

A Development of OTOP Web Application: In Case of Samut Songkhram Province

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Abstract—This paper aims to present the development of a web-based system to serve the need of selling OTOP products in Samut Songkhram, Thailand. This system was designed to promote and sell OTOP products on Web site. We describe the design approaches and functional components of this system. The system was developed by PHP and JavaScript and MySQL database System. To evaluate the system performance, questionnaires were used to measure user satisfaction with system usability by specialists and users. The results were satisfactory as followed: Means for specialists and users were 4.05 and 3.97, and standard deviation for specialists and users were 0.563 and 0.644 respectively. Further analysis showed that the quality of One Tambon One Product (OTOP) Website was also at a good level as well.

Keywords—Web-based system, OTOP, product.

I. INTRODUCTION

SAMUT Songkhram is one of the significant provinces of Thailand and it is known as Mae Klong. It is a province of fertile land, ripe with plants and crops, including numerous vegetables and fruits, as well as a vast variety of seafood products [1]. Furthermore, there are much of historical art and culture, especially during the early Ratanakosin period, like floating markets, temples and etc. Also, there are many valuable community products in Samut Songkhram Province and it should be presented to international society. Beside, Thai government has a policy to promote the One Tambon One Product (OTOP), local intellectual goods. According to Tochapol [2], the research found that transactions of OTOP and SME through internet can enable businesses widely expand their market with a low investment cost and can increase the business opportunities and the development of e-Commerce web site of the community of natural dyed fabric, Sakon Nakhon Province, shown that the community needs the product channel and promote their product to worldwide [3].

With the rapidly growth of information technology, web site is one of the easily and fast efficient tools to promote community's products. Additional, it encourages the community to look forward to opportunity to develop and promote the community. Using web site technology to publish community' products and operations of community is worthwhile because users can access web sites at any place and any time. For example, OTOP information system was developed to support users and promote OTOP product [4].

Therefore, the development of this project made the opportunities and channels of marketing trade to the community. The web application is available through Internet and users can edit and store data in database. Moreover, the system makes a convenience for customer to get through and buy products on web site. Also, it is very important to develop this web site for Samut Songkhram, community.

The remainder of this paper is organized as follows. Section II presents the analysis and design of this work. Section III presents the results evaluated by specialists and users. Finally, in Section IV conclude the paper with future work.

II. ANALYSIS AND DESIGN

To develop the project, we studied and collected data from user's requirements. The information was used as a source of information for management web application and database management and internet network technology were applied in order to make the system fast and easily work. The characteristics of a web application are compatible with the Web Browser on the Internet and display by using HTML and PHP, which is in contact with study and analyze customer data. The system can be divided to be 8 parts as following: a customer registers part, an edit profile part, a search part, a filtering part, a categorization part, a poll part, a shopping part and a backend part. Fig. 1 was presented the components of the system.

In the customer registers system, customer can subscribe his/her profile such as personnel information, email address, username and password, and etc. The edit profile system allows user to edit his/her information and customer can search for community products (OTOP) by using a search system. Moreover, they can filter OTOP products according to their interest like filtering by recent products, by the popular products and so on. And they can view information community (OTOP) of the products classified by the community (OTOP) to be 5 groups: a traditional Thai dessert group, an herb group, a handicraft group, an agricultural group, and a Benjarong group (Thai porcelain). Moreover, supporting customer to make an order, the system has the survey system which customer can respond so as to develop and improve OTOP product to serve customer needs.

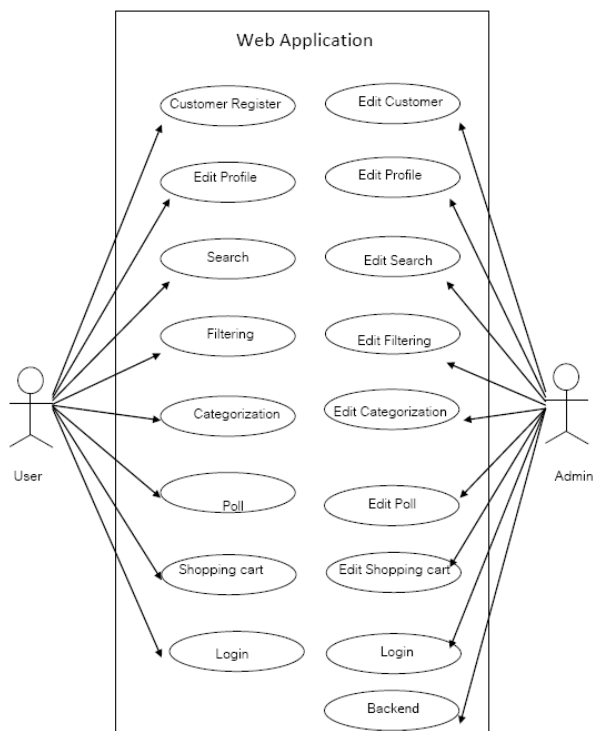


Fig. 1 Use case of the components of the system

From analysis and design phase, we applied UML (Unified Modeling Language) and knowledge discovery approach [5] as a tool for this step and Fig. 2 was presented the relational database of this project. Also, Figs. 3 and 4 were shown the pages of web application.

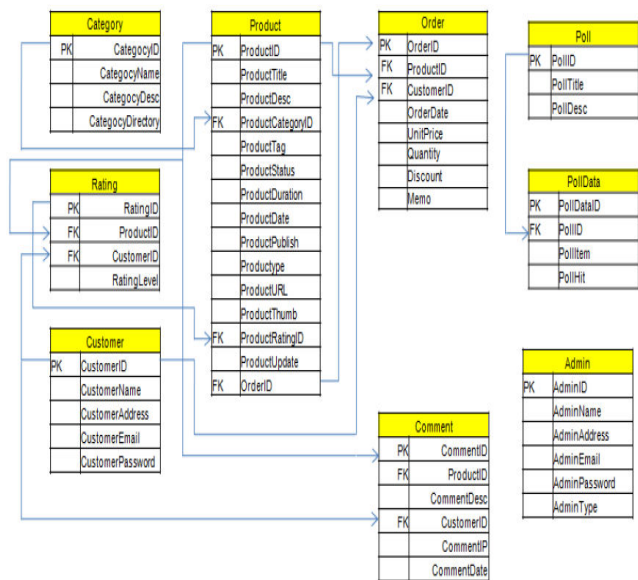


Fig. 2 Database of the web application

Testing and evaluation of the system were divided into two parts: Black box Testing and Questionnaires by specialists and

users. Black box testing was tested based on the performances of the system and collected errors of the system. Questionnaires of the satisfaction of this system were evaluated by specials and users. To evaluate the quality assessment system, Mean (x) and standard deviation (SD) were used to assess the abilities of the project.

III. RESULTS

In this project, it was divided the result by the research purposes into 2 parts: developing the web based application for OTOP products and testing and evaluating the system.

A. Developing the Web Based Application

Developing the web application, Figs. 3 and 4 were shown the results of web application.



Fig. 3 The main page of web application

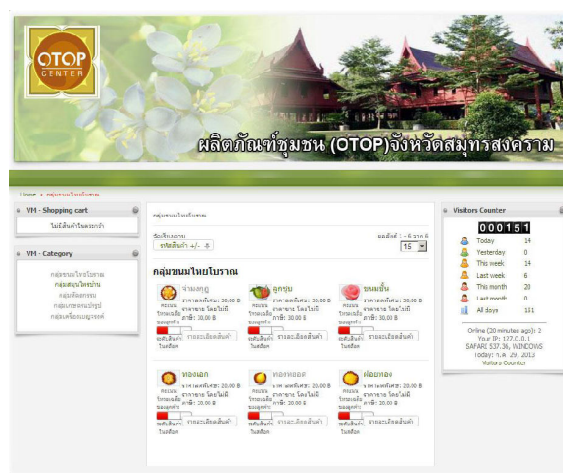


Fig. 4 The category page of web application

B. Testing and Evaluating the Qualities of the System

When tested and evaluated the qualities of the system, Black box Testing and Questionnaires by specialists and users were used to test this project. Black Box testing was determined the error of the project as following: functional requirement test, Function test, Usability test, Performance test and Security test.

Functional Requirement test was evaluated the ability of the system to serve the needs of the users and Functional test was used to evaluate the accuracy of the system. Usability test was tested the suitability of the system. Performance test was assessed the processing speed of the system. Finally, Security test was used to evaluate the security of the system Table I was shown the results of Black box testing.

TABLE I
THE RESULTS OF BLACK BOX TESTING

	Specialists		Users	
	\bar{x}	SD	\bar{x}	SD
1.Function Requirement Test	4.14	0.554	4.06	0.659
2. Functional Test	4.15	0.610	4.13	0.718
3. Usability Test	4.23	0.610	3.97	0.645
4. Performance Test	3.96	0.416	3.96	0.531
5. Security Test	3.79	0.624	3.71	0.665
Summary	4.05	0.563	3.97	0.644

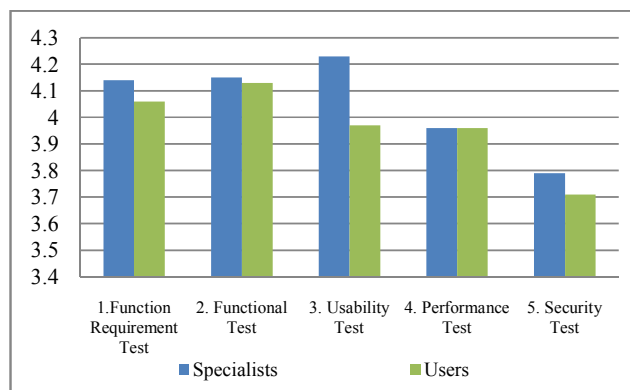


Fig. 5 The results of Black box testing

The results of data analysis by using Questionnaires to evaluate user satisfaction were found that specialists and users have satisfied the performances of the system as well.

IV. CONCLUSION AND FUTURE WORK

In this paper, we presents the preliminary result of developing web based application to support OTOP products and also this system can be beneficial to manage and enhance OTOP community. However, in term of the future experiments, we are looking forward to improve the system by using other technology and techniques to enhance this project and also apply the tool to handle OTOP community.

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