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| Logo_FPT_University_doc | **MINISTRY OF EDUCATION AND TRAINING** |

**FPT UNIVERSITY**

**CAPSTONE PROJECT DOCUMENT**

**E-COMERCE IN ASSOCIATE WITH**

**WEB USAGE MINING**

**Report #1 – <Project Introduction>**

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- Hanoi, 09/2012 -

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# INTRODUCTION

## Purpose

This document is prepared as the introduction for project EWUM, in scope of Capstone Project at FPT University. It will not only explain the basic concept and idea for project EWUM but also discuss what project’s benefits/threats are, what opportunities it offer and what problems it solve.

<Chú ý format của tài liệu, đoạn dòng đầu tiên của 1 section, không có dấu “–“, không align 1 tab 🡺 Đọc tài liệu mô tả các nguyên tắc viết tài liệu>

## Acronyms and Definitions

<? Rất nhiều từ viết tắt nhưng chua có phần giải thích>

# ABSTRACT

<Nên thêm thông tin đánh giá về nhu cầu về thương mại điện tử, nhu cầu áp dụng các thuật toán phân tích dữ liệu liên quan đến hành vi của KH…

Lợi ích cho người dung (người mua hàng) khi áp dụng các phương pháp phân tích dữ liệu

Nếu không áp dụng cách tiếp cận phân tích dữ liệu thì người mua hàng sẽ gặp phải khó khăn gì

Thuật toán sử dụng chủ yếu là dựa trên lịch sử mua các sản phẩm, nhưng trong phần này không thấy đề cập tới?

>

With the continued growth and proliferation of e-commerce, Web services, and Web-based information systems, the volumes of clickstream and user data collected by Web-based organizations in their daily operations has reached astronomical proportions. Analyzing such data can help these organizations determine the life-time value of clients, design cross marketing strategies across products and services, evaluate the effectiveness of pro-motional campaigns, optimize the functionality of Web-based applications, provide more personalized content to visitors, and find the most effective logical structure for their Web space. This type of analysis involves the automatic discovery of meaningful patterns and relationships from a large collection data. Web usage mining refers to the automatic discovery and analysis of patterns in clickstream and associated data collected or generated as a result of user interactions with Web resources on one or more Web sites. The goal is to capture, model, and analyze the behavioral patterns and profiles of users interacting with a Web site. The discovered patterns are usually represented as collections of pages, objects, or re-sources that are frequently accessed by groups of users with common needs or interests [1].

In this project, our goal is to develop an e-commerce website for … in which we apply web usage mining (nêu cụ thể một số phương pháp mining) in E-Commerce. We want to create a system that can be able to analyze customers’ behavior and recommend them to buy different kind of products.

# LITERATURE REVIEW

<Chú ý cách format? Nên phân tích cho từng website 1, mỗi website có ưu điểm, nhược điểm gì, đặc biệt nhấn mạnh về các tính năng phân tích dữ liệu hành vi của người dùng>

According to many e-business researchers all around the world, with a population of 80 million, Viet Nam is one of Asia’ sleeping giants in terms of e-commerce. With an estimate figure, it shows that there are about 30,000 businesses in Viet Nam and overseas Internet portals have been eyeing ventures with domestic partners to tap this market of 80 million people [2].

Today, there are hundreds of e-commerce websites in Vietnam. They supply a lot of services and products. One of the most popular online markets is electronic devices. People have a high demand for this kind of products because they are easy to buy online and their quality is assured.

There are some famous websites that sell electronic devices online such as: [dienmay.com](http://www.dienmay.com/), [trananh.vn](http://www.trananh.vn/default.aspx), [topcare.vn](http://www.topcare.vn/), [vimua.com](http://www.vimua.com/) and [nguyenkim.com](http://www.nguyenkim.com/). They have the following general services and functions:

* + Categorize products
  + View products
  + Operate checkout products
  + Support online payment
  + Support shipment
  + Compare products
  + Suggest related products
  + Products auction
* The above websites have both strengths and weaknesses:
  + **Strengths:**
    - Satisfy user’s demand by supplying diversified products.
    - Fast buying procedure.
    - Buying/selling 24/7.

* + **Weaknesses:**
    - There is no guarantee of product quality.
    - There is no accurate suggestion of products for users
    - User Interface is not very friendly.
    - It hard for users to find products that they want to buy
    - In the administration, report functions are not very detailed, it also cannot give recommendation.
    - Do not offer multiple languages and currencies

# PROPOSAL

## The idea

As discussed in above sections, in Vietnam, current E-commerce websites that sell electronic devices have many issues. The idea of the EWUM project is to develop a system that inherits the strengths and improve the weaknesses from other systems. And the new system would have the opportunity to add a lot of enhancements.

There are some points that make EWUM different from others E-commerce websites:

* + Better User Interface: the system provides an attractive, friendly and easy to use User Interface.
  + Support multiple languages and currencies.
  + Support a better product recommendation for users and more detailed reports for administrators.
  + Provides only 3 main product categories: laptop, mobile phone, and tablet. It helps user easy to find products that they want to buy and is useful for customers’ behavior analysis.

## Brief description about system

<Nên có 1 sơ đồ khái quát tổng thể hệ thống và khái các mục tiêu chức năng & phi chức năng của hệ thống cấn đạt được theo ý tưởng đã đề ra>

* The system has almost general functions of an E-commerce websites. Besides, it uses web usage mining methods as discussed in the Abstract section to analyze customers’ behavior. Thence, it gives users recommendation for products that they might be want to purchase and gives administrators suggestion for strategies that they can use to promote productivities.

## Details about our system features

* The EWUM system has two main modules: front end and back end.
  + **Front end:** This module allows users to interact with the system. They can view, find and buy products that they want. In short, all E-commerce businesses are contained in the front end module.
  + **Back end:** This module enables administrators to manage the system. They can view, add, edit and delete contents in the website.

*<Khái quát các chức năng của hệ thống>*

## Objectives

Tón tắt mục tiêu của đồ án

* Mục tiêu nghiên cứu, học tập
* Mục tiêu xây dựng một ứng dụng để đáp ứng áp dụng các vấn đề đã nghiên cứu

## Scope

<Phần này nêu phạm vi của đồ án

1. Phạm vi về nghiên cứu, công nghệ…
2. Phạm vi về công đoạn xây dựng, các yêu cầu khác về phi chức năng
3. Phạm vi về mặt chức năng – chỉ cần nói là đã đề cập trong phần 4.3>

Phần mô tả chức năng nên để trong phần 4.3

* This project is aimed to develop an intelligent E-commerce website that is helpful for both users and administrators.
* Our website has a clear UI with a friendly design; users can use our website easily.
  + Buttons and Labels have consistent size.
  + All the icons and symbols are simple and easy to understand.
  + Not too much text and label
  + Texts and labels are easy to understand.
* What can our website does?
  + Anonymous:
    - Search for products
    - See products view
    - See products details
    - See related products that are best sell, most view and same price products
  + Registered users:
    - All functions and services that apply for anonymous
    - Compare products
    - Add products to cart
    - Add products to wish list
    - Checkout products
    - Review products
    - See recommend products
    - See ‘My account’ that contains:
      * Profiles
      * Orders history
      * Wish list
  + Administrators:
    - Authenticate users
    - Manage back up files
    - Manage products
    - Manage orders
    - Manage shipment
    - Manage reports
* This project is also a chance for our whole team to experience and study the standard process of making a software project. We will be more understanding about each step of making a project, from analysis, design, development, QA & testing, deployment to customer support. During the development process, our team has chances to research and study the technologies from the older system and new technologies nowadays that can make our system become more advanced, more flexible and more secured.

# BENEFIT FROM PROJECT

After implementing this project, community development and the group developing also has many benefits.

<Đố án này chỉ thấy rõ 2 lợi ích là của nhóm và lợi ích cho tổ chức áp dụng kết quả của nhóm – vì chưa có các nghiên cứu mới có thể áp dụng cho xã hội, cho cộng đồng nên phần lợi ích cho cộng đồng chưa thấy rõ>

## For our group

* After developing and implementing EWUM project we will:
  + Have experience and deeply understand about the general process or work flow of an E-commerce website.
  + Understand new technology like MVC4, JavaScript, HTML, ASP.NET.
  + Understand working in group skill.
  + Know how to manage project, manage risk, development process
  + Learn how to develop software projects

## For Community <Dự án có đóng góp cho cộng đồng gì ?>

* It helps people save cost, reduce working time and labor force of buying/selling products. <Cái này đóng góp cho tổ chức nếu dự án được áp dụng cho 1 tổ chức đó, không phải đóng góp cho cộng đồng
* Đóng góp cho cộng đồng chỉ có khi mà lợi ích nó đem lại là chung cho mọi người
* >

# CRITICAL ASSUMPTION AND CONSTRAINTS

* The product recommendation function base strongly on users’ transaction. We need large data to accurately give users recommendations.

# POTENTIAL RISKS AND LIMITATIONS

## Potential Risks

<Không copy y nguyên cần sang tạo – mỗi dự án có rủi ro khác nhau>

* As mentioned in above section, this system might get several potential risks in:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID** | **Risk Description** | **Type** | **Probability** | **Effect** | **Strategies** |
| 1 | Wrong time estimation that may cause the project delay | Schedule | Moderate | Serious | -Stimulate team members to keep up with deadline to ensure development process and cover the time that will lost in unexpected circumstances. -Team members have responsibility to support others when they have individual problems that make them unavailable. |
| 2 | Team members may conflict with each others that causes the team broken then project fails. | Communication | High | Serious | - Increase in number of communication channels that will help team members understand each other better. - PM has responsibility to find the root cause and help to solve conflict between individuals. - Team-building is also an essential activity. |
| 3 | Documents of the project may not well be documented because almost team members are lack of experience in software development process. | Quality | High | Serious | - Instructor plays an important role in guiding project team to follow a specific process. -Apply theories from **Introduction to Software Engineering** and **Software Project Management** courses. |
| 4 | The system cannot prevent all hacking and cheating in exam online  <What ?, copy thì cần có chọn lọc, dư án có rủi ro về công nghệ là gì?> | Technical Risk | High | Medium | - The server which stores database also needs to have a good security so that users cannot hack into database and damage the data inside |

## Limitations

* EWUM project is researched and developed under the schedule of CAPSTONE Project with limitations about time, resource and budget so that the system cannot complete with some special functions such as:
  + Guarantee of product quality.
  + Purchase products using Users’ score.
  + Products auction.
* Besides, we for have some problems for an E-commerce website such as:
  + Security.
  + Users cannot experience products before purchasing.
  + Mechanical failures can cause unpredictable effects on the total processes.

# REFERENCE

[1] <http://maya.cs.depaul.edu/~mobasher>

[2] Hoang Minh Cuong:

<http://www.google.com.vn/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&sqi=2&ved=0CDIQFjAC&url=http%3A%2F%2Funpan1.un.org%2Fintradoc%2Fgroups%2Fpublic%2Fdocuments%2FAPCITY%2FUNPAN008660.pdf&ei=seJVUO_FLoqTiQefmoD4DQ&usg=AFQjCNFJqouBASt4MoPUxpfMul6gbYD2ZA&cad=rja>