** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

Smart Buy

|  |  |
| --- | --- |
| **Group 1** | |
| **Group members** | Vo Thi Minh Chau – Team Leader – SE60931  Nguyen Van Hon – Team Member - 60390  Dinh Huu Toan – Team Member - SE60871  Nguyen Manh Khuong – Team Member - 60455 |
| **Supervisor** | Mr. Kieu Trong Khanh |
| **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 |

# Report No.2 Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

* Laptop Review Service (LRS)

### Problem Abstract

### Project Overview

#### Current Situation

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 | Windows 7 Server Datacenter | Windows 7 Server Datacenter |
| Computer Processor | Intel® Core 2 Duo | Intel® Core(TM) i5 CPU, M 460 @ 2.53 GHz |
| Computer Memory | 2GB RAM | 4GB or more |

Table 2: Hardware Requirement for Server

##### Software requirements

* Microsoft Windows 8.1: operating system and platform for development.
* SQL Server 2008 Exoress 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 Enterprise R2.

## Project Management Plan

### Iteration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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.  -Main functions.  -Project Iteration Plan.  - Software  requirement  specification | 30 man-days | N/A | - Missing  requirement  - Unclear  scope of  project  - Lack of  member share  of understand |
| **Design** | - Architecture  design for the  system  - Detail design  using top-down  break down  - Choose  Architecture  style | - Software  Design  Document  - Base code  structure  - Technology  notes | 30 man-days | Depend on  “Requirement  Analysis” | - Lack of experience.  - Not fulfil requirement |
| **Data management** | - Parse data from websites. | - Data management service. | 30 man-days | N/A | - Lack of experience.  - The implemented parsers are not the best.  - Lack of test data. |
| **Dictionary management** | - Input dictionary manually.  - Find synonym and |  |  |  |  |
| **Main user’s functions** | - Let user update price for current day.  - User can search a product price. | - Main user’s functions on web and mobile. | 30 man-days | Depend on “Data management”. | Lack of experience.  Not have a clear understanding about business process. |
| **Suggestion algorithm** | - Build algorithm to classify the comments. | - System will classify the comments into 3 groups: positive, negative and neutral. | 20 man-days | Depends on “Data management”. | - The implemented algorithm is not the best.  - Lack of test data.  - Lack of experience. |
| **User Account management** | - Manage user accounts in the system | - User account management system. | 15 man-days | N/A | Lack of experience.  Not have a clear understanding about business process. |

Table 4: Iteration

### Iteration Detail

#### Phase 1: Preliminary Investigation or Analysis

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying and studying existing systems** | Find which systems currently provide similar service, their strengths and weakness. | TrietDHA, VietHT, HoangDH, DungTT |
| **2. Identifying and clarifying main functions.** | Define which main functions system should provide. | TrietDHA |
| **3. Introduction.** | Complete Introduction Report. | TrietDHA |
| **4. Project Management**  **Plan.** | Prepare Project  Management Plan. | TrietDHA |
| **5. Website Prototype.** | Build a prototype of proposed system (Website). | TrietDHA, DungTT |
| **6. Mobile Prototype.** | Build a prototype of proposed system (Mobile App). | VietHT, HoangDH |
| **7. Design ER diagram.** | Design ER diagram. | TrietDHA, VietHT, HoangDH, DungTT |

Table 5: Phase 1: Preliminary Investigation or Analysis

#### Phase 2: Data Management

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying Requirement and Planning** | Which feature this function should have and how to implement. | TrietDHA |
| **2. Create parsers** | Create appropriate parsers to parse data from many websites. | TrietDHA |
| **3. Input data** | Build a function which lets user input data by importing excel files or manually input. | DungTT |
| **4. Implement GUI** | Create the interface for user. | TrietDHA, DungTT |
| **5. Testing** | Test system behavior and  performance  Test user behavior and  performance | TrietDHA, VietHT, HoangDH, DungTT |
| **6. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | TrietDHA, VietHT, HoangDH, DungTT |

Table 6: Phase 2: Data Management

#### Phase 3: Main User’s Functions

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying Requirement and Planning** | Which feature this function should have and how to implement. | TrietDHA, VietHT, HoangDH, DungTT |
| **2. Manage User** | Allow staff to manage user accounts. | DungTT |
| **3. Update Product Price** | Allow user update product price from website or mobile. | HoangDH |
| **4. Search Product Price** | Allow user to search product price. | TrietDHA, HoangDH, VietHT |
| **5. Testing** | Test system behavior and  performance  Test user behavior and  performance | TrietDHA, VietHT, HoangDH, DungTT |
| **6. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | TrietDHA, VietHT, HoangDH, DungTT |

Table 8: Phase 4: User Related Functions

#### Phase 4: Suggestion Algorithm

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying Requirement and Planning** | Which feature this function should have and how to implement. | TrietDHA |
| **2. Choose algorithm** | Compare many algorithms and choose the best one. | TrietDHA |
| **3. Implement algorithm** | Implement the chosen algorithm. | TrietDHA |
| **4. System suggestion function** | User now can ask for system suggestion. | TrietDHA, VietHT |
| **5. Testing** | Test system behavior and performance. | TrietDHA, VietHT, HoangDH, DungTT |
| **6. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | TrietDHA |

Table 7: Phase 3: Suggestion Algorithm

#### Phase 5: Market Management

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Author** |
| **1. Identifying Requirement and Planning** | Which feature this function should have and how to implement. | TrietDHA, VietHT, HoangDH, DungTT |
| **2. Manage market** | Staff can manage markets in the system. | HoangDH |
| **3. Testing** | Test system behavior and  performance  Test user behavior and  performance | TrietDHA, VietHT, HoangDH, DungTT |
| **4. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | TrietDHA, VietHT, HoangDH, DungTT |

Table 9: Phase 5: Market Management

### 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>