finished |
| Risks | Team leader has no experience in managing software projects; all members are still not acquainted with the new technology. |

#### Task 3: Specifying requirements

|  |  |
| --- | --- |
| Task Name | Specifying requirements |
| Descriptions | Discuss and agree upon the software requirements, what is to be developed and what is not; generate detailed descriptions of all the functions to be developed. |
| Deliverables | Report 3 – Software Requirement Specification |
| Resources needed | All team members: 12 days |
| Dependencies and constraints | Task 2 has finished |
| Risks | Many aspects of the problem are still unclear to team members |

#### Task 4: Designing database

|  |  |
| --- | --- |
| Task Name | Designing database |
| Descriptions | Design the database based on the requirements collected, through three major steps: Conceptual, Logical, and Physical Design |
| Deliverables | ERD and the physical database with sample data |
| Resources needed | All team members; 4 days |
| Dependencies and constraints | Task 3 has finished |
| Risks | Some of the requirements specified are not clear and cannot be translated into corresponding entities; little experience in organizing data. |

#### Task 5: Creating Software Design Description

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| --- | --- |
| Task Name | Creating Software Design Description |
| Descriptions | Agree upon the system architecture; Work on the detailed design of each module; decide which techniques are appropriate to which modules; design the user interfaces for users to interact with. |
| Deliverables | Report 4 – Software Design Description |
| Resources needed | All team members; 12 days |
| Dependencies and constraints | Task 4 has finished |
| Risks | Some functions are difficult to find an appropriate methods to implement; initial development environment setup is also difficult. |

#### Task 6: Implementing

|  |  |
| --- | --- |
| Task Name | Implementing |
| Descriptions | Each team member implement all the functions that he or she was assigned and regularly check in the code to the SVN into Google Code; regularly validate that the implementation is consistent with the system and detailed designs. |
| Deliverables | The implemented website |
| Resources needed | All team members; 27 days |
| Dependencies and constraints | Task 5 has finished |
| Risks | Some design documents contain errors; implementation is not always consistent with the system and detailed designs. |

#### Task 7: Performing Testing

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| --- | --- |
| Task Name | Perform System Testing |
| Descriptions | Create and perform appropriate test cases for all main functions; record the test results for later reference; fix all the bugs found during the testing sessions. |
| Deliverables | Report 5 – Software Test Documentation |
| Resources needed | All team members except KhoaND; 3 days |
| Dependencies and constraints | Task 6 has finished |
| Risks | Lack of test cases for some non-critical functions; not enough time to intensively test all the functions. |

#### Task 8: Writing User’s Manual

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| --- | --- |
| Task Name | Writing User’s Manual |
| Descriptions | Writing a user’s manual to instruct the users, including guest, travelers, hotel owners, and system administrators, how to use the system. |
| Deliverables | Report 6 – User’s Manual |
| Resources needed | All team members; 4 days |
| Dependencies and constraints | Task 7 has finished |
| Risks | Some of the functions are not consistent with the user requirements, causing the user’s manual to be inconsistent with the user requirements. |

#### Task 9: Deploying the Website

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| --- | --- |
| Task Name | Deploying the Website |
| Descriptions | Perform acceptance testing and deploy the website to a host on the Internet |
| Deliverables | The complete website |
| Resources needed | All team members; all days left |
| Dependencies and constraints | Task 8 has finished |
| Risks | Little experience of deploying a website to a real host |

### Task Sheet: Assignments and Timetable

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task Name | Duration | Start Date | End Date | Resource |
| Initiating | 5 days | Mon 06/01/2014 | Fri  10/01/2014 | KhoaND, TriLNH, TuanND, VinhNTK, HienNV |
| Planning | 5 days | Mon 13/01/2014 | Fri  17/01/2014 | KhoaND, TriLNH |
| Software Requirement Specification | 5.5 days | Mon 20/01/2014 | Fri  24/01/2014 | TuanND, VinhNTK, HienNV |
| Designing the Database | 1.5 days | Fri  24/01/2014 | Mon  27/01/2014 | KhoaND, TriLNH |
| Design User Interface | 3 days | Mon  10/02/2014 | Thu  13/02/2014 | TriLNH, TuanND, VinhNTK |
| Creating Software Design Description | 3 days | Fri  14/02/2014 | Tue  18/02/2014 | TriLNH, TuanND, VinhNTK, HienNV |
| Create coding framework | 3 days | Wed  19/02/2014 | Fri  21/02/2014 | KhoaND, HienNV |
| Website design (Decoration) | 3 days | Mon 24/02/2014 | Wed  27/02/2014 | TriLNH, TuanND, VinhNTK |
| Implementation | 27 days | Fri  28/02/2014 | Mon  07/04/2014 | KhoaND, TriLNH, TuanND, VinhNTK, HienNV |
| Performing system test | 3 days | Tue  08/04/2014 | Thu  10/04/2014 | TriLNH, TuanND, VinhNTK, HienNV |
| Creating Software User’s Manual | 4 days | Fri 11/04/2014 | Wed  16/04/2014 | TriLNH, TuanND, VinhNTK |
| Deployment and input initial data | 2 days | Thu  17/04/2014 | Fri  18/04/2014 | KhoaND, HienNV |

### All Meeting Minutes

## Convention Rules

The implantation of the system must strictly follow all the standard coding and naming convention specified by Microsoft, which can be found at <http://msdn.microsoft.com/en-us/library/ff926074.aspx>.

## Other material (if any)