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A Developing the Web Application Islamic Studies Lecturer Club of Bangkok

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Abstract

This paper proposed a developing the web application Islamic studies lecturer club of Bangkok and estimated the user's satisfaction that concerned the web application. The web application was designed and development as according to the System Development Life Cycle (SDLC) and the concept of Object-Oriented Programming (OOP) by UML, PHP, and MySQL. The population who concerned this research is member of Islamic studies lecturer club be under the department of education Bangkok metropolitan administration. This research was conducted by questionnaire and investigated attitudes total sample consisted of 105 staff members of Islamic studies lecturer club to the use of web application as a representative sample. The questions cover a mixture of attitudes and knowledge as well as capturing three parts. Firstly contents, secondly web design techniques, thirdly benefits and adoption for data collection and analysis in percentage, mean, and standard deviation by SPSS for Windows. The results for specific question scores (total members' satisfaction) indicated a significant is "GOOD" ($\mu = 4.04$). There were statistically significant digests into three parts. (1) Members who have satisfied in contents as a maximum scores ($\mu = 4.06$), (2) followed by members who have satisfied in benefits and adoption ($\mu = 4.03$), and (3) members who have satisfied in web design techniques ($\mu = 4.02$) respectively. The proposed web application results can be implemented actually and can be used according to user requirements.

Keywords: Web Application Development, Islamic Studies Lecturer Club of Bangkok.

1. Introduction

In today's interconnected world, computer networks, telephone calls, mobile phone texting, computer emailing, and instant messaging, are technologies that we are familiar with. People around the world can communicate anywhere at any time. Through their use, we are no longer hindered by our disabilities to reach out to others by distance or time, connecting people together effectively with ease. These technologies and information have become too much an integral part of our lives that we are trapped in its inescapable grasp of their uses in contemporary communication. [1] The Internet is a global system of interconnected computer

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networks that use the standard Internet protocol suite (TCP/IP: Transmission Control Protocol/Internet Protocol) to serve billion of users worldwide. It is a network of networks that consists of millions of private, public, academic, business, entertainment, and government networks, of local to global scope, that are linked by a broad array of electronic, wireless and optical technologies. It carries an extensive range of information resources and services, such as hyper-text, sound, animation, videos, and etc. Most communications media, new services, traveling, shopping, newspaper, book, teaching are adapting to web site technology. [2]

The academic website is one of novel teaching or tutoring that can be provided the highest quality instruction to tens of thousands of students in the process. Always provided in the most professional, flexible, and results-oriented environment, it offers maximum convenience for both teacher and student. The web services are intended to positively impact and help all students reach their full educational potential. Students can achieve and teachers are dedicated to helping students develop their self-confidence and subsequently their desire to succeed academically. Teachers can be designed the subjects covered are all encompassing of subjects taught in schools including every math, social, science, arts, and foreign language classes. Teaching or tutoring sessions use actual classroom assignment and curriculum so that what is learned can be directly applied to the assigned classwork. [3]

The Islamic studies lecturer club of Bangkok is a group of teachers who have taught in the subjects of Islamic studies. All-encompassing of subjects taught in primary school be under the department of education Bangkok metropolitan administration including social studies, religion, and culture. The club was established in order to facilitate, to encourage, and to develop the Islamic studies towards to be the efficiency and effectiveness. In the other words, how the Islamic studies lecturer club of Bangkok can promote teachers' professional development and can be accepted that the club play a crucial role in a development media of learning center in Bangkok. The club can be propagated knowledge in teaching Islamic studies. [4]

We had interviewed more people where questions are asked to elicit facts or statements from the members of Islamic studies lecturer. Interviewing, when considered as a method for conducting qualitative research, is a technique used to understand the problems of the club to gain insight into the club management. The problems are as following; 1) methods that a public relations spend a large of money to disseminate information without publication and communicate directly among them, including difficult to store and retrieve. 2) Lack of cooperation, media resources, and knowledge shared were "center practice" and "education technology" among them, especially, Islamic studies lecturer. 3) Lack of a web content management system is based on a belief that the sharing of ideas, experiences, and knowledge is what moves humanity forward between members of the club and Islamic studies lecturer. A web-based application is a medium is that they facilitate sharing of knowledge, information, learning media center, guideline in practices, activities and various services among them. [5]

Researchers concentrated to solve, define, and identify the problems by development the web application for club management, such as members, courses, organization structure, bulletin board system, guest book, center of knowledge sharing and collaboration, and etc. Web server will be provided full functions are to deliver web pages on the request of clients using the Hypertext Transfer Protocol (HTTP). This means deliver of HTML documents and additional content that may be included by a document, such as images, animations, any presentations, style sheets, PDF files and scripts. A user agent, commonly a web browser or web crawler, initiates communication by making a request for a specific resource using HTTP and the server respond with the content of that resource. Thus, all of member of the Islamic studies lecturer club of Bangkok can be fully communicated via the web application with various features.

2. Objectives

    i.   To develop a web application for the Islamic studies lecturer club of Bangkok.
   ii.   To estimate the user satisfaction those concern this web application.

3. Scopes

    i.   This research is a web based development for the Islamic studies lecturer club of Bangkok. Research can be classified an assessment of user satisfaction from three perspectives, such as contents, web design techniques, benefits and adoptions.

ii. Population mean that the human resources of the Islamic studies lecturers club of Bangkok who's worked in the year 2555 to 2556 (consisted of 105 staff members). According to a classify by the following; 15 of the Islamic studies lecturer club of Bangkok's committee, and 105 of the Islamic studies lecturer club of Bangkok who have taught in primary school be under the department of education Bangkok metropolitan administration.

iii. A group of representative sample refers to the population who investigated attitudes total sample consisted of 105 staff members of Islamic studies lecturer club of Bangkok.

4. Methodology

There are five major classifications of research designs. These include observational research, true experiments, quasi-experiments and development. Each of these will be discussed further below.

4.1 Types of Research Tools. There are two major classifications of research tools are following;

a) The web application for the Islamic studies lecturer club of Bangkok are built using web technologies the combines the versatility of the web with the features and providing an attractive alternative to the information management. The goal of this web application is to aid the development of rich and dynamic application for the relevant Islamic studies lecturer practices.

b) This research was conducted by questionnaire and investigated attitudes total sample consisted of 105 staff members of Islamic studies lecturer club of Bangkok to the use of web application as a user's satisfaction. There are three groups of the questions. Firstly, general information of the respondents. Secondly, the user satisfaction by using enhances the functionality and interoperability of web application as depending on the actual evolution of web technologies. And thirdly, comments and suggestions from the representative sample.

4.2 Creation and Performance Analysis Tools for use in Web Development. The web application was conducted as a system analysis and design by using performance tools are following;

a) We created a web application as a conceptual model called "System Development Life Cycle" (SDLC) or Software Development Process which is a process of creating or altering information systems, and the models and methodologies the we used to development these systems. An SDLC methodology follows the following steps: 1) Problem Statement; deficiencies are identified. This can be done by interviewing users of the system and consulting with support personnel. 2) Feasibility Study; the new system requirements are defined. 3) Analysis and design; plans are laid out concerning the physical construction, hardware, operating system, programming, communications, and security issues. 4) Development and testing; the new components and programs must be obtained and installed. Users of the system must be trained in its use, and all aspects of performance must be tested. 5) Implementation; the system is put into use. The new system can phased in, according to application or location and the old system gradually replaced. And 6) Maintenance; once the new system is up and running for a while, it should be exhaustively evaluated. Maintenance must be kept up rigorously at all times.

1) Server side: We are prepared the Web Server as part of managing all applications in the server environment. Due to the assigning a Domain Name as a named server: http://www.islambma.org. The web server involves: Installing the FreeBSD Unix as the operating system, installing Apache Web Server, installing PHP scripts, and installing MySQL database for storing persistent data. Enabling login as the Webserver user, user can be used a user name ("Admin") for logging into the server.

2) Clients side: The clients would then contact the web service (in the server), and send a service request asking for the weather information. The server would return the forecast through a service response. In case of a web developing, we are prepared a micro-computer or personnel computer (PC) as a virtual client-server to perform a web service. The virtual client-server involves: installing the Windows XP as the operating system,

installing Macromedia Dreamweaver CS6 as a web creation, installing Apache for Windows as a Web server, and installing Internet Explorer, Google Chrome and Mozilla Firefox as a Web Browser.

3) Testing and Implementation: System testing is an essential step for the development of a reliable and error-free system. Once source code has been generated, software must be tested to uncover and correct as many errors as possible before implementation. The final testing was done on the entire system to check that weather the desired specification and requirements are met or not by various web browsers, such as Internet Explorer, Google Chrome and Mozilla Firefox. Implementation is a phase that consists of bringing the new system into operation and turning it over the users. In this case, we can be uploaded all of source files to the server space (this means referred to http://www.islambma.org). When put the new system into operation, it is done in the parallel conversion way. In this approach the proposed run concurrently with the existing system, processing exactly the same data.

4) System Evaluation and Performance: In the previous step, as we referred to system testing of the developed system was performed in these three steps, such as unit testing, integrated testing, and system testing. We were invited two highly skilled specialists from King Mongkut's Institute of Technology Ladkrabang (KMITL). Firstly, Assoc.Prof.Dr. Kobchai Dejharn and secondly, Assoc.Prof.Dr.Somsak Mithata. They have experiences, skills, or achievements in web application. The objectives of the system evaluation are to determine whether the desired objective has been accomplished or not. Determining the merits and demerits of the proposed system over the existing is also covered in the system evaluation. This is concerned with the detailed study of the developed system, from implementation point view. At the end, some suggestions for the improvement of the system are coded.

b) User satisfaction questionnaire: We effort to develop the questionnaire for user interface satisfaction and make sure that the reliability of the questionnaire. It is a tool developed to assess users' subjective satisfaction with specific aspects of the human-computer interface. An effective user satisfaction questionnaire should focus on measuring user perceptions of how well the features, usability, and adoption of web application. Additionally, an advanced suit of analysis tools for analyzing user satisfaction. We were used two ways how to complete questionnaire as the following;

1) Learning and studying from academic textbooks, theories and as well as research relevant.

2) The focus of the research was the methods to the development and evaluation of questionnaires that measure user satisfaction with system usability of the web application. We focused to establish the quality of measures. Is a measure reliable in the sense that it is consistent? Given a reliable measure, is it valid (measures the intended attribute)? Finally, is the measure appropriately sensitive to experimental manipulations? The two highly skilled specialists were suggested us to use these methods to develop and evaluate questionnaire to assess usability.

4.3 System Analysis and Design:

We were focused on the study of sets of interacting entities and closely related to requirements analysis or operation research. We approached to the problem, work process and requirements of the club. We constituted the following steps: (1) the development feasibility studies, involving determining whether economically, organizationally, socially and technologically feasible. (2) Conducting fact-finding measure, designed to ascertain the requirements of the system's end-users, which are including interviews, visual observations of work on the existing system and questionnaires. (3) Gauging how the club members would operate the web application. We bought real problems into system analysis and design by using a UML (Unified Modeling Language). UML combines techniques from data modeling (entity relationship diagram), business modeling (work flows), object modeling, and component modeling. It can be used as following;

a) Use Case Diagram: A use case diagram is a representation of a user's interaction with the system and depicting the specifications of a use case. Use cases are our modeling tool for identifying and expressing the functional requirements of a system which are evolved out of object-oriented analysis. A use case diagram can

portray the different types of users of a system and the various ways that they interact with the system as shown in Figure 1.
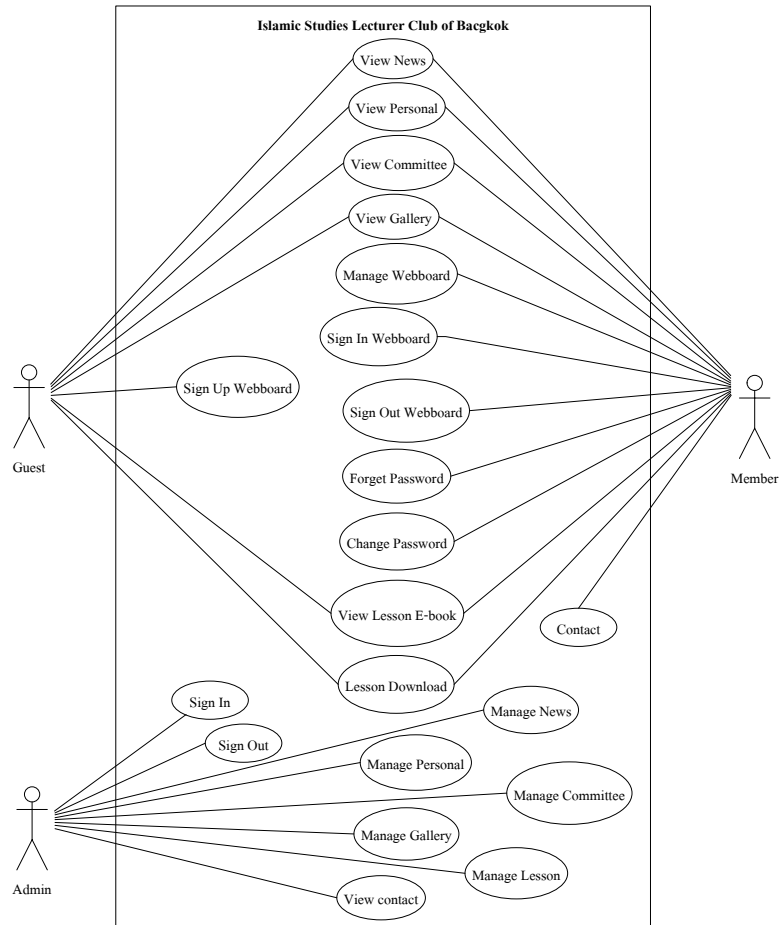

Fig.1. Use case diagram of Islamic studies lecturer club of Bangkok

b) Class Diagram: A class diagram is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among the classes. It is used both for general conceptual modeling of the systematics of the application, and for detailed modeling translating the models into programming code as shown in Figure 2.
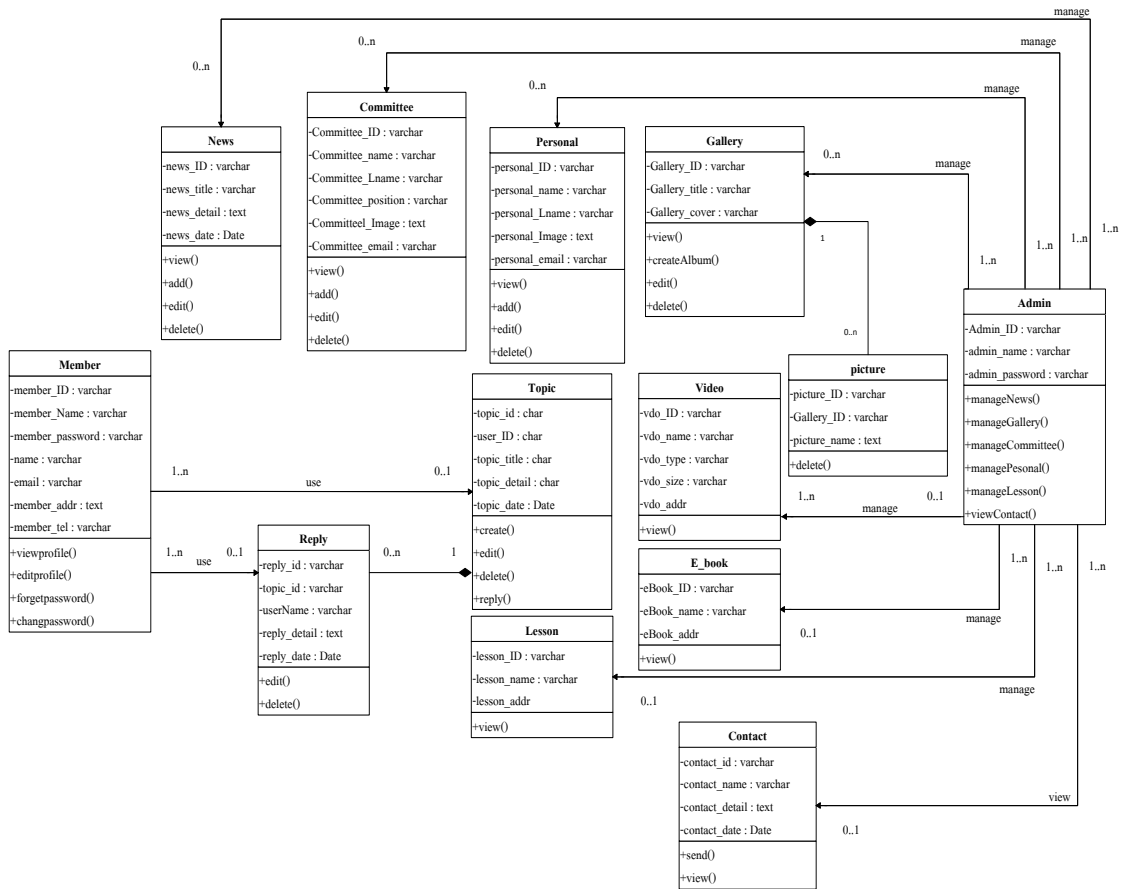
Fig.2. Class diagram of Islamic studies lecturer club of Bangkok

4.4 Data Collection:

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The researcher would employ probability sample from the Islamic studies lecturer club of Bangkok for data gathering include: (1) observing and recording well-defined events. (2) Administering surveys with closed-ended questions. (3) Obtaining relevant data from management information systems. According to accurate data collection is essential to maintaining the integrity of research, we selected the appropriate data collection instruments and clearly delineated instructions for their correct use reduce the likelihood of errors occurring as the following;

a) The researcher established rapport with potential participants (real target group) and therefor gain their cooperation by operating and handling based-on the web application. These operations yield highest response rates in a developing research actually. They also allow the researcher to clarify ambiguous answers and when appropriate, seek fellow-up information. They are more truthful while responding to the questionnaires regarding controversial issues in particular due to the fact that their responses are anonymous. These are useful and advantages for us to improve and investigate the web application as a greater than usability.

b) The researcher have been collected the questionnaires and played an important role in impact evaluation by providing information useful to understand the processes behind observed and operated results and assess changes in member's perceptions of their well-being.

4.5 Data Analysis:

Data analysis is the process of finding the right data to answer our question, understanding the processes underlying the data, discovering the important patterns in the data, and then communicating our results to have the biggest possible impact. It is a useful information, suggesting conclusions, and supporting decision making. The researcher classified the data into two groups: The first group is a numerical data, which is data measured or identified on a numerical scale. Numerical data can be analyzed using statistical methods, and results can be displayed using tables, charts, histograms, and graphs. In this case, the researcher can be generated the results of numerical data by using SPSS. The second group is qualitative data. Qualitative data is data that is not given numerically, which can be arranged into categories. The researchers aim to gather an in-depth understanding of member behavior and the reasons that govern such behavior. Thus, this research had been gathered both of group as the data analysis are followings; (1) we summarized the result using statistics, the mean (μ) and (2) the standard deviation (σ), and then concluded the results.

5. Result and discussion

5.1 Results

This research proposed the results analysis base-on both of qualitative analysis and quantitative analysis. The user satisfaction measures as a sustainable social welfare indicator includes society, economic and environment inevitable for the web application under five categories, such as the results of web application design, results of testing, estimation, data analysis and discussion. The analysis results of research are as following;

a) The results of research of the web application design: The web application includes of two parts are input design and output design. According to webpages are accessed and transported with the Hypertext Transfer Protocol (HTTP), which may optionally employ encryption to provide security and privacy for the user of the webpage content. The user's application, often a web browser, renders the page content according to its HTML markup instructions onto a display terminal. The researcher encompassed a web design base-on web graphic design and interface design. We are expected to have an awareness of usability for the Islamic studies lecturer club of Bangkok. We are provided of the three levels to permit the members to access multiple applications, such as administrator, the club's members and general users. These are two example webpages as shown in the Figure 3 – 4 respectively.
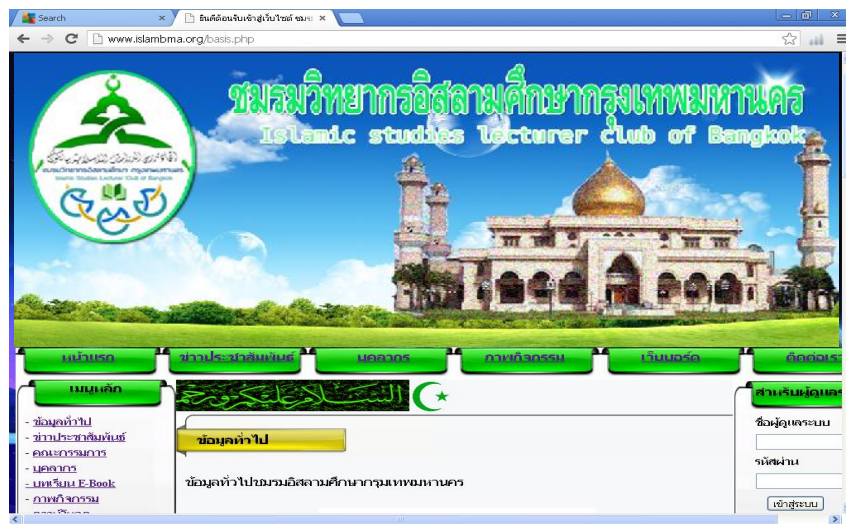

Fig.3. The Islamic studies lecturer club of Bangkok's Home Page

ระบบจัดการฐานข้อมูล

จัดการข่าว จัดการรูปภาพ จัดการคณะกรรมการ จัดการบุคลากร จัดการบทเรียน ข้อมูลผู้ติดต่อ ออกจากระบบ

รายการข่าวสาร

เพิ่มข่าวสาร

ชมภาพงานเปิดโลกอิสลามศึกษา กทม. แบบเต็มๆได้ที่   [แก้ไข] - [ลบ]
ร้องเรียน ส่งเสียง ตะโกนด่าทอ ขณะที่มี การอาซาน เข้าเวลาละหมาด   [แก้ไข] - [ลบ]
ข่าวเกี่ยวกับการต่อต้านอิสลาม กลุ่มต่อต้านอิสลาม ต่อต้านอิสลาม ยุโรป พวกต่อต้าน
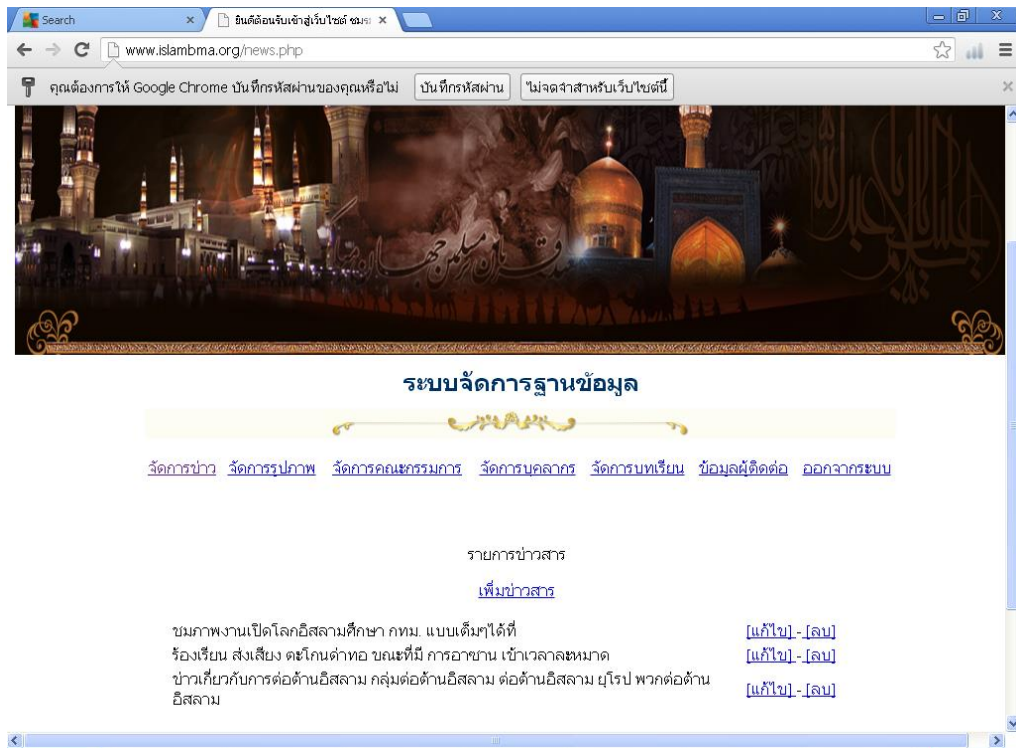อิสลาม   [แก้ไข] - [ลบ]

Fig.4. The Islamic studies lecturer club of Bangkok's Webpage for Administrator

b) General information of the respondents: We are summarized a completion rate (quantitative information) with the ratio of the number of completed questionnaires to the number of distributed questionnaires is what most users call to mind when considering response rates. these are concerned with the number who completed a given percentage of questionnaires (response rate statistics of this paper is 100 %) as following; (1) the extreme results of population gender are males (83.20 %), followed by females (16.20 %), (2) the extreme results of population age 41-50 (43.80 %), followed by 31-40 (29.50 %) and older 50 (4.76 %), (3) the educational background in Bachelor degree (71.40 %), followed by lower than a bachelor degree (23.80 %) and Master degree (4.76 %), (4) work experience is offered between 6-10 years (46.70 %), followed by 11-15 years (21.90 %) and more than 15 years (14.30 %), (4) the extreme results of ability to use the computer are "Moderate" (58.10 %), "Good" (28.60 %) and "Poor" (8.57 %) respectively, (5) the research has found cognitive ability to be used and associated the Internet, the results are "Moderate" (58.10 %), "Good" (28.60 %) and "Poor" (11.40 %) respectively.

c) The extreme results of research of user satisfaction indicated a significant is "Good" ($\mu = 4.04$). There were statistically significant digests into three parts. (1) Members who have satisfied in contents as a maximum scores ($\mu = 4.06$), (2) followed by members who have satisfied in benefits and adoption ($\mu = 4.03$), and (3) members who have satisfied in web design techniques ($\mu = 4.02$) respectively.

5.2 Discussion

According to the analysis of results of this research, the users can be affected for web application corresponding to length in the same direction, which is "Good". They were completed questionnaires that can be classified as the following;

a) Members who have satisfied in contents as a maximum scores (μ = 4.06), which was consistent with the result of research of Supas Klom-iang (2555) and Mangkorn Phocharaj (2555). This means that the web application encompassed of clarity, accuracy, completeness, users' friendly, interesting and can be put into action. An additional, due to the club objectives, user requirements, providing several of effective content, knowledge sharing and learning media center base-on Islamic studies. These are the real benefits are increasing trust among them. Thus, the researcher make sure that the content on the web application will provide the information needed by its users it will provide little in the way of value to their visitors who surf for information on many subjects. They require answers or solutions to their problems, needs, desires and wants. Provide the answers and they will return again and again. Due to Charnnarong Kaewkrajang (2555) said that content is a very important and the best tool for building relations with potential people. The information have to accurate, easy to read, easy to understand and will update or dynamic all times.

b) Members who have satisfied in the benefits and adoption (μ = 4.03), which was consistent with the result of research of Sirichai Namburi (2546), Mangkorn Phocharaj (2555), and Supas Klom-iang (2555). This means that the web application is the knowledge resources in the Islamic studies and can be provided the courses online. Additional, it is an intermediate between the club's committee and the Islamic studies lecturer. According to Paitoon Karnthanyaluck (2548) said that web graphic design, web formatted design, navigation and contrast of colors are influences to users who surf the information on the web.

c) Members who have satisfied in web design techniques (μ = 4.02), which was consistent with the result of research of Sirichai Namburi (2546), Mangkorn Phocharaj (2555), and Supas Klom-iang (2555). This means that the web application offered a good content, a good navigation, a well-designed and usability. It is to support and enhance the goals of the Islamic studies lecturer club of Bangkok. It has to be functional, work correctly, always be obvious to visitors how to get where they want to go or download, make a powerful medium is that it is interactive and provides instant access to an incredible depth of information, which is take full advantage of these capabilities. According to Wimol Thaveekul (2550) and Internet Innovation Research Center of Thailand (2553).

6. Conclusion and Suggesstion

This research identified a user satisfaction of the Islamic studies lecturer club of Bangkok who concerned with the web application. Some members were commended or suggested to support more than functional, such as spread of widely to another group of user (don't fixed only Bangkok), providing E-training, E-book and interactive learning media.

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