** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

**Computer Product Suggestion**

|  |  |
| --- | --- |
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| **Capstone Project code** | CPS |

-Ho Chi Minh City, 05/2014-

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# Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| CPS | Computer Product Suggestion |

# Report No.2 Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

Computer Product Suggestion (CPS)

### Problem Abstract

Nowadays Online shopping is become the most popular trends in the world.

E-commerce websites are become more and more popular; however, they just only show the details of products and don’t have any effective search and compare function that can recommend for customer about their choices. But, how can we know a computer is better than the other ones? Or which one is fixed their budget? Our system will do that thing, it helps users find computer online, compares them and system will suggest products what is suitable for users, etc…

### Project Overview

#### Current Comparison websites in Vietnam

Below are some comparison sites:

* Normal E-commerce websites (thegioididong.com, vienthonga.com, dienmay.com, etc…): They have some functions that let people search and see details of each product. But all that products are had in their website and we can’t compare them with another website. They show all text details, it is too difficult for users to choose what they want and it spends too much time.
* Especial compare websites (compare.vn, websosanh.vn, sosanh.vn, etc…): They provide functions that let users add 2 or more in order to make them see details of products easily. They collect data from another website, so that make users see more details of product then a normal e-commerce websites. But they still have no any especial search and compare functions.

#### The Proposed System

The system is intended for users to make decisions about set of computer products that they want to buy. The system must to manage products, users, etc… In detail, the system will enable following function:

* Admins can manage the system, manage accounts, and configure system.
* System can evaluate the inputted product to give suggestion or proposal, beside that it will parse the web to get the useful information.
* Staff will define or configure the weight of criteria and collect data from web to mine.
* Users can request to search and get the suggestion with set of selected products and recommend and rating for each product.
* Trainings module will help system recognize products are already exist in database or not. If not, system will be trained about products.

#### Boundaries of the System

* The system can be used by every people with a laptop/computer with Internet connection.
* The system is **not intended** for managing these aspects:

+ Managing product quality.

+ Managing your expense.

* 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 1: Hardware Requirement for Server

##### Software requirements

* Microsoft Windows 7 Ultimate: operating system and platform for development.
* SQL Server 2008 Enterprise 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 2012: used to implement website.
* Google Code & 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** | Pham Hong Sang | Team Leader, BA, DEV, Tester | * Managing process * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **3** | Huynh Thanh Viet | Team Member, BA, DEV, Tester | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **4** | Tran Cao Len | Team Member, BA, DEV, Tester | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **5** | Ha Chi Danh | Team Member, BA, DEV, Tester | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |

Table 2: 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**  **/Iteration** | **Description** | **Deliverables** | **Resource needed** | **Dependencies and Constrains** | **Risks** |
| **Preliminary Investigation or Analysis** | - Study similar existing systems.  -Identify and clarify requirements for the system in general. | -Introduction of proposed system.  -Main functions.  -Project Iteration Plan. | 30 man-days | N/A | Project may  not be feasible  for developing  because lack of technologies  And/or data. |
| **Data management** | - Collect data from websites.  - Input data manually. | - Data management service. | 30 man-days | N/A | Lack of experience.  The implemented parsers are not the best.  Lack of test data. |
| **Main user’s functions** | - Let user see details of each product.  - User can search a product.  -User can see suggestion if he is a member. | - Main user’s functions on web. | 30 man-days | Depend on “Data management”. | Lack of experience.  Not have a clear understanding about business process. |
| **Suggestion algorithm** | - Build algorithm to calculate the best way to suggest for user a suitable product. | - Suggestion service.  - User now can ask for the best suggest a suitable product. | 20 man-days | Depends on “Data management”. | The implemented algorithm is not the best.  Lack of test data. Lack of experience on defining weight criteria. |
| **User Account**  **management** | - Manage user accounts in the system | - User management system. | 7 man-days | N/A | Lack of experience.  Not have a clear understanding about business process. |
| **Training Machine** | -Teach the system about learning a new product. | N/A | 8 man-days | Depends on “Data management”. | Not have a clear understanding about business process. |

Table 3: 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. | SangPH, VietHT, LenTC, DanhHC |
| **2. Identifying and clarifying main functions.** | Define which main functions system should provide. | SangPH |
| **3. Introduction.** | Complete Introduction Report. | SangPH |
| **4. Project Management**  **Plan.** | Prepare Project  Management Plan. | SangPH |
| **5. Website Prototype.** | Build a prototype of proposed system. | SangPH, DanhHC,LenTC |
| **6. Design ER diagram.** | Design ER diagram. | SangPH , VietHT, DanhHC, LenTC |

Table 4: 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. | SangPH |
| **2. Create parsers** | Create appropriate parsers to parse data from many websites. | SangPH |
| **3. Input data** | Build a function which lets user input data by manually input. | DanhHC |
| **4. Implement GUI** | Create the interface for user. | DanhHC, LenTC |
| **5. Testing** | Test system behavior and  performance  Test user behavior and  performance | SangPH, VietHT, LenTC, DanhHC |
| **6. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | SangPH, VietHT, LenTC, DanhHC |

Table 5: 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. | SangPH, VietHT, LenTC, DanhHC |
| **2. Manage User** | Allow staff to manage user accounts. | DanhHC |
| **3. View Product ‘s Details** | Allow user view details of the product. | LenTC |
| **4. Search Product** | Allow user to search product | SangPH, VietHT |
| **5. Testing** | Test system behavior and  performance  Test user behavior and  performance | SangPH, VietHT, LenTC, DanhHC |
| **6. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | SangPH, VietHT, LenTC, DanhHC |

Table 6: Phase 3: 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. | SangPH |
| **2. Choose algorithm** | Compare many algorithms and choose the best one. | SangPH |
| **3. Implement algorithm** | Implement the chosen algorithm. | SangPH,VietHT |
| **4. System suggestion function** | User now can ask for system suggestion. | SangPH,VietHT |
| **5. Testing** | Test system behavior and performance. | SangPH, VietHT, LenTC, DanhHC |
| **6. Document** | Adding SRS, SDD,  Installation Guide, Manual  Guide | SangPH |

Table 7: Phase 4: Suggestion Algorithm

#### Phase 5: Account Management

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

Table 8: Phase 5: Account Management

### All Meeting Minutes

Refer to Meeting Minutes folder.

## Coding Convention

C#: Using to develop website.

Summary:

* Naming Convention:
  + For variable’s name, use camel case. Eg: minValue, maxValue,…
  + For function name, class name, use pascal case. Eg: SearchProduct, GetRecommendProduct,…
* 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>