MINISTRY OF EDUCATION AND TRAINING

FPT UNIVERSITY

Capstone Project Document

Computer Product Suggestion

Group 13	
Group member	Pham Hong Sang – Team Leader – SE60601 Huynh Thanh Viet – Team Member - SE60666 Tran Tan Len – Team Member - SE60623 Ha Chi Danh – Team Member – 60431 (Dropped out)
Supervisor	Mr. Kieu Trong Khanh
Ext. Supervisor	N/A
Capstone Project code	CPS

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A. Software Project Management Plan

1. Problem Definition

1.1 Name of this Capstone Project

Computer Product Suggestion (CPS).

1.2 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…

1.3 Project Overview

1.3.1 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.

1.3.2 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.

1.3.3 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.

1.3.4 Development Environment

1.3.4.1 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

For Mobile Application

1.3.4.2 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.

2. Project organization

2.1 Software Process Model

Project is developed under agile model.

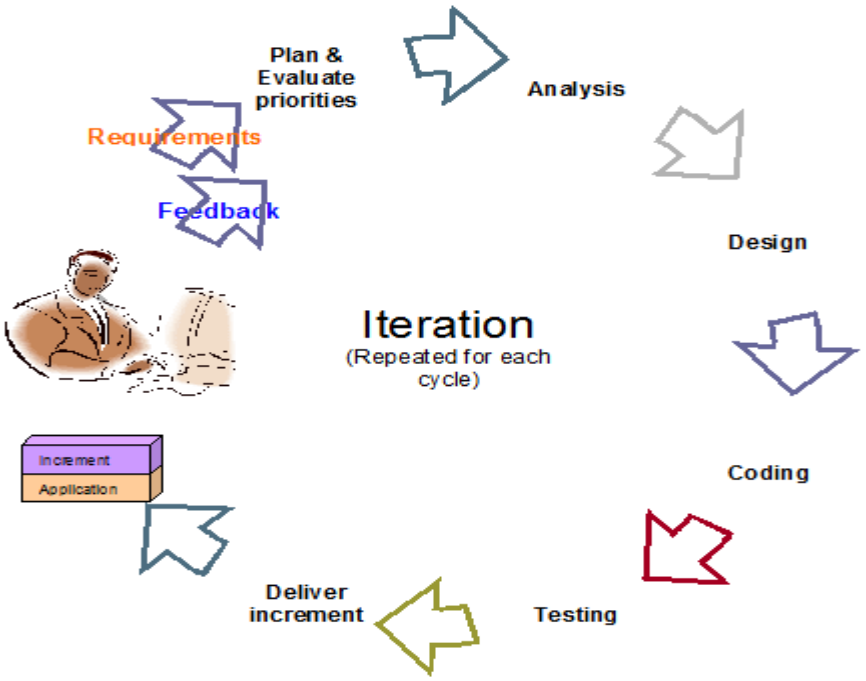

Figure 1: Iteration Model

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

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

2.2 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 Tan 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 Responsibility Details

2.3 Tools and Techniques

- Front-end technologies: HTML5, CSS3, JavaScript, jQuery, AJAX.
- Back-end:
  + Website: ASP.NET MVC4 + Entity Framework 5.
  + Scheduler: Quartz.
  + Parse data from Excel file: Linq to excel.
- Web Server: Microsoft IIS.
- Database Management System: MS SQL Server 2008 Enterprise R2.

3. Project Management Plan

3.1 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 manageme	- Manage user accounts in	- User management system.	7 man-days	N/A	Lack of experience. Not have a

nt	the system				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

3.2 Iteration Detail

3.2.1 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, LenTT, 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,LenTT
6. Design ER diagram.	Design ER diagram.	SangPH , VietHT, DanhHC, LenTT

Table 4: Phase 1: Preliminary Investigation or Analysis

3.2.2 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, LenTT
5. Testing	Test system behavior and performance Test user behavior and performance	SangPH, VietHT, LenTT, DanhHC
6. Document	Adding SRS, SDD, Installation Guide, Manual	SangPH, VietHT, LenTT, DanhHC

	Guide	

Table 5: Phase 2: Data Management

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

Table 6: Phase 3: Main User's Functions

3.2.4 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, LenTT, DanhHC
6. Document	Adding SRS, SDD, Installation Guide, Manual Guide	SangPH

Table 7: Phase 4: Suggestion Algorithm

3.2.5 Phase 5: Account Management

Task	Description	Author
1. Identifying Requirement and Planning	Which feature this function should have and how to implement.	SangPH, VietHT, LenTT, DanhHC
2. Manage account	Staff can manage accounts in the system.	LenTT
3. Testing	Test system behavior and performance	SangPH, VietHT, LenTT, DanhHC

	Test user behavior and performance	
4. Document	Adding SRS, SDD, Installation Guide, Manual Guide	SangPH, VietHT, LenTT, DanhHC

Table 8: Phase 5: Account Management

3.3 All Meeting Minutes

Refer to Meeting Minutes folder.

4. 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