

STUDENT-UNIVERSITY COMMUNICATION MEDIA USING WEB 2.0

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ABSTRACT

Web 2.0 has become very widely to develop many web-based systems. Web 2.0 tools have changed the nature of web-based applications especially those are used for communication purposes. The Forums, Wikis, Blogs, Social Networking, Video Sharing and other Web 2.0 tools are used to communicate web users with each other in effective way for many purposes. In Universiti Teknologi Malaysia (UTM), the communication process between postgraduate students and School of Graduate Studies (SPS) is done by Face-to-Face, phone, fax, Email and post. There are many communication problems encountered by the postgraduate students before and after they registered as students. This project was conducted to propose a Student-University Communication Media model using the Web 2.0 and use it to develop a prototype of Web 2.0-based Student-University Communication Media Portal. The Object Oriented Approach was used to develop the prototype of Web 2.0-based Student-University Communication Media Portal. Eventually, the prototype was implemented and tested. However, the organizational strategy of implementing the prototype by SPS was formulated. The User Acceptance Testing was conducted by thirty users with more than 95% of them satisfied with the developed portal and confirmed that it is easy to use, functional and useful.

ABSTRAK

Web 2.0 banyak digunakan untuk membangunkan pelbagai jenis sistem berasaskan web. Perkakasan Web 2.0 telah mengubah penggunaan aplikasi-aplikasi berasaskan web terutamanya perkakasan yang digunakan untuk tujuan komunikasi. Perkakasan seperti Forum, Wiki, Blog, Rangkaian Sosial, Perkongsian Video dan lain-lain perkakasan Web 2.0 digunakan untuk berkomunikasi antara pengguna dengan efektif untuk pelbagai tujuan. Di Universiti Teknologi Malaysia (UTM), proses komunikasi antara pelajar-pelajar pasca ijazah dengan Sekolah Pengajian Siswazah (SPS) dilakukan secara bersemuka, fax, email dan pos. Terdapat pelbagai masalah komunikasi yang dihadapi oleh pelajar pasca ijazah sebelum dan selepas mereka berdaftar sebagai pelajar. Projek ini bertujuan untuk mengenalkan model media komunikasi pelajar-universiti dengan menggunakan Web 2.0 dan menggunakannya untuk membangunkan sebuah prototaip portal Web 2.0 media komunikasi pelajar-universiti. Pendekatan berasaskan objek digunakan untuk membangunkan prototaip portal Web 2.0 media komunikasi pelajar-universiti. Prototaip ini diimplementasikan serta diuji. Walau bagaimanapun, strategi organisasi untuk mengimplemmentasikan prototaip oleh SPS diformulasikan. Ujian penerimaan pengguna dijalankan terhadap tiga puluh pengguna dimana lebih daripada 95% antara mereka puas hati dengan portal yang dibangunkan dan mengesahkan bahawa ia senang digunakan, berfungsi serta berguna.

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

Universiti Teknologi Malaysia (UTM) is the largest engineering-based university, located at the southern section of Peninsular Malaysia. It is well-known for being the pioneer of engineering and technological knowledge and expertise. UTM has more than 10 research alliance, and 28 centers of excellence, in addition to academic faculties. There are more than 16,036 full-time undergraduate students at UTM and more than 5,000 enrolled on distance learning programmes as part-time students. In addition, there are 6432 postgraduate students, 1762 of them are international students in various fields of specialization. Since the 1990s, the number of International students has been increased, especially in postgraduate programs. (www.utm.my, 2010).

UTM serves students by providing many web-based systems. In addition to the UTM website, there are E-Learning System, Online Registration System, Online Application System and other systems, which are Web 1.0-based systems.

Web 1.0 is the first generation of the World Wide Web (WWW). The Web 1.0 sites are static, which contain information that might be useful, but there's no reason for a visitor to return to the site later. An example might be a personal Web page that gives information about the site's owner, but never changes. Also, Web 1.0 sites are not interactive, which means that the visitors can only visit these sites; they can't impact or contribute to the sites. And Web 1.0 applications are proprietary, which means that under the Web 1.0 philosophy, companies develop software applications that users can download, but they can't see how the application works or change it. (Strickland, 2010)

In the current UTM website and its online systems, the students' interactions and contributions are very weak. Furthermore, online communication between students and the university is not provided, except the use of E-mails. This project is aimed at developing a Student-University Communication Media Portal using Web 2.0.

Web 2.0 is proposed because it facilitates interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web, examples of Web 2.0 are web-based communities, hosted services, web applications, social-networking sites, video-sharing sites, wikis, blogs, forum, and other tools. A Web 2.0 site allows users to interact with each other, or to change website content in contrast to non-interactive websites where users are limited to the passive viewing of information that is provided to them (Wikipedia, 2010).

The term Web 2.0 is closely associated with Tim O'Reilly because of the O'Reilly Media Web 2.0 conference in 2004. Although the term suggests a new version of the World Wide Web, it does not refer to an update to any technical specifications, but rather to cumulative changes in the ways software developers and end-users use the Web. (O'Reilly 2005)

This chapter contains the problem background, problem statement, objectives, scopes, significance and summary of the project. The continuing sections of the project are categorized into the following chapters: Literature Review, Research Methodology, Analysis, Prototype Design, Implementation and Testing, Organizational Strategy, and Discussion and Conclusion.

1.2 Problem Background

Although UTM has many online web-based systems, the current student-university communication media are e-mail, phone, post, and fax. There is no web-based communication system in place. The students need to use these media in order to enquire about admission requirements, online application status, UTM rules and services, and to solve any academic or non academic issue.

For example, the process of admission can be done while in the university, by posting the documents, or by using the online application system. The School of Graduate Studies (SPS) is the responsible unit in UTM for the communication with postgraduate students. Every semester, more than 3000 postgraduate students apply to study in UTM using the online application system (according to SPS Assistant Registrar) , but many students are rejected due to many reasons, one of which is the miscommunication between SPS and students, especially the international students. The SPS staffs use the phone, fax, post, and electronic mail to contact students in case of further requirements, missing documents, incomplete application, or other problems. But, because of the huge number of prospective students and their problems, it is too difficult to solve all of their problems. Moreover, some prospective students still send the admission documents by email to their friends who study in UTM in order to get admissions.

Also, the UTM and SPS websites provide information in the form of text and downloadable forms, which are misunderstood by many students who need more explanation or want to enquire and discuss about this information online.

The use of the current communication media has many drawbacks; for example, the use of phone is expensive, misunderstood in some cases, and not sufficient in case of filling forms. The huge number of E-mails could not be managed and answered well, and might be sent to the wrong destination. The post is considered very slow and expensive compared to the online communication. Fax also is rarely used as a communication media.

However, the researcher concluded that most students and SPS staffs are not satisfied with the current communication media regarding to the cost, time, and efficiency, based on the conducted surveys and interviews.

Therefore, there is a need to have web-based communication media in UTM in order to overcome the students' communication problems, before and after students' registration. The Web 2.0 technology tools are proposed to be used in this Student-University Communication Media Portal.

1.3 Problem Statement

Due to the above mentioned reasons, this project will be done for answering the following questions:

- 1- How can the communication problems of SPS with postgraduate students be overcome using Web 2.0 technology?
 - i. What are the communication problems that are faced by the postgraduate students in SPS?
 - ii. How to identify the main requirements to develop Web 2.0-based Student-University Communication Media Portal between SPS and postgraduate students?
 - iii. How to propose the Student-University Communication Media Portal Model?
 - iv. How to develop the Web 2.0-based Student-University Communication Media Portal?
 - v. How to implement the Web 2.0-based Student-University Communication Media Portal by SPS?

1.4 Objectives of the Project

To be able to answer the problem statement questions, the researcher has identified five main objectives to be achieved as the end result of the project:

- i. To identify the current communication problems and the appropriate requirements needed by postgraduate students and SPS staff.
- ii. To study and analyze the critical requirements of a Web 2.0-based Student-University Communication Media Portal.
- iii. To propose a model of Student-University Communication Media using Web 2.0 to be used in SPS.
- iv. To develop a prototype of Web 2.0-based Student-University Communication Media Portal.

- v. To formulate organizational strategy for implementing the Web 2.0-based Student-University Communication Media Portal by SPS.

1.5 Scopes of the Project

In order to achieve the objectives stated in the previous section, it is important to specify the study area and boundaries, which are stated in the following points:

- i. Because the most communication problems are faced with SPS, this project with focus on this UTM units.
- ii. Study and analyze the communication problems and requirements needed by the postgraduate students and SPS staff.
- iii. Because the most communication problems are faced by the international students before and after they come to UTM, most of the requirements will be taken from them.

1.6 Significance of the Project

Conducting this research will help assist both postgraduate students and SPS staff to overcome the communication problems. Developing new communication media using Web 2.0 will help UTM from the following perspectives:

1.6.1 Students Perspective

- i. The Web 2.0-based Student-University Communication Media Portal will help the postgraduate students outside Malaysia to contact UTM faster, easier, cheaper, and effectively.
- ii. The postgraduate students in UTM will save more time by solving their problems online.
- iii. The postgraduate students will be more satisfied with the communication media and UTM online services.

1.6.2 UTM Perspective

- i. The Web 2.0-based Student-University Communication Media Portal will help SPS to solve the postgraduate students' problems easier and faster.
- ii. SPS staff will be more comfortable and satisfied with the new communication media and they can solve postgraduate students' problems properly.
- iii. The proposed portal will reduce the time and cost of answering or making phone calls, especially the overseas calls.
- iv. The new communication media can be considered as advantage for UTM.
- v. Improve and enhance the UTM online services.

Interview with SPS Staff

- 1- What are the most important processes that need a communication with students?
- 2- For each process,
 - a. How do you currently contact with students? What is the most communication media used to contact with students?
 - b. What are the important types of information to be exchanged?
 - c. Is the current communication media sufficient to solve students' problems?
 - d. Do you need a new communication media that depend on the web to exchange information and allow students to enrich the SPS Website Data?
- 3- For the Perspective Students, SPS Website provides a list of useful links that may not cover all the students' cases.
 - a. Do you need a General Forum or Online Chat to allow prospective students to ask about their specific needs?
 - b. The information in SPS Website are scattered and very difficult to find a desired one, do you need to re-organize the Information to be easy to retrieve and search?
 - c. Can we allow users to add some contents as (Blogs) or (Wikis) to enrich the information related to SPS?
 - d. After the perspective student apply online application, can he use his account to contact with specialist clerk?
- 4- For the Online application, the most important application used by all the perspective students.
 - a. What are the processes that must be done online to get offer letter ? (9 processes)
 - b. How do you contact students with every process to solve any problem?
 - c. After the students apply and get account, can they enquiry about their status and discuss about any problem? How? Can be solved online?

- d. As the website shows, in the case of any trouble/problem, the way to communicate with students is the phone or the email. Is that enough to solve all students' problems?
 - e. Should every perspective students have an account with ability to enquiry and discuss about their problem online?
- 5- For the current students, the SPS Website provides information about Calender, Important Dates, download Tuition fee forms, time table for university elective subjects, and three links for course registration and records.
- a. The same problem of non-organized information. Can we re-organize the information to academic and non-academic?
 - b. The information is not clear for those who are new students, like the ACID account. Can the students have Forum/chat/blogs or any type of online discussion to explain that useful information clearly?
 - c. The current students are very important category in the SPS website, but it contains very poor information and it's very static. Can students have online community to be the voice of all postgraduate students? (by using forums/blogs and etc).
 - d. Can we use the ACID account to be communicate with SPS online to solve any problem?
- 6- In the related part (category) : Student Life. It contains a list of links, most of them are not working. The working links are: (CICT), PSZ, counseling links.
- a. Can we provide an online community for post graduate students, by which they can share their knowledge/expertise and enrich the UTM-related information?
- 7- The Fifth category in the SPS website is the Academic Resources. It contains a list of downloadable forms.
- a. Can we provide a way of online discussion or advanced way of search to get the required information?
 - b. Can students consults SPS Clerks online to solve any academic problem?
- 8- The sixth category in SPS website is for Non-Graduate students. It contains tow downloadable forms.

- a. Can they use online way of communication with SPS Staff to enquiry about any information or solve any problem as we mentioned before for the current students?
- 9- The News in SPS are shown in the right side of the SPS Website.
- a. Can we find a way to send these news/updated news to students?
- 10- In the (contact us) part, can we use online way to contact rather than email and phones? Which one you prefer?
- 11- Finally, Are there any other problem (not related to the SPS website) that encounter SPS staff during contacting students? Can they be solved online? By chat, forum or any web2.0 tools ?