** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

**Laptop Reviews**

|  |  |
| --- | --- |
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| **Ext. Supervisor** | N/A |
| **Capstone Project code** | LRS |

-Ho Chi Minh City, ***05/2015***-

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# Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| LRS | Laptop Review Service |
| UI | User interface |

# Report No.2 Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

Laptop Review Service (LRS)

### Problem Abstract

Today, with the growth of the internet, when a customer want to buy a laptop, they can search for its specifications and other information through technology websites. But there are many information and reviews from experience users about a laptop, the customer must take a lot of times to read and appreciate or may be confused. Our system will help user to make a good decision when buy a laptop by gather reviews from trusted websites, classify and show them to users.

### Project Overview

#### Current Buying Habits

In Vietnam, people tend to choose laptops base on what they hear from sellers at electronic markets or what they read on some technical forums, websites. These activities have limitations. Sellers’ advices may be not accurate, some reviews may be non-sense and are not classified. Moreover, it will take lots of time for people to come to electronic markets to have laptops’ information or read reviews on many forums, websites. After searching on Google, we find this page: [www.buydig.com](http://www.buydig.com). They offer classified reviews for laptops but not all laptops. Therefore, customers will be upset when they can’t find what they need. Our solution will do a better job. We will gather and classify the reviews from trusted websites so that customers can make the best decision. Moreover, customers can claim for reviews for laptops which they can’t see on our system and get notification when those laptops’ information is updated.

#### The Proposed System

The system is intended for use by those with a smart phone or a laptop/computer with Internet connection. The system will have the following functions:

##### Web

* Admins can manage the system, manage accounts, and configure system.
* System can parse product, classify review and store to database daily or on requests.
* Staff can check feedback from user, manual update dictionary.
* Users can search laptop’s information, leave feedback.

#### Boundaries of the System

* The system can be used by every people with a smart phone or a laptop/computer with Internet connection.
* The language of the system is English.
* The complete product includes:

+ The website, for staff and user.

+ All the process document involved.

#### Development Environment

##### Hardware requirements

**For server**

|  |  |  |
| --- | --- | --- |
| Windows | Minimum Requirements | Recommended |
| Internet Connection | Cable, Wifi (4 Mbps) | Cable, Wifi (8 Mbps) |
| Operating System | XP, Vista, 7, 8 | XP, Vista, 7, 8 |
| Computer Processor | Intel® Core 2 Duo | Intel® Core(TM) i5 CPU , M 460 @ 2.53GHz |
| Computer Memory | 1GB RAM | 3GB or more |

Table 2: Hardware Requirement for Server

##### Software requirements

* Microsoft Windows 8.1: operating system and platform for development.
* SQL Server 2008 Express R2: used to create and manage the database for system.
* StarUML: used to create models and diagrams.
* Skype: used for communication and meeting.
* Visual Studio 2013: used to implement website and web service.
* Github.com & TortoiseSVN: used for source control.

## Project organization

### Software Process Model

Project is developed under agile model.



Figure 1: Agile Development Model

For more information: <http://www.indicthreads.com/1439/quick-introduction-to-agile-software-development/>

(Owner: IndicThreads.com. Online Software Developer Magazine and Conferences)

### Roles and responsibilities

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Full name** | **Role in Group** | **Responsibilities** |
| **1** | Kieu Trong Khanh | Project manager | * Specify user requirement * Control the development process * Give out technique and business analysis support |
| **2** | Vo Thi Minh Chau | Team Leader, BA, DEV, Tester | * Managing process * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **3** | Nguyen Van Hon | Team Member, BA, DEV, Tester | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **4** | Dinh Huu Toan | Team Member, BA, DEV, Tester | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **5** | Tran Manh Khuong | Team Member, BA, DEV, Tester | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |

Table 3: Roles and Responsibilities Details

### Tools and Techniques

- Front-end technologies: HTML5, CSS3, JavaScript, jQuery, AJAX.

- Back-end: Website: ASP.NET MVC4 + Entity Framework 5.

- Web Server: Microsoft IIS.

- Database Management System: MS SQL Server 2008 Express R2.

## Project Management Plan

### Software Development Life Cycle

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Phase** | **Description** | **Deliverables** | **Resource needed** | **Dependencies and Constrains** | **Risks** |
| **Requirement Analysis** | - Study similar existing systems.  -Identify and clarify requirements for the system in general. | - Introduction of proposed system.  - Project task plan.  - Software requirement specification.  - Prototypes. | 20 man-days | N/A | - Missing  requirement  - Unclear  scope of  project  - Lack of  member share  of understand |
| **Design** | - Choose the software development model.  - Research needed technology and algorithm for project.  - Design main structure of system. | - Software  Design  Document  - Technology  notes | 20 man-days | Depend on  “Requirement  Analysis” | - Lack of experience.  - Not fulfil requirement |
| **Implementation** | - Code core functions first.  - Code additional functions.  - Update user interface. | - Main user’s function on web. | 60 man-days | Depend on “Design”. | - Lack of experience.  - The implemented parsers are not the best.  - The dictionary is not variety.  - The implemented algorithm is not the best.  - The user interface is not friendly. |
| **Testing** | - Unit test.  - Integration test.  - System test. | - Test case | 20 man-days | Depend on “Implementation”. | - Lack of test data. |
| **Maintenance** | - Deploy on server. | - Installation guide.  - User manual. | 10 man-days | Depends on “Testing”. | - Lack of experience. |

Table 4: Software Development Life Cycle Detail

### Phase Detail

#### Phase 1: Requirement Analysis

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying and studying existing systems** | Find which systems currently provide similar service, their strengths and weakness. | ChauVTM, HonNV, ToanDH, KhuongNM |
| **2. Identifying and clarifying main functions.** | Define which main functions system should provide. | ChauVTM |
| **3. Introduction.** | Complete Introduction Report. | ToanDH, KhuongNM |
| **4. Project Management**  **Plan.** | Prepare Project  Management Plan. | ChauVTM |
| **5. Website Prototype.** | Build a prototype of proposed system (Website). | ChauVTM |
| **6. Identifying Requirement and Planning** | Which feature this function should have and how to implement. | ChauVTM, HonNV, ToanDH, KhuongNM |
| **7. Software requirement specification.** | Create software requirement specification. | ChauVTM, HonNV, ToanDH, KhuongNM |

Table 5: Phase 1: Requirement Analysis

#### Phase 2: Design

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying software development model** | Choose software development model. | ChauVTM |
| **2. Research needed technology and algorithm for project** | Compare many algorithms to synchronize laptops’ names and classify comments then choose the best one. | ChauVTM |
| **3. Detailed design** | Create software design document. | ChauVTM, HonNV, ToanDH, KhuongNM |

Table 6: Phase 2: Design

#### Phase 3: Implementation

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Design UI** | Create UI | ChauVTM |
| **2. Website function** | Create appropriate parsers to parse data from many websites.  Synchronize laptops’ names.  Create dictionary.  Implement searching laptop function. | ChauVTM, HonNV, ToanDH, KhuongNM |

Table 8: Phase 4: Implementation

#### Phase 4: Testing

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Unit testing** | Write test case and test. | ChauVTM, HonNV, ToanDH, KhuongNM |
| **2. Integration testing** |  | ChauVTM, HonNV, ToanDH, KhuongNM |
| **3. System testing** | Test system behavior and  performance  Test user behavior and  performance | ChauVTM, HonNV, ToanDH, KhuongNM |

Table 7: Phase 3: Testing

#### Phase 5: Maintenance

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Deploy on server** | Deploy the system on server | HonNV |
| **2. Document** | Installation Guide, User Manual | ToanDH, KhuongNM |

Table 9: Phase 5: Maintenance

### All Meeting Minutes

Refer to Meeting Minutes folder.

## Coding Convention

Java: Using to develop Android App.

Summary:

* Naming Convention.
  + Use camel case for both variable and function name.
  + Use pascal case for class name.
* Indentation.
  + Four spaces should be used as the unit of indentation. The exact construction of the indentation (spaces vs. tabs) is unspeciﬁed. Tabs must be set exactly every 8 spaces (not 4).
  + Avoid lines longer than 80 characters, since they’re not handled well by many terminals and tools.
* Declaration.
  + One declaration per line is recommended since it encourages commenting.
  + In absolutely no case should variables and functions be declared on the same line.
  + Do not put different types on the same line.
* Code Examples

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

<http://www.oracle.com/technetwork/java/codeconventions-150003.pdf>

C#: Using to develop website and web service.

Summary:

* Naming Convention:
  + For variable’s name, use camel case. Eg: minValue, maxValue,…
  + For function name, class name, use pascal case. Eg: SearchProduct, ImportFile,…
* Layout Convention:
  + Write only one statement/declaration per line.
  + Indent continuation one tab stop (four spaces).
  + Add at least one blank line between method definitions and property definitions.
  + Use parentheses to make clauses in an expression apparent.
* Commenting Convention:
  + Place the comment on a separate line, not at the end of a line of code.
  + Begin comment text with an uppercase letter.
  + End comment text with a period.
  + Insert one space between the comment delimiter (//) and the comment text.
  + Do not create formatted blocks of asterisks around comments.
* Language Guidelines:

Using C# Code Convention From:

<http://msdn.microsoft.com/en-us/library/vstudio/ff926074.aspx>