CollaborateIT: A CCS IT Thesis Portal with Electronic Document Management System

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Abstract: One of the most significant stages of college is the thesis stage. This is the last major project a student must undertake before he/she can graduate. With that, it is important that the processes during this stage are done efficiently and accurately so that the students can provide an outstanding thesis.

This paper presents the development of a Portal with Electronic Document Management System for the Information Technology Department under the College of Computer Studies of De La Salle University - Manila. The system covers the entire thesis process as well as the document management of the different thesis documents. The main objective of this system is to provide a portal that can help better track and accomplish the thesis cycle.

The main problem that stood out from all the other problems gathered while developing the system was time. The proponents conducted interviews with the different people involved to gather relevant data and comments to help solve the problem. Based on the data gathered, the proponents came up to a solution which there will be one channel where the students and faculty can discuss their thesis. Through this system, the proponents were able to maximize the time of both the students and faculty when dealing with their thesis. The time saved can be used for other work that may contribute to the productivity of faculty and students.

At the end of the development phase, a test was conducted for the users. The results of the User Acceptance Testing done were positive. The system was able to solve the problems presented in the paper. The feedbacks of the users were also considered to improve the system.

Key Words: Thesis Management; Portal; Electronic Document Management System; Google Calendar; Scheduling

1. INTRODUCTION

Today, many industries use information technology in providing information and services to their customers. It is helping people in their day-to-day activities by granting access to a wide range of information that interests them. People can also access important information in systems that they are part of which will help them to easily view information that are related to them like work, school and personal relevant information.

A portal is a system that serves as a centralized place for accessing different resources in the Web (Atlantic Webfitters, 2014). It gathers information from different sources and put it all together in a single place which can help in accessing information by several users. It provides the users with a single point of content, data, and services. It can be personalized depending on the role of the user in the organization (Eldrandaly, 2009). There are different types of portal: general, community, horizontal, vertical, enterprise, personal, and niche. Community Portal is a system where the users are of same group of interests (Tatnall, 2005).

Electronic document management system (EDMS) helps in managing documents electronically (Minnesota Historical Society, 2012). Moreover, EDMS provides security of information while it still allows easy access of the users to the electronic document (Oakleigh Consulting Ltd, 2007). The process of EDMS has to do with capturing, storing, indexing and retrieval. It improves the accessing of information by the users of the organization wherein they can easily search and retrieve the documents needed. Also, there will be security in such a way that the only authorized users are allowed to access the particular documents. (ND Information Technology Department, 2014)

With these concepts, the proponents were able to come up with a system that incorporates EDMS into a portal which is the CCS IT Thesis Portal with Electronic Document Management System. The portal would be handling the entire thesis process, which starts from after passing the proposal stage up to the submitting of the final thesis project, as well as the document management of the thesis documents, which involves the storing, indexing and retrieving of thesis documents, in the IT department under the College of Computer Studies of De La Salle University.

2. METHODOLOGY

The proponents have chosen the Rapid Application Development (RAD) methodology for this study. This methodology is composed of four phases such as requirements planning, system design, construction, and cutover (Rosenblatt, H. & Shelly, G., 2012). It lets the users to be involved from planning to the development of the information system. It speeds up the development process as the users help in providing feedbacks and comments regarding the system being developed in order to know if the requirements of the users are considered.

The proponents chose this methodology because of the limited time they were given to complete the system. Even though the time was limited, the proponents were still able to consider the quality of the system and the needs of the users. It is because the users were involved while developing the system which helped in gathering feedbacks regarding the system and improving it.

During the initial phase, the proponents conducted interviews with the different contact persons of the organization. The proponents studied the complete process of the organization and analyzed the problems that the project can address. After the first phase, the proponents proceeded with the development of the system. The proponents would also schedule meetings with the organization to present the system and to ask for their feedbacks regarding the prototype. The proponents would then address the feedbacks of the users then present it again until the users are satisfied with the system.

In order to ensure that the information system developed works based on the needs of the users, a User Acceptance Testing (UAT) was done. The system was presented and used by the CCS IT professors as well as the students taking up thesis. In this way, the suggestions and comments of the

users, as they go through the whole system, will be able to be discussed and worked on.

3. RESULTS AND DISCUSSION

The conceptual framework presents the different modules of the system. The problems that the modules addressed are incorporated as well as the users of each module. In addition, the inputs, outputs, features, and tools and technologies used can be seen. The portal is composed of nine modules: preparation, request, consultation, defense scheduling, evaluation results, revisions, document management, report generation, and consultation and announcements.
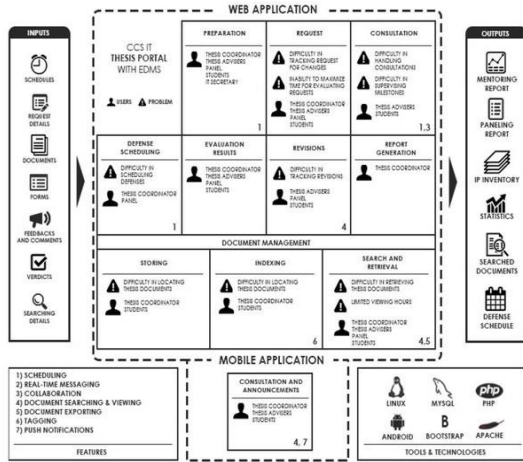

Figure 1. Conceptual Framework

3.1 Preparation

This module handles the process of registration of the group, selection of adviser, encoding of group details, posting of announcements, uploading of thesis students, and scheduling of milestones. In the registration, the thesis coordinator would need to upload students who passed the proposal stage. Once it is done, the students would be receiving an email informing them to register their group in the portal. For first time log-in, they would need to update their password and there is a facility to connect their account to Google calendar. For groups that have

registered already, the thesis coordinator needs to upload the enrolled students for the system to determine the groups enrolled for the current term.
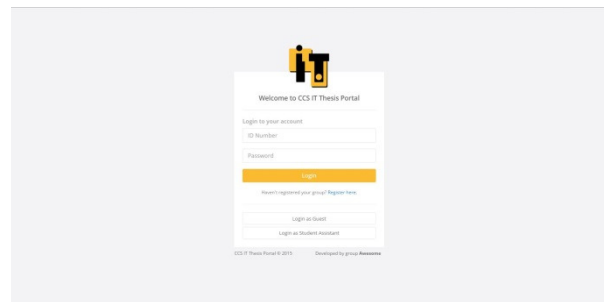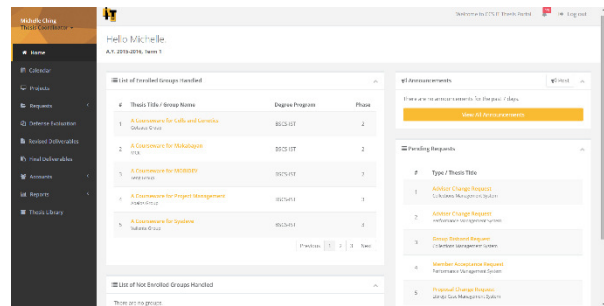

Figure 2. Login

Figure 3. Homepage

3.2 Request

This module handles the process of request for changes in proposal, grouping, and adviser, as well as requesting for an early defense. It allows the submission and evaluation of requests and assigning of evaluators. The students can upload the documents needed for the different requests which enables the evaluators to view. Evaluators can also comment and ask question or additional documents during the evaluation of request.

3.3 Consultation

This module handles scheduling of consultation, uploading and viewing of milestones/deliverables, and submission of endorsement/approval. The scheduling of consultation enables the students or the advisers to schedule a consultation. The schedule could be connected to their Google calendar

depending on their preference. It allows them to decide on the consultation through the portal or their Google calendar. Students can upload different chapters of their document or screenshots of the system. The uploaded files could then be viewed by the adviser for him/her to evaluate it. Basically, it allows consultation without physically meeting. The advisers can view the progress of the groups they are handling which will aid them in deciding the endorsement.
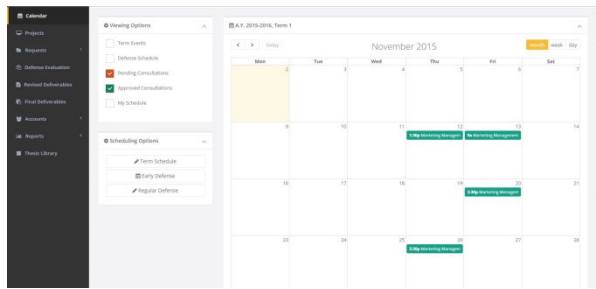

Figure 4. Calendar

3.4 Defense Scheduling

This module allows the thesis coordinator to automatically generate a suggested defense schedule. There are two suggested schedules generated where the thesis coordinator can choose from. Upon choosing, thesis coordinator could still make necessary changes on the schedule. The module also gives suggestions on the alternative schedule and evaluators. In addition, groups that are not endorsed could be removed and the defense schedules could be sent in the email of the students and faculty.
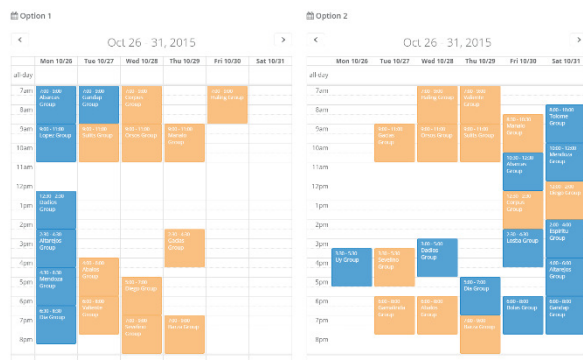

Figure 5. Defense Scheduling

3.5 Evaluation Results

This module allows the encoding of grades and the verdict. For groups who are on the last stage, it enables the thesis coordinator to already indicate the awards that the different groups are nominated for and confirm it at the end of the term. It also allows the thesis coordinator to schedule a presentation for groups who are nominated for most outstanding thesis award as well as entering the result.

3.6 Revisions

This module includes uploading and evaluation of the revisions list. The thesis coordinator would be uploading the revisions list of the groups. The groups would need to upload the parts of the document that are needed to be revised. Once it is uploaded it can now be evaluated by the panel. Before deciding on the revisions, the panel could request for additional changes or schedule a physical meeting if they want to see the revised system.

3.7 Document Management

The document management module is divided into three: storing, indexing, and search and retrieval. The storing handles the storage of approved proposal documents, thesis documents, teaser videos, request forms, and other documents uploaded in the digital repository. The indexing handles the encoding of information about the document. It also includes tagging that would be used for easier searching. The search and retrieval module allows the users of the system to search for the thesis documents in different ways and view it. Moreover, it allows users to view teaser videos and download some chapters of the thesis document.
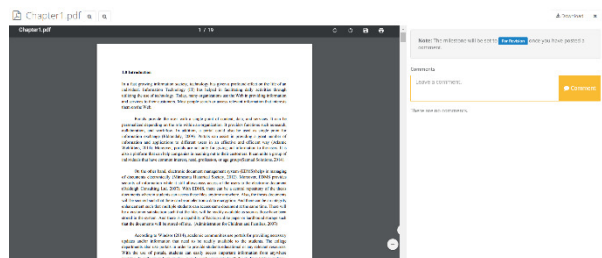

Figure 6.Document Viewing

3.8 Report Generation

This module includes generation of report that are needed to be prepared by the thesis coordinator. The reports included are Mentoring Report, Paneling Report, Adviser Report, Term Grades, IP Inventory, and Library Log.

Figure 7.Reports

3.9 Consultation and Announcements

This module is for the mobile application which is an extension of the system. It allows the users to post announcements, evaluate deliverables, and decide on the consultation schedules. There is also a notification about the consultation, deadlines, and reminders.
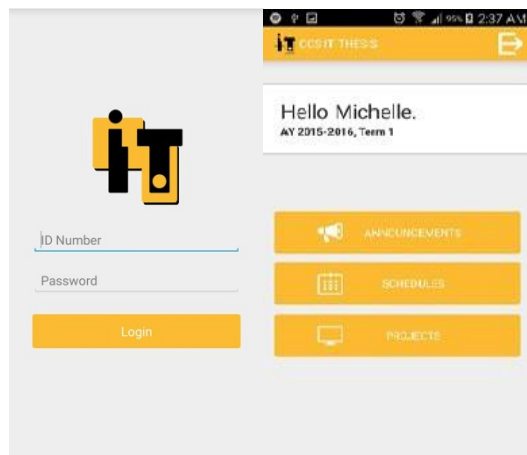

Figure 8. Login & Homepage for the Mobile version

4. CONCLUSIONS

During the beginning of the project, the proponents have identified several problems from the current processes of the organization through the use of gap analysis. Most of the problems identified were concerned with the time needed for a process. Also, they were also concerned with the number of people involved in a process such as only one person can do a task at a time.

Having a system like this allows the faculty to save time and increase productivity since their tasks can be done without the need to wait for other faculty members such as when they are evaluating requests and documents. Through the system, a defense schedule can also be created. This is one of the most time consuming process which the thesis coordinator will have to manually create before by comparing each Enrollment Assessment Form (EAF) of students.

For students, it is expected that with the implementation of this system, they will have a more convenient and better thesis stage. This system will allow open a better communication between them and the faculty members.

With the completion of this system, the proponents have also pointed out some enhancements that can be done. For the consultation process, the proponents recommend that users shall be able to comment on the pages of the documents uploaded. By doing so, it will be easier for the users to correct the comments typed into the pages. For the evaluation process of BSCS-IST students, the proponents recommend to allow the panelists to be able to highlight and comment on specific parts of the document. To avoid plagiarism, a plagiarism checker for the system is also recommended. This will allow the system to check if there are any copied parts from other sources. And lastly, the proponents recommend the improvement of the current mobile application created for the system.

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