CHAPTER 1
INTRODUCTION

Project Context

In an age of booming technology, computer is a basic need for businesses or companies. The discovery of computers is one of the greatest inventions of human. Undeniably, technology has become an integral part of the way business is done.

The importance of the advancement of technology in the universities is centered on the innovations' capability to protect data and improve the way it is accessed, used, and stored. Eliminating the manual procedures and replacing it with computerized or automated systems are that significant since data will be converted into a digital form that is more secured, easily transferrable, widely accessible, and can be used for enterprise-level transactions and operations. Thus, migrating from manual to advanced systems will improve the productivity and efficiency of personnel in the schools and universities.

Today, different universities and institutions are aiming to enhance their current services through technology innovations. One aspect that they are pursuing is to have an advanced system in their services that would allow conversion of the manual system into a computerized system to give excellent and efficient services to their clients. Each student has to write a thesis to finally finish his (or her) studies since to complete a thesis is indeed an important practice course for students. One way to make the thesis checking more efficient is to create a

workflow management system, it is a software system for the set-up, performance, and monitoring of a defined sequence of tasks, arranged as a workflow.

At present, the CECS department of Batangas State University Malvar Campus has a manual way of checking the thesis revisions of the students. First, the students will go to their adviser to check their revisions in their thesis documentation. After the checking, the adviser will give it back to their advisory group so that they can revise it and the process goes on until it is ready to be checked by the editor and the chairman of the panel of examiners. This process of checking has a lot of drawbacks. Traditional manual way of checking causes heavy workload not only for the students but as well as the advisers and the panelists. Also, because of the manual way of checking, there is lack of proper communication. There are times where the students and their advisers or panelists are not there to check the students' thesis documentation.

Since the department is primarily about the advancement of technology, the manual checking should be enhanced. Considering the aforementioned situations, the developers decided to develop a workflow model for the student's thesis management. It allows the administrator to manage the uploaded thesis documentation files. The administrator can also manage the users and track the location of the thesis documentations. This system also allows the leader of the group to have an account and upload the softcopy of their thesis documentation softcopy and track the progress of the revision. Through this, thesis checking

would be more efficient not only for the students but as well as for their advisers, panelists, and chairman. Also, through the developed system, the administrator will see how many thesis documentation are done with the checking.

The main concept of the developed system is to ease the way of checking the thesis documentation of students. It is helpful for the students and also for the thesis committee in thesis checking by the use of the developed system.

Purpose and Description

Currently, the campus does not have an automated system for checking the students' thesis documentation. In order for the advisers, panels, and chairman to check the students' hard copy of their thesis, they made use of the traditional manual way of thesis management process. The developers intend to eliminate the traditional way of checking of thesis documentation and develop a thesis management system using a workflow model that would make the process of thesis revision of students become more organize and efficient.

The system is composed of three interfaces. One is for administrator that would manage the user accounts, wherein the administrator can provide accounts for the thesis committee. The administrator can also evaluate the progress of each thesis documentation. Second is the interface for the student, wherein the leader of the group can upload their thesis soft copy that is to be revised and tracked the progress of their documentation. Lastly, the interface for the thesis committee

wherein they can download the student's thesis documentation soft copy and send it back to the thesis leader when they are done with the comments.

The project would be of great benefit mainly to the students of the College of Engineering and Computing Sciences of Batangas State University Malvar Campus for it will reduce the heavy workload of thesis checking done in manual way. The school can also assure that they can adapt to the trend of modern technology.

The advisers, panelists, and chairman of the students would benefit a lot through the use of the developed system. It will be easier for them to check the documentations because it will require less face to face interaction and would avoid lack of communication. They can also easily monitor the progress of the thesis revisions.

The study is also significant to the developers for it will enhance their skills in computer programming and system development. Likewise, it would also be beneficial to other researchers as a reference for future studies.

Objectives of the Study

The main objective of this project is to develop and apply a new innovative process of thesis documentation checking of the department.

Specifically, the project aims to fulfill the following:

1. To develop a module where:

    1.1 thesis leaders can upload the soft copy of their thesis manuscript;

1.2 department chair and research instructors will be provided with an account;

1.3 instructors can check documents online; and

1.4 thesis committee can provide a comment using online editor.

2. To incorporate analytics feature that evaluates the progress of the thesis documentation of the students;

3. To test the developed system in terms of its:

3.1 functionality;

3.2 usability;

3.3 efficiency; and

3.4 reliability

4. To develop an implementation plan of the developed system;

Scope and Limitations

The developed system would focus mainly on giving an easier way of checking the thesis manuscript of the students. It will save time and effort in evaluating and editing the thesis documentation of students. Having a computerized thesis documentation checking system will lessen the work of the involved persons.

However, the system is only limited to the students, advisers, panelists, and department chair of College of Engineering and Computing Sciences. The thesis management system will be designed and developed intended only for the thesis leaders, advisers, panelists, and chairman since the structure of the system is

created specifically for the College of Engineering and Computing Sciences. The tracking and evaluation of progress will be given to the users in an appropriate and fastest time. The students may register to the system and upload their thesis documentation and receive feedbacks from whom they have sent their documentation. The advisers, panels, and chairman may download the thesis documentation sent by their students and put comments on it on the online editor. Only PDF files can be uploaded to the website. The grammarian prefers to check the thesis documentation of students in a manual way so the grammarian is not included in the process of checking using the website.

The online editor, which is the PDFZorro is only available for the thesis committee, the thesis leader cannot edit their thesis documentation on the said online editor. The PDFZorro only accepts pdf file extension.

The thesis management system works through the use of internet connection. It can be opened using the internet even outside the campus environment. The system is only for those stated above and it also provides a database to store all the documents. This project does not include the other department programs and other related processes in which are not mentioned.

Definition of Terms

In order for the readers to easily understand the terms used in this study, the developers defined the following terms conceptually and operationally. A conceptual definition is defining a term that is from a dictionary and other

reference materials like encyclopedia or online references while an operational definition is defining the term on how it is used in developing the system.

Administrator. Someone who can make changes on a computer that will affect other users of the computer [1]. In the developed system, the administrator is the one who manages the user accounts and provide accounts for the thesis committee.

Analytics. The discovery, interpretation, and communication of meaningful patterns in data. Especially valuable in areas rich with recorded information, analytics relies on the simultaneous application of statistics, computer programming and operations research to quantify performance [2]. In the developed system, analytics is represented through the progress evaluation of checking and statistics of thesis documentation that are done.

Portable Document Format (PDF). It is a file format used to present and exchange document's reliability, independence of software, hardware, or operating system [3]. In this project, the developed system only accepts pdf extension thesis files.

ISO 9126 Standards. It is the standards that address some of the well-known human biases that can adversely affect the delivery and perception of a software development project [4]. In this project, the developers evaluated the quality of the software in terms of the system's functionality, efficiency, reliability and usability aligned with ISO 9216 standards.

Repository. A receptacle or place where things are deposited   and stored [5].In the developed system, repository is a part of the system that is to be developed because it will be a storage of thesis documentations.

PDFZorro. It is a fully online pdf editor. The online editor can add comments, delete text, rotate or extract pages. [6]. In the developed system, PDFZorro is the application that is used to let the thesis committee put comments on the thesis file that is sent by the thesis leader.

Workflow System/Workflow Model. The process of monitoring of a defined sequence of tasks [7]. In the study, the developers used the workflow system for the consecutive thesis checking processes from the adviser to the chairman

.

CHAPTER 2
REVIEW OF RELATED SYSTEMS

This chapter consists of related systems that the developers have found as the basis to the developed system. Related information that was gathered from internet, articles, thesis, and dissertations were also presented here.

Technical Background

Since the developers observed the manual way of thesis checking, the developers needed basic information for the development of the system.

The developers gathered information from the CECS' office of the campus in using the manual system and to determine the problem of the current system. Upon observation, the developers have seen the process of the manual checking of the thesis documentation of the students. All the processes are done manually from the checking of the adviser up to the chairman. Therefore, the developers planned on how to solve the encountered problem based on the current system. The developers decided to develop a thesis management system using a workflow model.

Technically, the developers considered the use of different tools and features to achieve the desired thesis management system using workflow model that will help the students, research instructors and chairman of CECS Department in Batangas State University-Malvar Campus. The developed system was developed using several software tools. These software tools that were selected based on its characteristics and capability including the software effectiveness and

efficiency. It is a window-based application which runs only on Windows-based Operating System.

MySQL is an integrated environment for accessing, configuring, managing, administering, and developing a database [8]. The developers used this as the database of the developed system because it is much easier to manipulate as well as it has a user-friendly platform. It can also carry large databases that fit in the system. In addition, MySQL helped the developers in running a server that is a providing multi-user access to a number of databases; it has a good quality like scalability and flexibility.

Hypertext Pre-processor (PHP) is a server-side scripting language designed for web development and also used as a general-purpose programming language [9]. The developers used this in creating web pages and composing websites. The developers selected this as the programming language in building and configuring the web application rapidly at a certain period of time.

The Hypertext Markup Language also known as HTML, is the set of markup symbols or codes inserted in a file intended to display on a world wide web [10]. The developers used this because it is the most appropriate for the system to run at its best, aside from it is very easy to use. HTML is also a great help to the developers in designing the interface of the website to define the structure and layout of a web document by using a variety of tags and attributes.

PDFZorro is used as the online editor link that is used in putting comments on the thesis file uploads of the students. It is easy, fast and free. The application can add comments, delete or rotate pages and many more in a pdf file. The developers used it so that putting comments can be easy because it is a user friendly application.

A workflow model is a series of tasks to produce a desired outcome, usually involving multiple participants and several stages in an organization. Workflow describes the sequential steps that comprise a work process in the business environment. In its most comprehensive form, workflow includes the procedures, people and tools involved in each step of a business process. Workflow may either be sequential, with each step contingent upon completion of the previous one, or parallel, with multiple steps occurring simultaneously [11].

Figure 1 shows the system architecture of the system. The administrator can manage and monitor the uploaded thesis file of all the thesis leaders, they can also update the accounts for the thesis committee.

The system has different ways of logging in for the administrator, the thesis committee and the thesis leaders. For the administrator, the system has its own admin panel. Administrator controls all the processes and has full access to the website. The thesis leader may log in through registering an account in the website. He/She can upload his/her thesis file and he/she can receive feedbacks from his/her thesis committee. For the thesis committee to log in, they have to

input the username and password provided by the administrator. The thesis committee can view and put revisions to the uploaded thesis file of the thesis leader and it will all be stored to the database.

For the checking of the uploaded thesis file, first the uploaded file will be checked by the adviser, their revision or approval will be sent to the account of the student. Then after the adviser has approved, the next checker will be the panelists, the process of checking is also the same with the adviser. Lastly, the chairman will check the uploaded file that has been approved by the panelists. Revisions or approval by the chairman will be sent back to the student.
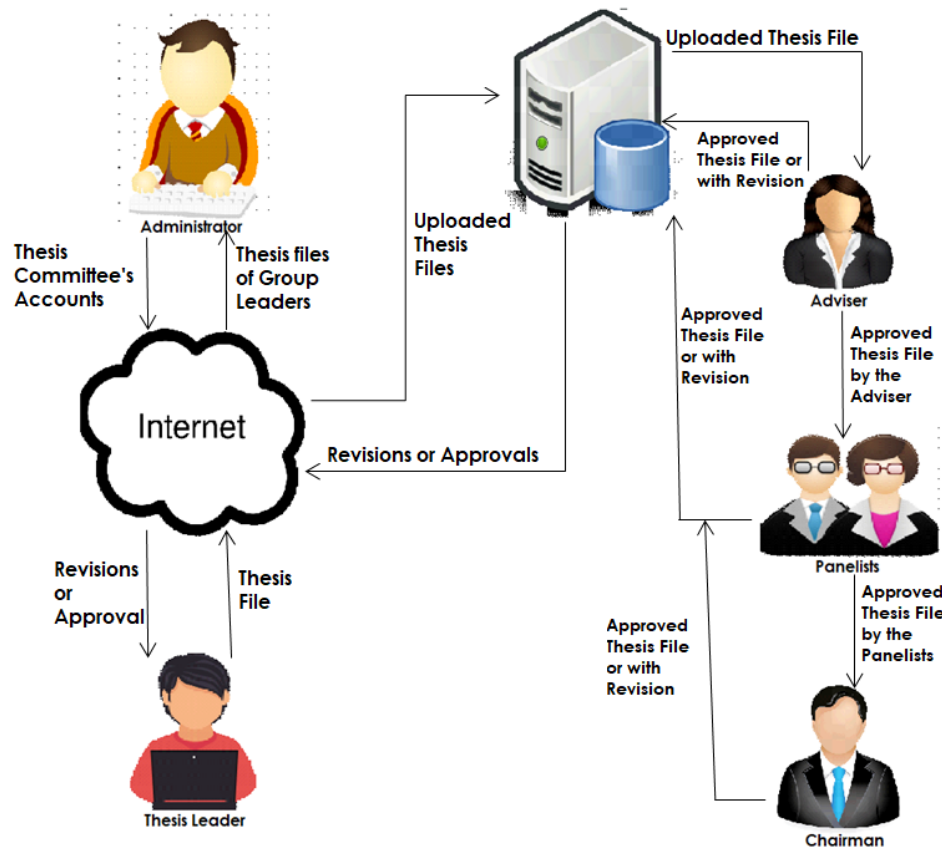
Figure 1. Operational Process Diagram of the Developed System

Related Systems

In order to finish the study, the developers conducted different researches of some related systems and studies that served as guidelines in the development of the system. It also gave ideas to the developers on how the conducted system can be implemented.

This contains relevant studies which helped in conducting the developed system. The related systems are relevantly chosen for the improvement of the research project.

Belleza et. al. [12] developed a system for CICS students and research coordinators members to access and modify their files through the cloud. The use of this system is to allow individual users to access their files which have been uploaded into designated folders online. The providers of cloud computing offer their infrastructures to the users where they can avail their services like online file storage system, file synchronizing, and file sharing.

Same with the system of the group of Belleza, the thesis management system using a workflow model also offer their infrastructures to the users where they can avail their services like file storage system, file synchronization, and file sharing. But in the developed system, the file shared is sent to another user which is the research instructors and can be modified. And the file that it sent can be passed through another user in a workflow process.

The system developed by Aday et. al., [13] which is an online system of the Office of Student Services was intended to provide a precise way of receiving and restoring the students' information. This study was done to have an easier and secure way of storing and updating of information of the students records. Through this system the students can receive updates from the web instead of collecting information from the student information sheet.

The study of Aday is related to the developed system in terms of providing a precise way of receiving feedbacks from the uploaded documentation. The developed project is same with it in terms of receiving and uploading files through instead of having face to face interactions. It is different in a way that the developed system only lets the thesis leaders to have an account.

Hernandez et. al. [14] came up to an idea of developing an online system for BatStateU's Testing admission office that speeds up the transactions of the office with student and employee applicants. It allows BatStateU to receive applications through the web and applicants need not to collect physical forms. Applicant/transferees are required to fill out the online admission form and submit it online. The system is better, faster, and a more secured way of storing, updating and retrieving information, particularly, students' records. The system reduces the workload of the staff in terms of the verification of the applicants' information and prevents the loss of some papers in the office. It improves the circulation service for easier and faster transaction.

The study is related to the developed system in terms of having a more secured way of storing, sending thesis documentation not in a face to face interaction. It also provides faster transaction of student and the adviser, panel or chairman.

Quinto et. al. [15] developed the BatStateU Job Placement System designed to be used by the students, alumni, and corporate partners. This study offers services about job processes. Corporate partners host job offerings, post job vacancy categorize to specific fields. Only registered members can access the site service which is controlled by the administrator. This study was also designed based on the concept that is possible to both diminish manual operation of the job process using this technology.

The study is similar to Thesis Management System of College of Engineering and Computing Sciences Students using a Workflow Model since in both systems, the administrator controls the registered members who can only access the site. Also both systems were developed to eliminate the manual way of checking the thesis documentation.

A thesis portal with Electronic Document Management System was developed by Del Rosario et. al. [16] 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.

The Thesis Portal with Electronic Document Management System is also related to the developed system of the developers because it also has the capability of storing thesis documents. It is also same with the developed system in terms of checking the thesis file until it is finished and is ready for hardbound. But it is different in the present system in terms of tracking the progress and location of the uploaded thesis documentation.

Constantinescu et. al. [17] developed a system that allows uploading the submitted papers, assignation of papers to reviewers, management of interactions between editors and both researchers and reviewers, editing procedures and journal issues and so on. The system provides the submission of manuscript, peer view, document tracking, and semi-automatic correspondence with researchers and reviewers. This proves the viability of the open access models and the huge shift in publishing of research from printed to online.

The developed system by Constantinescu is related to the current system in terms of uploading and submitting papers. Constantinescu's developed system is different to the Thesis Management System at the same time since the system is only submitted to the group leader's adviser, panel, and chairman.

The project developed by Joshi et. al., [18] provides a simpler user-friendly interface where the faculty can enter or maintain their personal information, manage information in their classes, send email to students registered in a class, and interact with students on discussion board for each class.

The study Web-based Content Management System is related to the developed system because it also provides necessary interactions of the research instructors to their students through a system. It is also the same with the developed system in terms of personal information maintenance of users and information management.

Caraig et. al. [19] developed a system that aims to minimize the paper work of students, faculty members and staff of CICS. E-Portfolio Management System is an electronic collection of evidence that shows the portfolio of every student and requirements of every faculty member. It is the organization of information of both students and faculty members.

Same with the said system, the developers of Thesis Management System also desire to eliminate the manual way and paper works of every student of College of Engineering and Computing Sciences in checking their thesis documentations. It is also related with the developed system because it has a function of collecting of data from the students. The developed system can collect thesis files from the student and can be viewed by the instructor.

The system by SangYeob Na, et. al. [20] aims to develop electronic document repository system that is the best solution for solving paper-based document system issues. Electronic document repository system can reduce overall costs and prove some advantages in comparison with paper-based document system. It is an electronic document management system is a software program that manages the creation, storage and control of documents electronically.

The Thesis Management System also reduces over all costs over paper-based document system by means of sending the thesis documentation in softcopy form. It is related with SangYeob Na's system because it promotes less costly checking of thesis documentation file.

Almost all the related systems are alike to each other. All the processes done are all the same, which is a repository system. The differences from the mentioned systems is that the developed system has from printed to local-based system, tracking of uploaded documentations and can receive feedbacks from where it is sent.

CHAPTER 3
DESIGN AND METHODOLOGY

This chapter presents the designs and methodologies used by the developers in developing the system. Different diagrams that were applied in developing the system are also included in this system. The chapter also explains the type of research that the study is focusing on and how it is related to the development of the system.

Data Gathering

The developers developed a system that can speed up the process of checking thesis documentations. In this project, the developers finalized all the necessary requirements for the system development. The developers were able to find out that the current manual process causes the involved persons to encounter lots of shortcoming. In order to pursue the said project, the developers made use of quantitative type of research.

Quantitative type of research was considered in preparing two sets of questionnaire to evaluate the developed system by the system administrator, students and the research instructors. The questionnaire covers items that the users considered in evaluating the system's quality. This survey was conducted to determine the feedbacks of the users regarding the Thesis Management System.

After having the information needed, the developers started developing the system. Meanwhile, the developers lead to a series of testing to check the

functionality and effectiveness of the system followed by the implementation of the software to the client.

Project Concept

The study started by seeing the inconvenience caused by the manual checking of the student's thesis documentation. The developers noticed that the process of checking and putting revisions in the student's thesis documentation are done manually. The students interact with the person they need such as the panelists, the adviser or their chairman face to face to check their thesis. In that case, the progress of their thesis documentation takes longer because the process is time consuming.

Face to face interaction of students with the thesis committee and manual checking of thesis documentation is time consuming. It is also very costly for the students since the papers need to be checked must be hardcopy.

Because of this, the developers thought of developing a new system that makes their process faster and time-bound. It is designed to be a combination of manual and automated process of checking. The users of the developed system such as the student, which is the leader of the group, the adviser, panel, and the chairman, must go the office of the department of College of Engineering and Computing Sciences to log in and download or upload thesis documentation. The system can provide tracking of location and progress of every uploaded thesis documentation.

To be able to create reliable software, and to ensure the satisfaction of the user with the developed system, system testing such as unit testing, integration testing, and validation testing were done by the developers.

System Analysis and Design

System analysis and design is required in developing a system to be able to understand how the components of the system are working. It is important for it may improve the overall system. Through systems analysis and design, the developers may modify some system components needed for a better system.

The developers used the method of Web Development Life Cycle (WDLC) in making the developed system. This can help organize the development steps effectively. WDLC is a software development methodology that uses comprehensive planning in favor of rapid prototyping.

Figure 2 shows the WDLC. The principle of the cycle is to provide the designers, the process on creating a web based project. It also helped the developers to the certain frameworks, standards and proper procedures ensuring a high quality of work is maintained.

The first phase was Planning. In this phase, the developers planned on how to make the developed system, identified the features and requirements to be used to develop the system. After planning, the developers came up with different ideas on how to make the system and what is the back-end and front-end involved in the developed system.

The second phase that the developers followed is the Analysis, which discussed the whole analysis and the requirements needed for the development of the system. In this phase, the developers analyzed the problems encountered by the faculty members and the students of the CECS Department of Batangas State University-Malvar Campus with regards to the thesis checking and they carefully decided on what system can help the present operation.

After that, the third phase is the Development, which involved the layout and navigation interface as the prototype. The developers also analyzed the interface and content that can be displayed in the thesis management system. After the development, is the Testing. Through this phase, the developers detected software failures and discovered some defects which were corrected immediately.

The fifth phase is the Release, where the system was released to the client after performing the last four phase. Lastly is the Maintenance. After releasing the system, the developers will maintain and fix the encountered problems needed to be fixed in the developed system which is the thesis management system.

Figure 2. Web Development Life Cycle (WDLC)

Context Flow Diagram

Figure 3 shows the context flow diagram of the system. The thesis leader, thesis committee and the administrator can use the system through the internet. The system can be used separately for they have different interfaces.
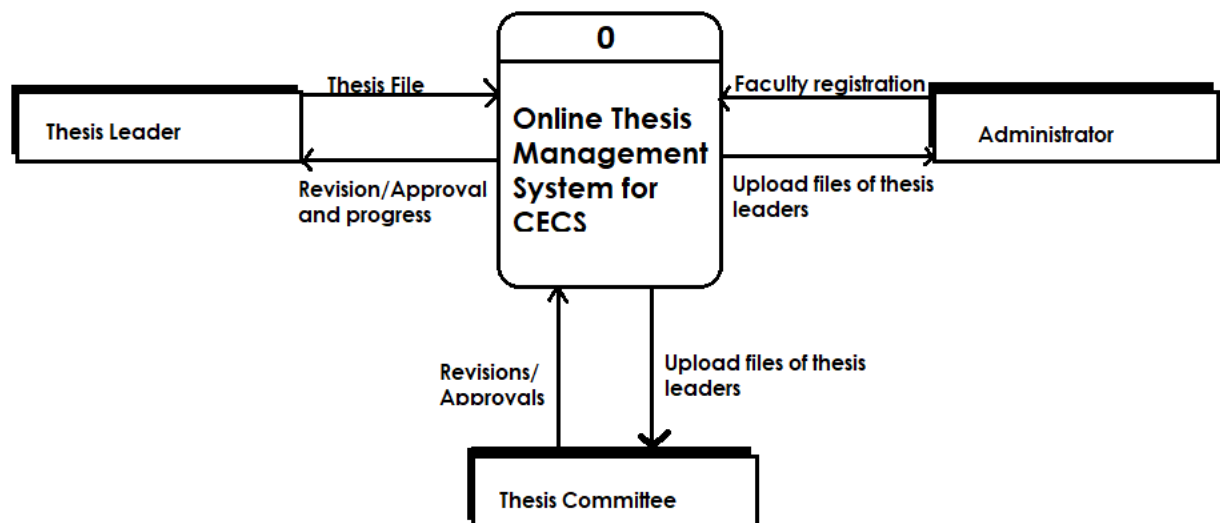
Figure 3. Context Flow Diagram of the Developed System

Data Flow Diagram

Figure 4 shows the data flow diagram for the administrator. The administrator must input their username and password. Then the administrator can register the account for the thesis committee. Lastly, the administrator can evaluate and view every thesis file that is uploaded by the thesis leaders. The administrator can also access the changing and modifying of passwords of the group leaders and thesis committee.

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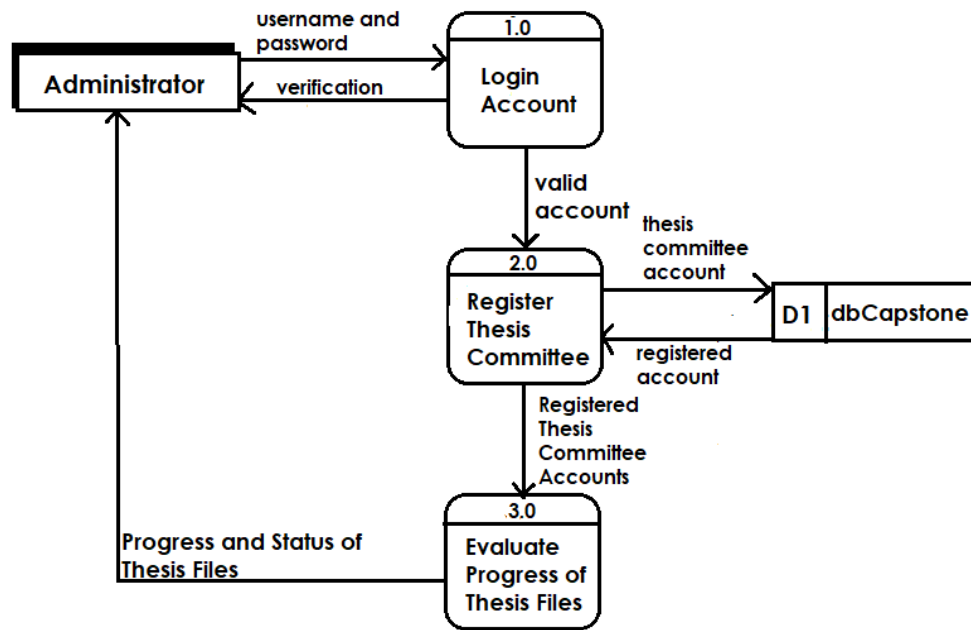
Figure 4. Data Flow Diagram for the Administrator

Figure 5 shows the thesis leader's processes in the system; first the thesis leader must log in to the website. Then, the leader can now upload their thesis documentation file and it will be sent to their respective thesis committee. Lastly, they can receive the approvals or revisions that is sent by their thesis committee.
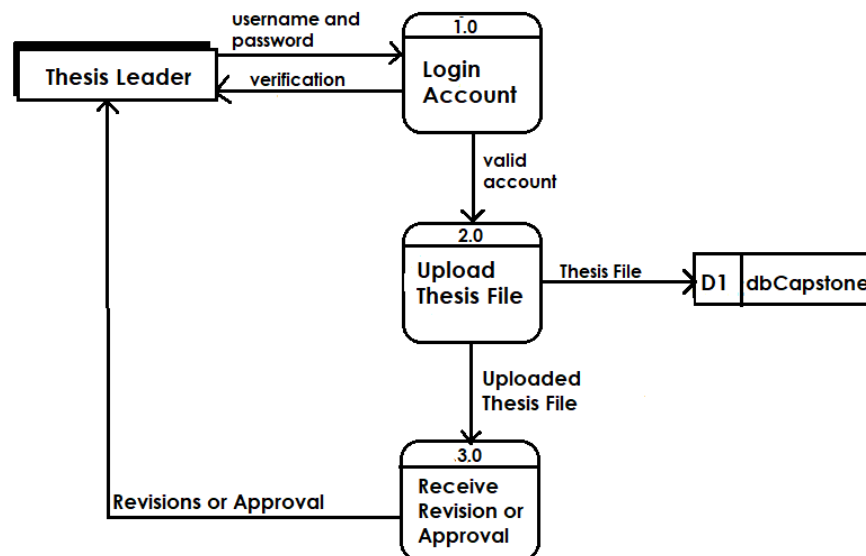
Figure 5. Data Flow Diagram for the Thesis Leader

Figure 6 shows the processes that can be done by the thesis committee. First the thesis committee must log in in the account that is provided by the administrator. Then, they can now view all the thesis files that are sent by the thesis leaders. After viewing the thesis file, they can now put revisions on it or approve it. Now the thesis committee must wait for the update of the thesis leader to send the file that has been revised.
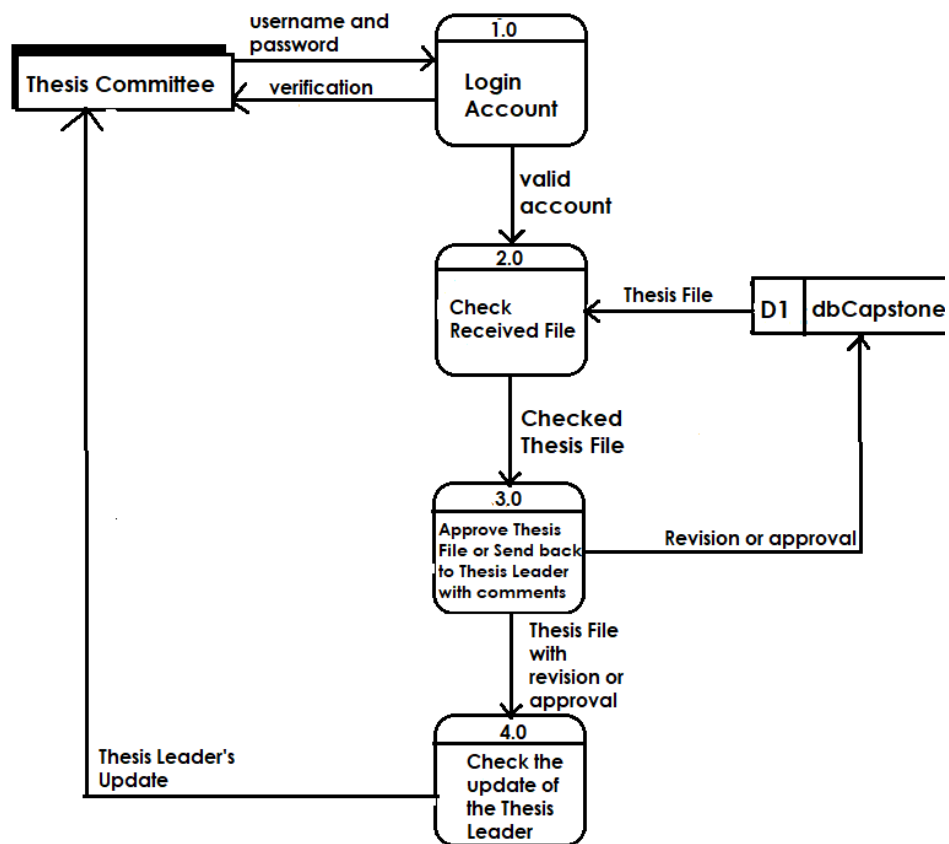
Figure 6. Data Flow Diagram for the Thesis Committee

Development Approach

Figure 7 explains the top-down approach used by the developers. This approach is more likely applicable for the developed system. The major level of

the diagram is the registration. In this phase, the thesis leader must register first in order for them to have an account in the website, while the thesis committee will be provided with an account by the administrator. The second level is the log in; in this phase, the users must input their username and password so that they can have the access to do tasks in the website. After the verification level, the third level is the uploading of the thesis documentation file of the thesis leader. In this phase, the thesis leaders must upload their thesis file so that the thesis committee may check and evaluate it. Last is the checking of thesis file and evaluating of the progress status. In this phase, the thesis committee will check the uploaded thesis file of the thesis leader and see if there is any revision needed or it is already approved. The thesis committee can evaluate the progress by checking the number of approvals.
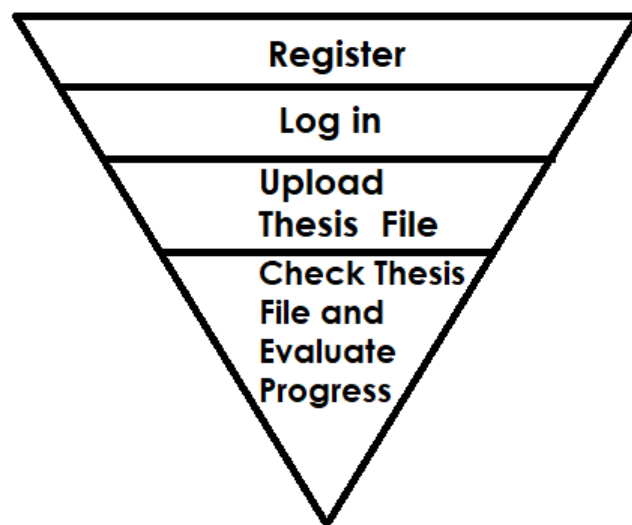
Figure 7. Top-Down Approach

Functional Requirements

Table 1 describes the specific functionality of what a system is supposed to accomplish.

Table 1
Functional Requirements

Module	Description
Login	To fully access the system, the users must input the correct username and password.
Upload	To upload the thesis file, the user must choose file to be uploaded and click Send. The group leader must log in first to upload a file.
Check	The advisers, panelists and chairmen are the authorized personnel who can check the uploaded thesis file, to do the checking they must Login first.
Put Comments	The system allows the thesis committee to put comments on the uploaded file of the group leader.
Update	The group leader can update their thesis file when they do the revision that is sent by the thesis committee.

Non-functional Requirements

Table 2 discusses about some non-functional requirements that will be implemented in the developed system

Table 2
Non-functional Requirements

Criteria	Description
Security	In terms of security, it is the one or more requirements about the protection of system. The Administrator is the only one who can fully access the system. The thesis committee and the group leaders must log in using their default account to access the system.
Usability	The system is easy to operate/use. The developed system is friendly to the users.
Functionality	The system accomplishes all the intended actions and functions.
Efficiency	The system loads fast and can respond quickly from time to time.
Performance	The system responds immediately and the viewing of information only takes seconds to display.
Availability	The system must be available 24 hours. The database back-up and recovery plan should be proper in order to avoid unexpected downtime.

User Design Interface

The figures displayed below served as the guide of the developers in developing the system. The developers kept to make a user-friendly interface as simple as possible while keeping the interface much more presentable to its users.

Figure 8 shows the Login Form in the user's interface where the user will have to input their username and password. The forgot password button (1) allows the user to change or recover its account if the password was forgotten. The register button (2) is for new users that would register an account in the developed system. Login button (3) is used to access the developed system. After clicking it, if the username and password were accepted, the user's system interface will appear. Close button (4) is simply used to exit.
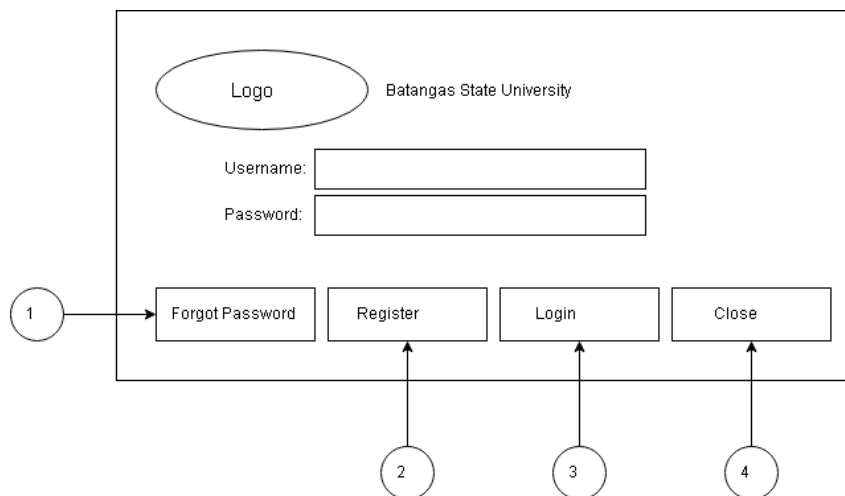
Figure 8. Conceptual Diagram for Log in Form

Figure 9 shows the account registration of the new user. In this form the user needs to fill out the textboxes that are needed to be filled. If it is all filled out, the user needs to click the register button (1) in order to verify the information

entered. If the user would cancel the registration, cancel button (2) must be clicked.

Figure 9. Conceptual Diagram for Account Registration

Figure 10 shows the interface for the adviser's account. In the select file textbox(1), the adviser may search a specific thesis title of the advisee, the datagrid (2) shows all the uploaded file that is sent to the adviser. The download button (3) is for downloading the selected file. The send button (4) is clicked when the submitted document file is done with feedback or if it doesn't have any revision.

Figure 10. Conceptual Diagram for the Adviser's Account

Figure 11 is already discussed in the previous form. This form shows where the adviser would send the downloaded file. Student radio button (1) is for the student, there would be a form where file with comments can be uploaded. The radio button for panel (2) also has another form where the adviser would send the file. After choosing, the done button(3) is clicked and if the adviser needs to go back, back button(4) is used.
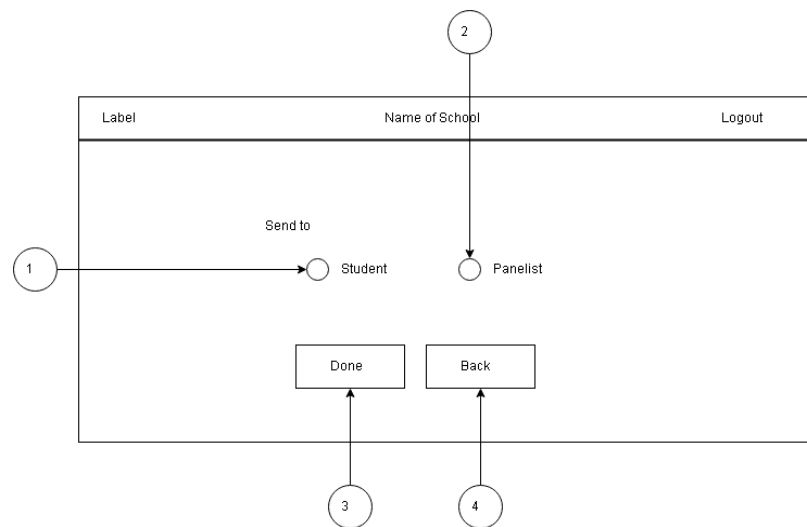
Figure 11. Conceptual Diagram for the Sending of File of Adviser

Figure 12 shows the interface of sending of file of the adviser to the leader of the group. Choose file button(1) is for choosing of file that has feedbacks for the student. The name of leader label(2) shows the student who will receive the uploaded file. The section of the thesis leader is in the section label (3). The thesis title text box(4) automatically generates the title of the thesis depending on the file name of the uploaded file. Send file button(5) is for sending of the file to the student and back button(6) is clicked when the user wants to cancel the process.
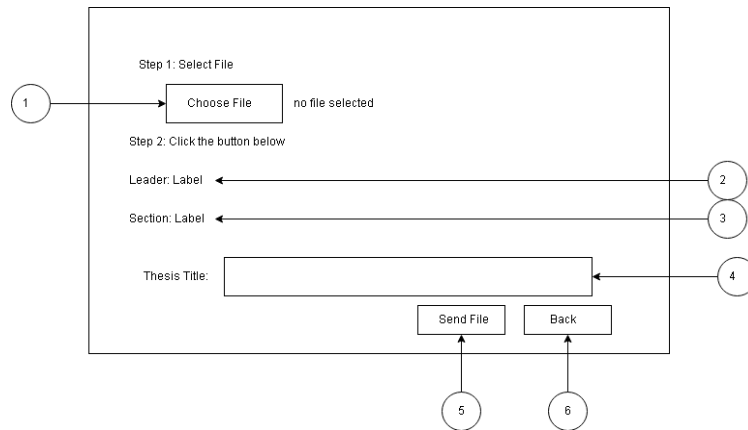
Figure 12. Conceptual Diagram for Sending of File to the Student by the Adviser

Figure 13 shows the interface in sending the file from the adviser to the panel. The filename label(1) is where the name of the file is located. The name of leader is also in there in the name of leader label(2). The selection label(3) shows what section of the group is. The panel 1 and panel 2 drop down button(4) shows the panels that can be chosen. The send file button (5) is clicked when the needed information is filled. When the user wishes to cancel the process, cancel button (6) is clicked.
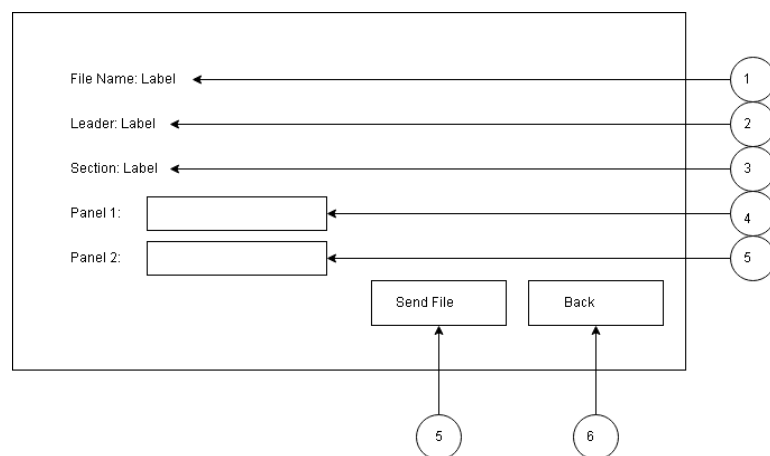
Figure 13. Conceptual Diagram for Sending of File to the Panel by the Adviser

Figure 14 shows the interface of the student's account. Once the home button (1) is clicked the panel (2) would show the progress and location of their thesis documentation. The profile button (3) would show the account information of the students account. The member button(4) shows the members of the group if it is clicked. The file button (5) would show the uploading of file of the student. The Logout button (6) is used for the student to exit.
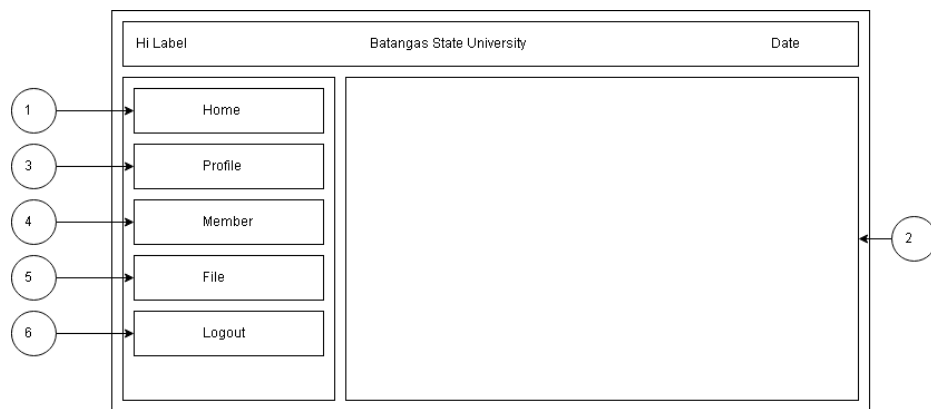
Figure 14. Conceptual Diagram for the Student's Account

Figure 15 shows the evaluation of progress and status of the students uploaded thesis documentation. This shows in the panel of the previous form when the home button is clicked.
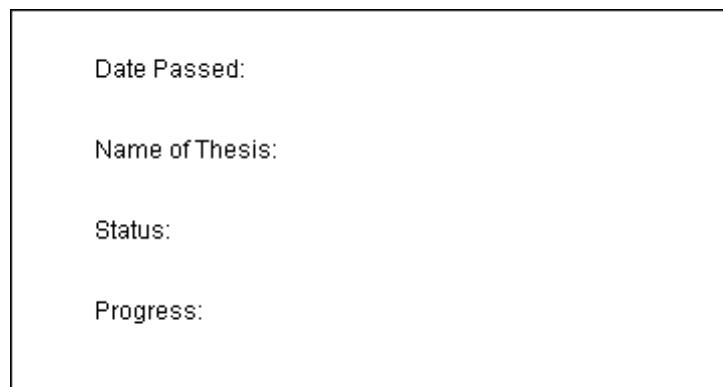
Figure 15. Conceptual Diagram for the Student's Progress Evaluation

Figure 16 shows the members of the group once the member button is clicked in the previous form. This interface will be seen in the panel of the previous form. Adding (1) and deleting (2) of member can be done.
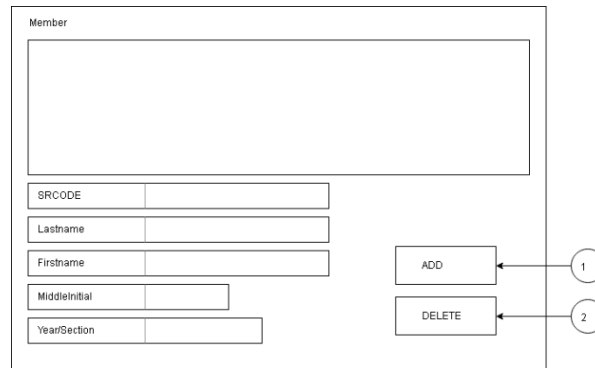
Figure 16. Conceptual Diagram for the Members of the Group Form

Figure 17 shows the interface of uploading/downloading file in the panel of the previous form. If there is a recent file that is received, the student can be able to download button (1) in uploading a file, the student must click the choose file button(2) in order for them to upload a file. Then click the upload file(3) button to finish the process
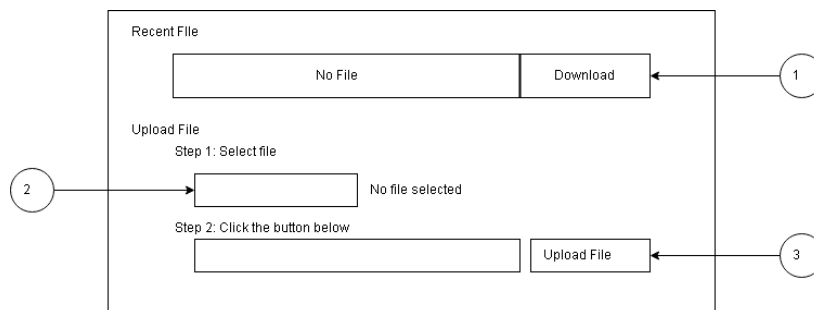
Figure 17. Conceptual Diagram for the Uploading/Downloading of Student

Figure 18 shows the interface for the administrator. There is the dashboard button(1) that shows the analytic feature of the system. The existing accounts

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button (3) is for showing all the existing accounts that has been registered. The adviser/panel/chairman button (4) is for the accounts that will be given to the involved person. The history button (5) is for the viewing of all the checked thesis documentation.
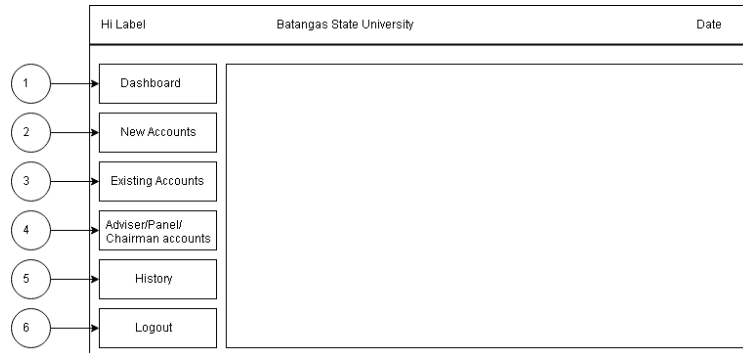
Figure 18. Conceptual Diagram for the Administrator's Account

Figure 19 shows what is in the dashboard button(1). This shows the interface of the analytic feature of the system. In the datagrid, it shows the date when the documentation was passed, the thesis title, the student name, the section and the evaluation of progress of the thesis documentation.
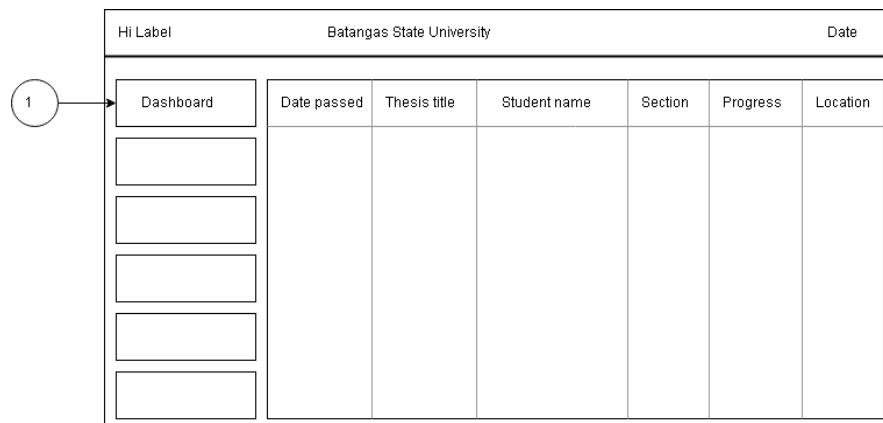
Figure 19. Conceptual Diagram for the Dashboard of the Administrator

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Figure 20 in the new account button (1) the panel will show the account registration of the new user. The accept button (3) will be clicked by the admin if it is accepted. And reject button (4) is clicked if it is rejected.

Figure 20. Conceptual Diagram for the Account Verification of the Administrator

Figure 21 in the existing account button (1), there will be a datagrid (2) that will show all the exiting accounts that has been registered in the system.

Figure 21. Conceptual Diagram for Existing Account Records of the Administrator

Figure 22 shows the history of the submitted thesis documentation. If it's ongoing or finished.
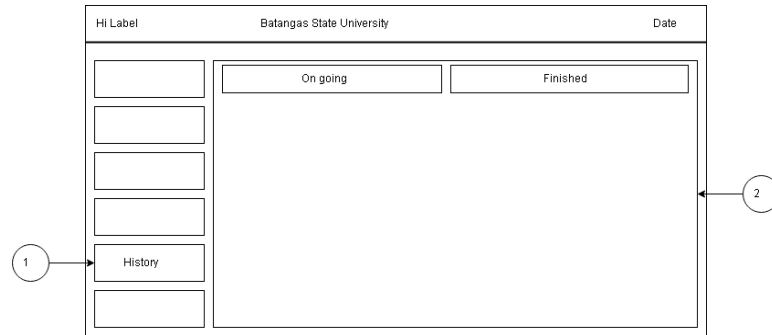
Figure 22. Conceptual Diagram for the History of the Submitted Accounts

Figure 23 shows the interface for the panel and chairman. In the select file textbox (1), the panel or chairman may search a specific thesis title of the student, the datagrid (2) shows all the uploaded file that is sent to the panel or chairman. The download button (3) is for downloading the selected file. The send button (4) is clicked when the submitted document file is done with putting feedback or if it doesn't have any revision. There would be another form for the panel or chairman to choose whether it is approved or denied.
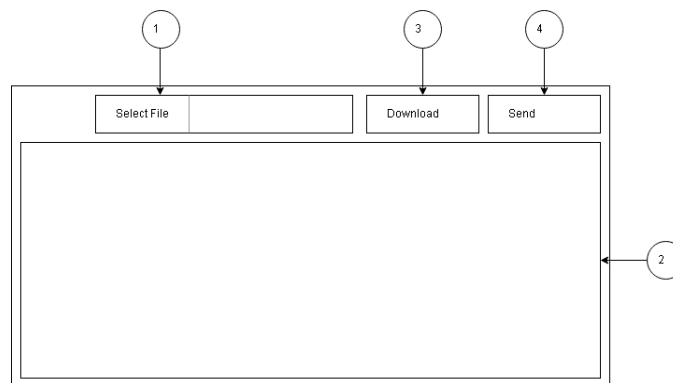
Figure 23. Conceptual Diagram for the Panel or Chairman

Figure 24 shows the interface for the panel or chairman in deciding whether the downloaded file is approved (1) or denied (2). Once the done button (3) is clicked the next form will appear for the choosing of file to be uploaded for the student.
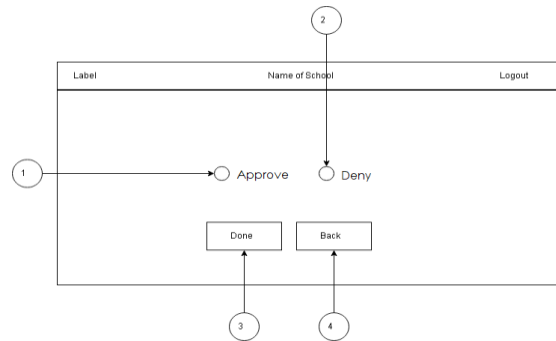
Figure 24 Conceptual Diagram for Approving and Denying of File of Panel/Chairman

Figure 25 shows the interface of sending of file of the panel or chairman to the leader of the group. Choose file button (1) is for choosing of file that has feedbacks for the student. The name of leader label (2) shows the student that will receive the uploaded file. The section of the thesis leader is shown in the section label (3). The thesis title text box (4) automatically generates the title of the thesis depending on the file name of the uploaded file. Send file button (5) is for sending the file to the student.
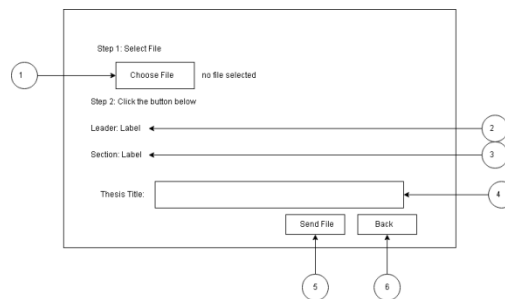
Figure 25. Conceptual Diagram for Sending of File to the Student by the Panel/Chairman

Software Development Tool

In order to develop the system, the developers used several programming languages and software to attain the desired design and functions of the developed system. The developers used Hypertext Pre-processor (Php) and MySQL as the back end developing tools. PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks. Programming tools like Bootstrap, CSS and HTML will be used as the front-end developing tools. PDFZorro is an online application that is used by the developers in enabling the editing of putting comments on a pdf file for the thesis checking.

Combining the software will make the development of the system possible as it is both crucial to create the functionalities that the system must have in order to meet the needs of the users.

Hardware Requirements

For the hardware requirements, PC's and internet connection are compulsory for the users to access the developed system. The hardware requirements mentioned are needed for best approach with the system. It can also help the users to operate the developed system appropriately and precisely.

Table 3 shows the hardware specifications needed and the tools, together with its functions for the developers to meet the proper standard needed by the developed system. For the memory space, the developers required to use at least 550 MB for the system to hold and store large amount of data.

Moreover, a dual core or up is required as the processor equipment for the system to run faster. The developed system also required a hard drive with the capacity of at least 300 gigabytes to store the data needed to run the system. Lastly, at least 2 mbps speed connection of the internet is needed for the system to perform faster and reliable.

Table 3
Hardware Requirements for the Developer

Equipment	Type/Specification
Processor	At least Dual Core
RAM	At least 2GB
Free Memory Space	At least 512 MB
Internet Speed Connection	At least 2mbps

Table 4 shows the hardware specifications for the users in order to use the developed system. For the memory space, the developers required to use at least 550 MB for the system to hold and store large amount of data.

Table 4
Hardware Requirements for the Users

Equipment	Type/Specification
Processor	At least Dual Core
RAM	At least 2GB
Free Memory Space	At least 512 MB
Internet Speed Connection	At least 2mbps

Software Requirements

The software tools that were used for the system are Windows 7 for the operating system, PHP for the programming language, MySQL 5.5 for the database and Adobe Dreamweaver for the User Interface Design.

Table 5 illustrates the software specification for the developers of the system. This may help the developers to achieve their goals for the developed system which includes the programming language, environment, and database that will be used to attain the developed system.

Windows 10 is the operating system used by the developers to develop the proposed system because this is considered as the most compatible among the applications that the developers have used. Higher than Windows 7 can also be used for the developed system .The programming language used by the developers is PHP 6.0, CSS4, and HTML4. As for the database of the system, MySQL 5.5 and notepad were used as the environment to generate the tools of the system. The

developers used the PDFZorro as the online editor application to let the thesis committee put comments on the uploaded thesis files.

Table 5
Software Requirements for the Developers

Software	Type/Specification
Operating System	Windows 7 or up
Programming Language	PHP 6.0, CSS4, HTML4
Database Management	MySQL 5.5
Environment	Notepad++
Online Editor	PDFZorro

Table 6 illustrates the software specification for the users of the system. These are the requirements for the users to run the website in a better approach.

Table 6
Software Requirements for the Users

Software	Type/Specification
Operating System	Windows 7 or up
Google Chrome, Mozilla Firefox	Web Browser

Testing and Evaluation

System testing plays a vital role in the system's developmental progress because it checks whether the system meets the functional requirements or not.

Several types of testing were practiced by the developers that aim to verify the different aspects of the system and these are as follows:

In testing and developing of this system, the developers used the survey questionnaires with criteria that will measure the components. The developers considered using the unit testing to validate if the objectives were achieved by the project.

Method of Testing

The method of testing to be used is important to determine the possible flaws or errors in the system. It will also help how to improve and make revisions on the system.

Black box testing is the method used by the developers in testing the system. Black box testing is a testing strategy in which the internal structure, design, and implementation of the item being tested is not known by the tester. This method is named because the software program, in the eyes of the tester, is like a black box inside, which one cannot see. This method attempts to find errors in the following categories: Incorrect or missing functions, interface errors, errors in data structures or external database access, behavior or performance errors and initialization and termination errors.

The developers also used the unit testing method. The developers will demonstrate the developed system to the intended users of the system. The developers will discuss each function of the system. The intended users will give

their comments and suggested changes in the system through adding feedbacks and make some comments to the system. The developers will add the suggested changes on the system if necessary.

System Evaluation

Associated with the above testing methods was the use of survey questionnaire to evaluate the system. The developers used International Standard Organization (ISO) 9126 Software Evaluation Criteria as a reference in making questions included in the survey questionnaire. Certain criteria like the functionality, usability, efficiency and reliability were considered in the system evaluation.

Functionality refers to the set of attributes that bear on the existence of a set of functions and their specified properties. It is the essential purpose of the developed system.

Usability refers to the set of attributes that bear on the effort needed for use and on the individual assessment of such use, by a stated or implied set of users. It refers to the ease of use for a given function.

Efficiency refers to the set of attributes that bears on the relationship between the level of performance of the software and the amount of resources used. It is concerned with the system resources used when providing the required functionality

Reliability refers to the set of attributes that bear on the capability of the software to maintain its level of performance under stated condition for a stated period of time. It is the ability of a system to withstand component failure.

Table 7 shows the scale of rating used to assess the system on how the developed system would be rated by the research instructor, students and system administrator. The scale that was used in the questionnaire has corresponding value.

Table 7
Likert Scale of Rating

Scale	Interpretation
5	Strongly Agree
4	Agree
3	Neither Agree Nor Disagree
2	Disagree
1	Strongly Disagree

Table 8 shows the scale of verbal interpretation used to interpret the result of evaluation conducted by the developers. It represents the side and opinion of the respondents with regards to the performance of the system as a whole.

Table 8
Range of Verbal Interpretation

Scale	Interpretation
4.1 - 5.0	Strongly Agree
3.1- 4.0	Agree
2.1- 3.0	Neither Agree Nor Disagree
1.1 – 2.0	Disagree
0– 1.0	Strongly Disagree

CHAPTER 4
RESULTS AND DISCUSSION

In this chapter, the developers presented the system results of the data gathered and the developed system. It contains the actual testing of the software and observations of the developers based on the objectives of the study as well as the analysis of results through testing and validation and interpretation of the results.

Uploading of Thesis File of the Group Leader
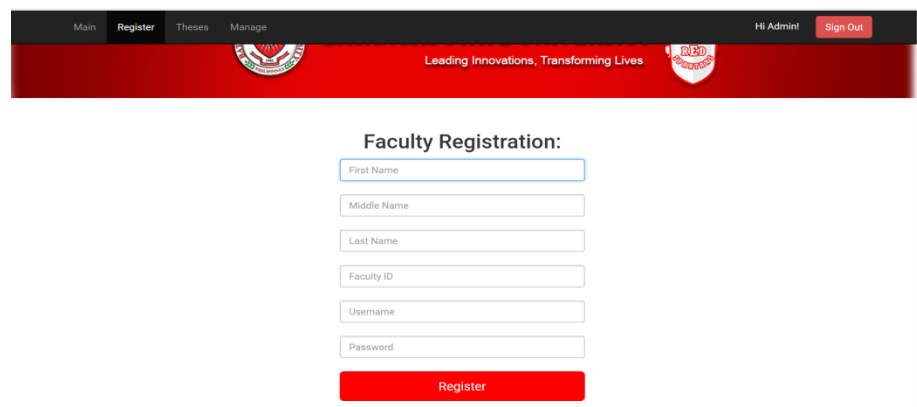
In uploading the thesis file of the group leader, the thesis leader must choose the thesis file to be sent and their thesis committee. Figure 26 shows the process of uploading and assigning the thesis committee. In (1) uploading the thesis file, the student must choose what file to upload then, in (2) assigning the thesis committee the student must choose the name of their advisers, panelists and chairman. Once the (3) upload button is clicked the file is now uploaded.
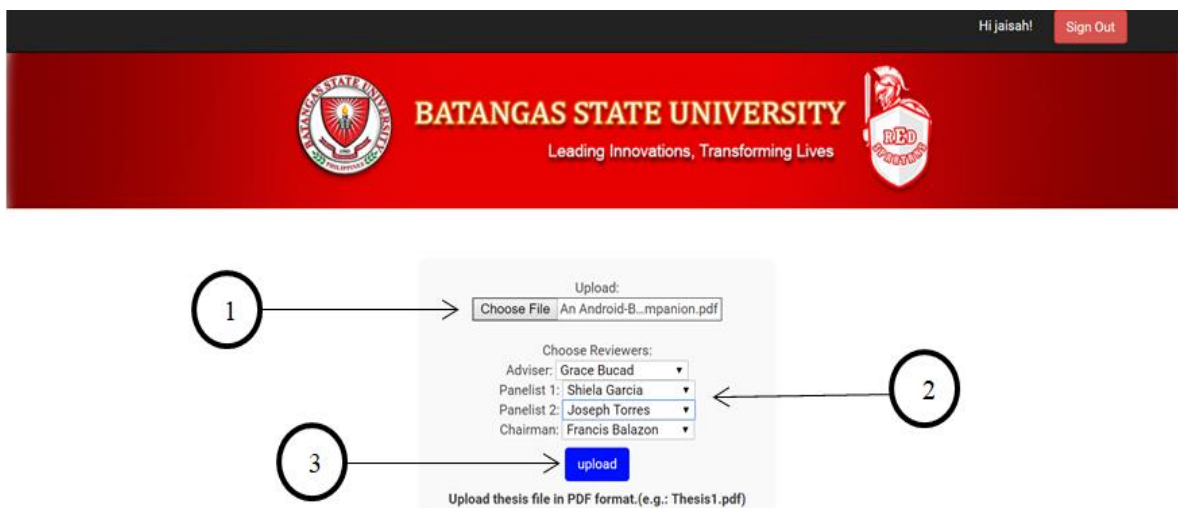
Figure 26. Uploading of Thesis File of Group Leaders

User Account for Research Instructors
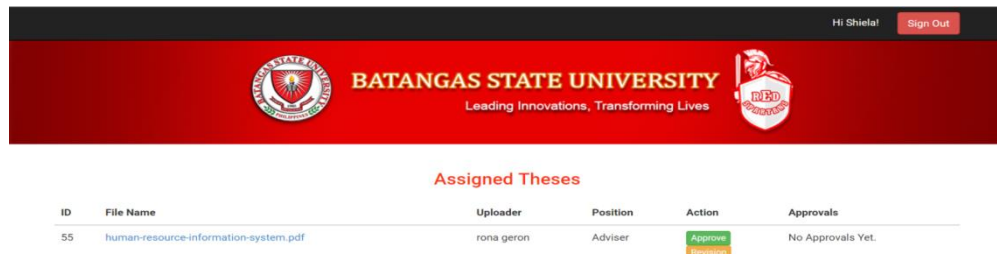
Research instructor's account is provided by the system administrator in the instructor's account; the assigned Theses for them is shown. There will also be functions whether the thesis committee will approve it or put revisions. Once approved, it will be passed on to another checker. Figure 27 shows the process of providing an account for the instructor, where necessary information are needed to be filled.

Figure 27. Research Instructor Registration

Figure 28 displays the interface where the assigned theses of the research instructors are shown.
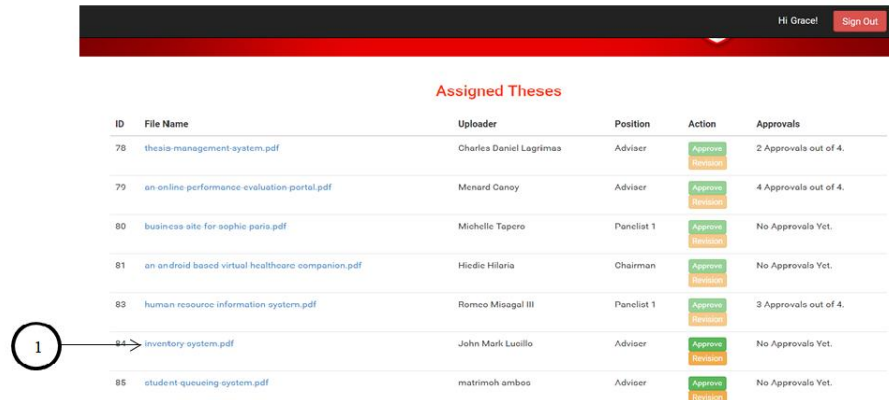
Figure 28. Research Instructor's Assigned Thesis

Thesis Committee Documentation File Viewing

The instructor can view, edit and send revised file back to the student. Figure 29 shows the viewing of file of the instructor, they can see it through clicking (1) file name.

Figure 29. Process of Viewing Thesis File

In figure 30, when the name of the thesis file is clicked, the thesis committee can now view the uploaded documentation of the thesis leader. Here, the thesis committee can now check if there is any revision needed.
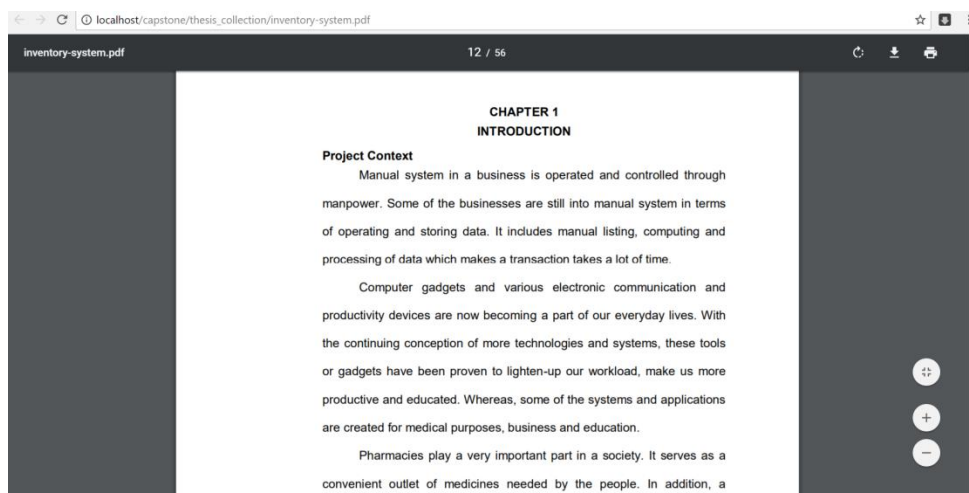
Figure 30. Thesis File Checking

Providing Comments Through Online Editor

Figure 31 shows the online editor page which is the PDF Zorro. In the PDF Zorro, the instructor can put (1) comments to the submitted thesis file of the students. In sending the file that has comments back to the student, the instructor must click the (2) save button.

Figure 31. Putting Comments in the Thesis File

In figure 32, the submitting of commented thesis file is loaded, the instructor must click the submit button (1) to send it back to the student.

Figure 32. Sending Back the Thesis File

-Tracking of Progress Status

The uploaded theses file of the students can be evaluated by tracking their progress status. In figure 33, the student can track the progress of the student by viewing the (1) progress column; it is tracked through percentage. In (2) status checking, the students can see the number of approvals of their thesis committee.

Figure 33. Progress Tracking and Evaluation of the Thesis Leader

In Figure 34, the instructor can track the progress only through the (1) number of approvals that is done.

Figure 34. Progress Tracking for the Research Instructor's Account

Evaluation and Results

The developers conducted a post-assessment of the developed system with regards to checking of thesis documentation file of students in the CECS department of Batangas State University-JPLPC Malvar Campus to determine the functionality, reliability, usability and efficiency of the developed system.

This presents the system results and discussion from the instructors, students and system administrator who became the respondents of the developed system. It includes the observations of the developers as well as the statistical results of the survey. In this approach, the developers were able to recognize if the system can be reliable and effective once it is implemented.

The developers provided questionnaires for the research instructors wherein functionality is composed of three questions, three question in reliability, four questions in usability and two questions in efficiency.

Table 9 shows the accumulated responses from the research instructor. With the gathered results of the questionnaire for the research instructor, the developers determined if the developed system works properly.

Overall functionality of the system resulted to the verbal interpretation of strongly agree. The composite mean was 4.60 which proved that the instructors were satisfied with the functions of the system.

Table 9
Summary of Evaluation and Results for Research Instructors in terms of Functionality

Criteria	Weighted Mean	Verbal Interpretation
1. Functionality		
1.1 The system was able to receive document uploaded by students that I am part of the thesis committee.	4.60	Strongly Agree
1.2 The system was able to provide comments and suggestions using the online editor.	4.60	Strongly Agree
1.3 The system was able to see the progress of the files of my handled students.	4.60	Strongly Agree
Composite Mean	4.60	Strongly Agree

Table 10 shows the result of the survey in terms of reliability which resulted to the composite mean of 4.33 with the verbal interpretation of agree. This means that the research instructors are assured with the organization of processes.

Table 10
Summary of Evaluation and Results for Research Instructors in terms of Reliability

Criteria	Weighted Mean	Verbal Interpretation
1. Reliability		
1.1 The file that are given by the user are validated first	4.20	Agree
1.2 The process of document checking is organized.	4.40	Agree
1.3 The security of the system and its data are on high level.	4.40	Agree
Composite Mean	4.33	Agree

The result of the survey in terms of usability is shown on table 11. There are three questions on the questionnaire and the result lead to the verbal interpretation of agree and there is only one that resulted to strongly agree. The composite mean was 4.35. This proved that the developed system attained the specified goal which is the ease of use for every given function.

Table 11
Summary of Evaluation and Results for Research Instructors in terms of Usability

Criteria	Weighted Mean	Verbal Interpretation
1. Usability		
1.1 The design of the user interface is attractive and understandable by the user.	4.20	Agree
1.2 It is user friendly and can be easily accessed by the user.	4.40	Agree
1.3 The user can easily navigate the system which results to user's efficiency and productivity.	4.60	Strongly Agree
1.4 The website helps to lessen the workload of the faculty.	4.20	Agree
Composite Mean	4.35	Agree

Efficiency is the last criterion that was evaluated in the given survey questionnaire to the instructors. In table 12, both questions gained a verbal interpretation of strongly agree and has a composite mean of 4.80. This just shows that the processing time of the system is efficient and also the developed system is efficient to the users by decreasing the expense in print cost.

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Table 12
Summary of Evaluation and Results for Research Instructors in terms of its
Efficiency

Criteria	Weighted Mean	Verbal Interpretation
4. Efficiency		
4.1 It lessens the processing time and responds immediately to the user's need.	4.80	Strongly Agree
4.2 The website produces the needed output in a short time.	4.80	Strongly Agree
Composite Mean	4.80	Strongly Agree

The average weighted mean resulted to 4.48 with the verbal interpretation of agree. This only proves that the system has met the needs of the research instructors based on its functionality, reliability, usability, and efficiency. The developers also found out that the developed system has a lot of improvement against the manual system process.

Table 13 shows the accumulated responses from the students. Through the gathered results of the questionnaire for the students, the developers determined if the developed system works properly. In terms of functionality, all the questions resulted to the verbal interpretation of strongly agree that has a composite mean of 4.73. It means that the functions are working well. It also proved that the developed system is functioning according to the agreement to what the system needs to accomplish.

Table 13
Summary of Evaluation and Results for Students in terms of Functionality

Criteria	Weighted Mean	Verbal Interpretation
1. Functionality		
1.1 The system was able to upload thesis documents.	4.75	Strongly Agree
1.2 The system was able to assign adviser, panel and chairman.	4.63	Strongly Agree
1.3 The system was able to receive comments and suggestions from the adviser.	4.85	Strongly Agree
1.4 The system was able to receive comments and suggestions from the panelists.	4.65	Strongly Agree
1.5 The system was able to receive comments and suggestions from the chairman.	4.78	Strongly Agree
1.6 The system was able to see the progress of the documentation.	4.73	Strongly Agree
Composite Mean	4.73	Strongly Agree

Table 14 shows the result of the evaluation in terms of its reliability. The composite mean was 4.69. The results proved that the system was reliable in the checking process for the students.

Table 14
Summary of Evaluation and Results for Students in terms of its Reliability

Criteria	Weighted Mean	Verbal Interpretation
1. Reliability		
1.1 The file that are given by the user are validated first	4.72	Strongly Agree
1.2 The process of document checking is organized.	4.63	Strongly Agree
1.3 The security of the system and its data are on high level.	4.70	Strongly Agree
Composite Mean	4.69	Strongly Agree

In table 15, the usability criterion shows that the four questions resulted to a verbal interpretation of strongly agree and the composite mean is 4.78.

Table 15
Summary of Evaluation and Results for Students in terms of its Usability

Criteria	Weighted Mean	Verbal Interpretation
1. Usability		
1.1 The design of the user interface is attractive and understandable by the user.	4.78	Strongly Agree
1.2 It is user friendly and can be easily accessed by the user.	4.80	Strongly Agree
1.3 The user can easily navigate the system which results to user's efficiency and productivity.	4.90	Strongly Agree
1.4 The website helps to lessen the workload of the faculty.	4.75	Strongly Agree
Composite Mean	4.78	Strongly Agree

Table 16 shows the results in terms of efficiency. The survey resulted to a verbal interpretation of strongly agree. This shows that the student saw system's efficiency in processing time.

Table 16
Summary of Evaluation and Results for Students in terms of its Efficiency

Criteria	Weighted Mean	Verbal Interpretation
1.Efficiency		
1.1 It lessens the processing time and responds immediately to the user's need.	4.73	Strongly Agree
1.2 The website produces the needed output in a short time.	4.63	Strongly Agree
Composite Mean	4.68	Strongly Agree

The average weighted mean resulted to 4.74. Its verbal interpretation is strongly agree. This shows that the system has met the students need in all the criteria that were evaluated. The developers also found out that the developed system can be a lot helpful for the students.

Table 17 shows the accumulated responses from the administrator in terms of its functionality. Out of five questions, three questions were answered strongly agree and two questions were answered agree which result to the composite mean of 4.72. This only proves that the system is functioning well according to what is needed.

Table 17
Summary of Evaluation and Results for System Administrator in terms of its Functionality

Criteria	Weighted Mean	Verbal Interpretation
1. Functionality		
1.1 The system was able to view the number of users, students account, and faculty's uploaded thesis.	4.80	Strongly Agree
1.2 The system was able to register the account of the faculty members.	5.00	Strongly Agree
1.3 The system was able to view all the uploaded file of the students.	5.00	Strongly Agree
1.4 The system was able to track all the progress of the uploaded file.	4.40	Strongly Agree
1.5 The system was able to update the password of all the users.	4.40	Strongly Agree
Composite Mean	4.72	Strongly Agree

Table 18 shows the result of the evaluation of the system in terms of reliability. The system proved that it is trustworthy. The composite mean was 4.72 with a verbal interpretation of agree. This means that the system administrator is assured that the system will maintain its service provision and also with the organization of processes of the thesis files.

Table 18
Summary of Evaluation and Results for System Administrator in terms of its Reliability

Criteria	Weighted Mean	Verbal Interpretation
1. Reliability		
1.1 The file that are given by the user are validated first	4.20	Agree
1.2 The process of document checking is organized.	4.40	Agree
1.3 The security of the system and its data are on high level.	4.20	Agree
Composite Mean	4.27	Agree

In table 19, all of the questions from the survey resulted to the verbal interpretation of strongly agree. The composite mean was 4.70. It proved that the developers sustained the primary needs of the administrator and the developed system attained the specified goal which is the ease of use for every given function for the system administrator.

Table 19

Summary of Evaluation and Results for System Administrator in terms of its Usability

Criteria	Weighted Mean	Verbal Interpretation
1. Usability		
1.1 The design of the user interface is attractive and understandable by the user.	4.60	Strongly Agree
1.2 It is user friendly and can be easily accessed by the user.	4.60	Strongly Agree
1.3 The user can easily navigate the system which results to user's efficiency and productivity.	4.60	Strongly Agree
1.4 The website helps to lessen the workload of the faculty.	5.00	Strongly Agree
Composite Mean	4.70	Strongly Agree

Table 20 shows the result in terms of efficiency. One question resulted to strongly agree and the other one was agree. The result leads to the composite mean of 4.50 which proved that the system is efficient and effective.

Table 20

Summary of Evaluation and Results for System Administrator in terms of its Efficiency

Criteria	Weighted Mean	Verbal Interpretation
1. Efficiency		
1.1 It lessens the processing time and responds immediately to the user's need.	4.80	Strongly Agree
1.2 The website produces the needed output in a short time.	4.20	Agree
Composite Mean	4.50	Strongly Agree

Overall, the average weighted mean of those criteria is 4.59 with the verbal interpretation of strongly agree. It goes to show that the developed system meets the requirements for the administrator.

Implementation Plan

Table 21 shows the implementation plan used by the developers to show the schedule of every process and activities during the implementation of the developed system. In this table, the administrator has the major involvement in the system.

Table 21
Implementation Plan

Date	Activity	Person Involved
November 6, 2017	Presentation of the system to the College of Engineering and Computing Sciences Office	Mrs. Maria Graciella R. Bucad (Department Chair), Developers
November 10, 2017	Finalizing the system according to the client's choices	Developers
January 5, 2018	Deploying the system to the internet	Developers
January 7, 2018	Beta testing of the system	Department Chair, Students, Developers
January 15, 2018	Implementation of the system	Department Chair, Developers

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter discusses the summary of findings regarding the efficiency of the developed system. This also gives the summary of recommendation for the enhancement of the system. It also presents the conclusion that was about what the study has observed after developing the system. It is what the developers had made based on the data gathered during the development of the developed system.

Summary of Findings

The Online Thesis Management System for the College of Engineering and Computing Sciences using Workflow Model was developed by the developers to improve the process of checking the thesis documentation of the students. After the development of the proposed system, important findings have been found out and these are as follows:

1. The Online Thesis Management System enables the thesis leaders to upload the soft copy of their thesis manuscript.

2. The Online Thesis Management System provides a module where the thesis committee can perform the following:

2.1 The thesis committee can view the thesis leader's uploaded file.

2.2 The thesis committee can download the viewed file if there is any revision.

2.3   The thesis committee can put comments and suggestions to the uploaded thesis file using the online editor.

3   The users can view the progress of the thesis file that is uploaded by the thesis leaders.

4   The Online Thesis Management System was tested and assessed as follows:

4.1 Functionality of the system met the requirements and every feature of the system functioned properly.

4.2 The developed system attained the specified goal which is the ease of use for every given function.

4.3 The site loads quick enough in user's browser.

4.4 The system is efficient not only in terms of time but also money. It lessens the work of the thesis committee and the expenses in printing the thesis file of the student.

Conclusions

Based on the data and information gathered, the developers concluded the following:

1. The developers conclude that the developed system provides the most convenient and effective way in giving ease, timeless, better service, reliable outcome and manageable operations.

1.1 Developers also found that the developed system give a lot of help for both the faculty and the student because the system improves the way

of checking the thesis file of the students; this system will help them technologically and as automated as possible.

1.2 Developers also conclude that the developed system can be a great assistance for the thesis committee in a way that they can check the files even when they are not around the campus because they can put comments on it online.

1.3 Developers conclude that it will be great to have the organized database that keeps all the submitted course specification.

1.4 Additionally, the developers also conclude that the analytic features can be a great help in monitoring and evaluating the checking progress of the thesis file.

2. The developers therefore conclude that the developed system can be more reliable if it complies with the ISO 9126 standards.

2.1 In terms of functionality, the developers conclude that the system already accomplished all the intended actions.

2.2 In terms of efficiency, the system responds quickly and can load fast from time to time,

2.3 In terms of reliability, the developed system has the capability to recover and to maintain its service provision.

2.4 Lastly, in terms of usability, the developers conclude that the system is easy to use and has a user friendly feature.

3. Developers conclude that it is better to have a training plan for the Online Thesis Management System for the College of Engineering and Computing Sciences using Workflow Model so that the users will have an overview on how to use the developed system.

Recommendations

With this online thesis management system using workflow model, the developers would like to suggest the following:

1. The Online Thesis Management System for the College of Engineering and Computing Sciences of Batangas State University-JPLPC Malvar Campus using workflow model be improved in terms of the system security feature so that it is not vulnerable to the backdoor hackers.

2. The system should accept other file formats necessarily to accommodate changes in software used by the users.

3. The future developers can make a new feature that the users can see the average time of completing the approvals of an uploaded thesis file.

4. The system should provide graphs and visual representation for the progress status of the uploaded thesis file of the students.

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APPENDICES

A. RELEVANT SOURCE CODE

B. EVALUATION QUESTIONNAIRE

C. SAMPLE INPUT AND OUTPUT

D. USER'S GUIDE

E. CURRICULUM VITAE

F. GRAMMARIAN'S CERTIFICATE

A. RELEVANT SOURCE CODE

Faculty Registration

```php
1.  <?php
2.  include_once 'config.php';
3.  session_start();
4.  $user = $_SESSION['user'];
5.  ob_start();
6.  $error = false;
7.  if ( isset($_POST['btn-signup']) )
    {
8.  // clean user inputs to prevent sql
    injections
9.  $fname =
    trim($_POST['firstname']);
10. $fname = strip_tags($fname);
11. $fname =
    htmlspecialchars($fname);
12. $mname =
    trim($_POST['midname']);
13. $mname = strip_tags($mname);
14. $mname =
    htmlspecialchars($mname);
15. $lname =
    trim($_POST['lastname']);
16. $lname = strip_tags($lname);
17. $lname =
    htmlspecialchars($lname);
18. $uname =
    trim($_POST['username']);
19. $uname = strip_tags($uname);
20. $uname =
    htmlspecialchars($uname);
21. $facID = trim($_POST['facID']);
22. $facID = strip_tags($facID);
23. $facID =
    htmlspecialchars($facID);
24. $pass =
    trim($_POST['userpass']);
25. $pass = strip_tags($pass);
26. $pass = htmlspecialchars($pass);
27. // basic name validation
28. if (empty($fname)) {
29. $error = true;
30. $errorAlert = "Please enter your
    first name.";
31. } else if (strlen($fname) < 3) {
32. $error = true;
33. $errorAlert = "First name must
    have atleat 3 characters.";
34. } else if (!preg_match("/^[a-zA-Z
    ]+$/",$fname)) {
35. $error = true;
36. $errorAlert = "First name must
    contain alphabets and space.";
37. }
38. if (empty($mname)) {
39. $error = true;
40. $errorAlert = "Please enter your
    middle name.";
41. } else if (strlen($mname) < 3) {
42. $error = true;
43. $errorAlert = "Middle name must
    have atleat 3 characters.";
44. } else if (!preg_match("/^[a-zA-Z
    ]+$/",$mname)) {
45. $error = true;
46. $errorAlert = "Middle name must
    contain alphabets and space.";}
47. if (empty($lname)) {
48. $error = true;
49. $errorAlert = "Please enter your
    last name.";
50. } else if (strlen($lname) < 2) {
51. $error = true;
```

52. $errorAlert = "Last name must have atleat 3 characters.";
53. } else if (!preg_match("/^[a-zA-Z]+$/",$lname)) {
54. $error = true;
55. $errorAlert = "Last name must contain alphabets and space.";}
56. if (empty($uname)) {
57. $error = true;
58. $errorAlert = "Please enter your username.";
59. } else if (strlen($uname) < 6) {
60. $error = true;
61. $errorAlert = "Userame must have atleat 3 characters.";
62. } else if (!preg_match("/^[a-zA-Z\d_]+$/", $uname)) {
63. $error = true;
64. $errorAlert = "Userame must contain alphabets and space.";}
65. if (empty($facID)) {
66. $error = true;
67. $errorAlert = "Please enter your ID.";
68. } else if (strlen($facID) < 6) {
69. $error = true;
70. $errorAlert = "ID must have atleat 3 characters.";
71. } else if (!preg_match("/^[A-Za-z0-9-]+$/", $facID)) {
72. $error = true;
73. $errorAlert = "ID must contain numbers, letters, and dashes.";}
74. // password validation
75. if (empty($pass)){
76. $error = true;
77. $errorAlert = "Please enter password.";
78. } else if(strlen($pass) < 6) {
79. $error = true;
80. $errorAlert = "Password must have atleast 6 characters.";}
81. // password encrypt using SHA256();
82. $password = hash('sha256', $pass);
83. // if there's no error, continue to signup
84. if(!$error) {
85. $fullname= $fname." ".$mname." ".$lname;
86. $query = "INSERT INTO users(username,password,user_type, id) VALUES('$uname','$pass','faculty','$facID');";
87. $query .= "INSERT INTO faculty(fac_id,firstname,middlename, lastname,fullname) VALUES ('$facID','$fname','$mname','$lname','$fullname')";
88. $res = mysqli_multi_query($db, $query);
89. if ($res) {
90. $errTyp = "success";
91. $errMSG = "Successfully registered faculty";
92. unset($fname);
93. unset($mname);
94. unset($lname);
95. unset($facID);
96. unset($uname);
97. unset($pass);
98. } else {
99. $errTyp = "danger";
100. $errMSG = "Something went wrong, try again later..."; }}
101.   else {
102. $errTyp = "danger";

```
103.        $errMSG =
    $errorAlert;}}
104.        ?>
105.        <!DOCTYPE html>
106.        <html lang="en">
107.        <head>
108.        <meta http-
    equiv="Content-Type"
    content="text/html;
    charset=UTF-8">
109.        <meta charset="utf-8">
110.        <title>Home</title>
111.        <meta name="viewport"
    content="width=device-width,
    initial-scale=1.0">
112.        <meta
    name="description" content="">
113.        <meta name="author"
    content="">
114.        <!-- Le styles -->
115.        <!-- GOOGLE FONT-->
116.        <link
    href='http://fonts.googleapis.com
    /css?family=Roboto:400,300,700
    italic,700,500&amp;subset=latin,
    latin-ext' rel='stylesheet'
    type='text/css'>
117.        <!-- /GOOGLE FONT-->
118.        <!-- Le styles -->
119.        <!-- Latest compiled and
    minified CSS BS 3.0. -->
120.        <link
    href="assets/css/bootstrap.css"
    rel="stylesheet">
121.        <link
    href="assets/css/custom.php"
    rel="stylesheet">
122.        <link
    href="assets/css/registration.css"
    rel="stylesheet">
123.        <link
    href="http://netdna.bootstrapcdn.
    com/font-
    awesome/3.2.1/css/font-
    awesome.min.css"
    rel="stylesheet">
124.        <!--[if lt IE 7]>
125.        <link
    href="http://netdna.bootstrapcdn.
    com/font-
    awesome/3.2.1/css/font-
    awesome-ie7.min.css"
    rel="stylesheet">
126.        <![endif]-->
127.        <!-- Fav and touch icons -
    ->
128.        <!-- Le HTML5 shim, for
    IE6-8 support of HTML5
    elements -->
129.        <!--[if lt IE 9]>
130.        <script
    src="http://html5shim.googlecod
    e.com/svn/trunk/html5.js"
    type="text/javascript"></script>
131.        <![endif]-->
132.        <!-- Le fav and touch
    icons -->
133.        <link rel="shortcut icon"
    href="assets/ico/favicon.ico">
134.        <link rel="apple-touch-
    icon-precomposed"
    sizes="144x144"
    href="assets/ico/apple-touch-
    icon-144-precomposed.png">
135.        <link rel="apple-touch-
    icon-precomposed"
    sizes="114x114"
    href="assets/ico/apple-touch-
    icon-114-precomposed.png">
```

136.   <link rel="apple-touch-icon-precomposed" sizes="72x72" href="assets/ico/apple-touch-icon-72-precomposed.png">
137.   <link rel="apple-touch-icon-precomposed" href="assets/ico/apple-touch-icon-57-precomposed.png">
138.   <body>
139.   <div class="wrap">
140.   <section>
141.   <nav id="topnav" class="navbar navbar-fixed-top navbar-inverse" role="navigation">
142.   <div class="container">
143.   <div class="navbar-header">
144.   <button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-ex1-collapse">Toggle navigation</button>
145.   </div>
146.   <div class="collapse navbar-collapse navbar-ex1-collapse">
147.   <ul class="nav navbar-nav">
148.
149.   Main
150.
151.   <li class="active">
152.   Register
153.
154.
155.   Theses
156.
157.
158.   Manage
159.
160.
161.   <div class="nav navbar-nav navbar-right">
162.   Hi Admin!
163.   <form method="post" name="form_signout" action="signout.php" style="margin: 0; padding: 0; display: inline;">
164.   <button class="btn btn-danger navbar-btn" type="submit" name="btn-signout" data-toggle="#" data-target="#collapse1">Sign Out</button>
165.   </form>
166.   </div>
167.   </div>
168.   </div>
169.   </nav>
170.   </section>

171.   `<section>`
172.   `<img src="assets/img/header-bsu-newpng2.png" alt="" style="width: 100%">`
173.   `</section>`
174.   `<section class="features-section" style="margin-top: -50px;">`
175.   `<div class="auto-style1" align="center">`
176.   `<form class="form-signin" method="post" action="<?php echo htmlspecialchars($_SERVER['PHP_SELF']); ?>" autocomplete="off">`
177.   `<h2 class="form-signin-heading">Faculty Registration:</h2>`
178.   `<label for="fname" class="sr-only">First Name</label>`
179.   `<input type="text" id="fname" name="firstname" class="form-control" placeholder="First Name" required autofocus style="width: 27%"> <br>`
180.   `<label for="mname" class="sr-only">Middle Name</label>`
181.   `<input type="text" id="mname" name="midname" class="form-control" placeholder="Middle Name" required style="width: 27%"> <br>`
182.   `<label for="lname" class="sr-only">Last Name</label>`
183.   `<input type="text" id="lname" name="lastname" class="form-control" placeholder="Last Name" required autofocus style="width: 27%"> <br>`
184.   `<label for="srcode" class="sr-only">Faculty ID</label>`
185.   `<input type="text" id="srcode" name="facID" name="firstname" class="form-control" placeholder="Faculty ID" required autofocus style="width: 27%"> <br>`
186.   `<label for="username" class="sr-only">Username</label>`
187.   `<input type="text" id="username" name="username" class="form-control" placeholder="Username" required autofocus style="width: 27%"> <br>`
188.   `<label for="password" class="sr-only">Password</label>`
189.   `<input type="password" id="password" name="userpass" class="form-control" placeholder="Password" required autofocus style="width: 27%"> <br>`
190.   `<button class="btn btn-lg btn-primary btn-block" type="submit" name="btn-`

```
signup" style="border-color:
#FF0000; width: 27%;
background-color:
#FF0000;">Register</button>
191.        <?php
192.        if ( isset($errMSG) ) {
193.        if($errTyp == 'success'){
194.        ?>
195.        <div class="form-
group">
196.        <div class="alert alert-
success">
197.        <span class="glyphicon
glyphicon-info-sign"></span>
<?php echo $errMSG; ?>
198.        </div>
199.        </div>
200.        <?php
201.        }
202.        else {
203.        ?>
204.        <div class="form-
group">
205.        <div class="alert alert-
danger">
206.        <span class="glyphicon
glyphicon-info-sign"></span>
<?php echo $errMSG; ?>
207.        </div>
208.        </div>
209.        <?php
210.        }
211.        }
212.        ?>
213.        </form>
214.        </div> <!-- /container -->
215.        </section>
216.        </div>
```

```
217.        <!-- Placed at the end of
the document so the pages load
faster -->
218.        <script
src="assets/js/jquery.js"
type="text/javascript"></script>
219.        <!-- Latest compiled and
minified JavaScript -->
220.        <script
src="assets/js/bootstrap.js"></scr
ipt>
221.        </body>
222.        </html>
```

Student Registration

```
223.        <!DOCTYPE html>
224.        <?php
225.        ob_start();
226.        session_start();
227.        include_once
'config.php';
228.        $error = false;
229.        if ( isset($_POST['btn-
signup']) ) {
230.        // clean user inputs to
prevent sql injections
231.        $fname =
trim($_POST['firstname']);
232.        $fname =
strip_tags($fname);
233.        $fname =
htmlspecialchars($fname);
234.        $mname =
trim($_POST['midname']);
235.        $mname =
strip_tags($mname);
236.        $mname =
htmlspecialchars($mname);
237.        $lname =
trim($_POST['lastname']);
238.        $lname =
strip_tags($lname);
```

```php
239.    $lname =
    htmlspecialchars($lname);
240.    $uname =
    trim($_POST['username']);
241.    $uname =
    strip_tags($uname);
242.    $uname =
    htmlspecialchars($uname);
243.    $studID =
    trim($_POST['studID']);
244.    $studID =
    strip_tags($studID);
245.    $studID =
    htmlspecialchars($studID);
246.    $pass =
    trim($_POST['userpass']);
247.    $pass =
    strip_tags($pass);
248.    $pass =
    htmlspecialchars($pass);
249.    $vcode=
    $_POST['code'];
250.    $sem=
    $_POST['semester'];
251.    // basic name validation
252.    if (empty($fname)) {
253.    $error = true;
254.    $errorAlert = "Please
    enter your name.";
255.    } else if (strlen($fname)
    < 3) {
256.    $error = true;
257.    $errorAlert = "First
    name must have atleat 3
    characters.";
258.    } else if
    (!preg_match("/^[a-zA-Z
    ]+$/",$fname)) {
259.    $error = true;
260.    $errorAlert = "First
    name must contain alphabets
    and space.";
261.    }
262.    if (empty($mname)) {
263.    $error = true;
264.    $errorAlert = "Please
    enter your name.";
265.    } else if
    (strlen($mname) < 3) {
266.    $error = true;
267.    $errorAlert = "Middle
    name must have atleat 3
    characters.";
268.    } else if
    (!preg_match("/^[a-zA-Z
    ]+$/",$mname)) {
269.    $error = true;
270.    $errorAlert = "Middle
    name must contain alphabets
    and space.";}
271.    if (empty($lname)) {
272.    $error = true;
273.    $errorAlert = "Please
    enter your name.";
274.    } else if (strlen($lname)
    < 2) {
275.    $error = true;
276.    $errorAlert = "Last
    name must have atleat 3
    characters.";
277.    } else if
    (!preg_match("/^[a-zA-Z
    ]+$/",$lname))
278.    $error = true;
279.    $errorAlert = "Last
    name must contain alphabets
    and space.";
280.    if (empty($uname)) {
281.    $error = true;
282.    $errorAlert = "Please
    enter your name.";
283.    } else if
    (strlen($uname) < 6) {
284.    $error = true;
```

```php
285.      $errorAlert =
    "Username must have atleast 6
    characters.";
286.      } else if
    (!preg_match("/^[a-zA-
    Z\d_]+$/", $uname)) {
287.      $error = true;
288.      $errorAlert =
    "Username must contain
    alphabets and space.";
289.      if (empty($studID)) {
290.      $error = true;
291.      $errorAlert = "Please
    enter your SR Code.";
292.      } else if
    (strlen($studID) < 9) {
293.      $error = true;
294.      $errorAlert = "ID must
    have atleat 9 characters.";
295.      } else if
    (!preg_match("/^[A-Za-z0-9-
    ]+$/", $studID)) {
296.      $error = true;
297.      $errorAlert = "ID must
    contain numbers, letters, and
    dashes.";
298.      }
299.      // password validation
300.      if (empty($pass)){
301.      $error = true;
302.      $errorAlert = "Please
    enter password.";
303.      } else if(strlen($pass) <
    6) {
304.      $error = true;
305.      $errorAlert =
    "Password must have atleast 6
    characters.";
306.      }
307.      if ($vcode != "101010")
    {
308.      $error=true;
```

```php
309.      $errorAlert = "Wrong
    Verification Code.";
310.      $password =
    hash('sha256', $pass);
311.      // if there's no error,
    continue to signup
312.      if( !$error ) {
313.      $fullname= $fname."
    ".$mname." ".$lname;
314.      $query = "INSERT
    INTO
    users(username,password,user
    _type, id)
    VALUES('$uname','$pass','stu
    dent','$studID');";
315.      $query .= "INSERT
    INTO
    student(stud_id,firstname,mid
    dlename,
    lastname,fullname,semester)
    VALUES('$studID','$fname','$
    mname','$lname','$fullname','$
    sem');";
316.      $res =
    mysqli_multi_query($db,
    $query);
317.      if ($res) {
318.      $errTyp = "success";
319.      $errMSG =
    "Successfully registered, you
    may login now";
320.      unset($fname);
321.      unset($mname);
322.      unset($lname);
323.      unset($studID);
324.      unset($uname);
325.      unset($pass);
326.      } else {
327.      $errTyp = "danger";
328.      $errMSG = "Something
    went wrong, try again later...";
329.      else {
330.      $errTyp = "danger";
```

```
331.        $errMSG = $errorAlert;
332.        ?>
333.        <html lang="en">
334.        <head>
335.        <meta http-
    equiv="Content-Type"
    content="text/html;
    charset=UTF-8">
336.        <meta charset="utf-8">
337.        <title>Home</title>
338.        <meta
    name="viewport"
    content="width=device-width,
    initial-scale=1.0">
339.        <meta
    name="description"
    content="">
340.        <meta name="author"
    content="">
341.        <!-- Le styles -->
342.        <!-- GOOGLE FONT--
    >
343.        <link
    href='http://fonts.googleapis.c
    om/css?family=Roboto:400,30
    0,700italic,700,500&amp;subs
    et=latin,latin-ext'
    rel='stylesheet' type='text/css'>
344.        <!-- /GOOGLE FONT-
    ->
345.        <!-- Le styles -->
346.        <!-- Latest compiled
    and minified CSS BS 3.0. -->
347.        <link
    href="assets/css/bootstrap.css"
    rel="stylesheet">
348.        <link
    href="assets/css/custom.php"
    rel="stylesheet">
349.        <link
    href="assets/css/registration.cs
    s" rel="stylesheet">
350.        <link
    href="http://netdna.bootstrapc
    dn.com/font-
    awesome/3.2.1/css/font-
    awesome.min.css"
    rel="stylesheet">
351.        <!--[if lt IE 7]>
352.        <link
    href="http://netdna.bootstrapc
    dn.com/font-
    awesome/3.2.1/css/font-
    awesome-ie7.min.css"
    rel="stylesheet">
353.        <![endif]-->
354.        <!-- Fav and touch
    icons -->
355.        <!-- Le HTML5 shim,
    for IE6-8 support of HTML5
    elements -->
356.        <!--[if lt IE 9]>
357.        <script
    src="http://html5shim.googlec
    ode.com/svn/trunk/html5.js"
    type="text/javascript"></script
    >
358.        <![endif]-->
359.        <!-- Le fav and touch
    icons -->
360.        <link rel="shortcut
    icon"
    href="assets/ico/favicon.ico">
361.        <link rel="apple-touch-
    icon-precomposed"
    sizes="144x144"
    href="assets/ico/apple-touch-
    icon-144-precomposed.png">
362.        <link rel="apple-touch-
    icon-precomposed"
    sizes="114x114"
    href="assets/ico/apple-touch-
    icon-114-precomposed.png">
363.        <link rel="apple-touch-
    icon-precomposed"
```

sizes="72x72"
href="assets/ico/apple-touch-icon-72-precomposed.png">

364.   <link rel="apple-touch-icon-precomposed"
href="assets/ico/apple-touch-icon-57-precomposed.png">

365.   <body>
366.   <div class="wrap">
367.   <section>
368.   <nav id="topnav"
class="navbar navbar-fixed-top navbar-inverse"
role="navigation">
369.   <div class="container">
370.   <div class="navbar-header">
371.   </div>
372.   <div class="collapse
navbar-collapse navbar-ex1-collapse">
373.   </div>
374.   </div>
375.   </nav>
376.   </section>
377.   <section>
378.   <section>
379.   <div class="jumbotron"
style="background-image:
url('imgs/bg-red.jpg');
background-size: 100% 180%;
background-position: center;
background-attachment:
fixed;">
380.   <div class="container">
381.   <div class="row">
382.   <div class="page-header text-center">
383.   <h1>
384.   SYNTHESIS
385.   </h1>
386.   </div>

387.   <div class="text-center">
388.   <p class="text-center
custom-paragr lead">
389.   An Online Thesis
Management System for the
College of Engineering and
Computing Sciences
390.   </p>
391.   </div>
392.   </div>
393.   </div>
394.   </div>
395.   </section>
396.   <div class="container">
397.   </div> <!-- /container -->
398.   <div class="auto-style1" align="center">
399.   <?php
400.   if (isset($errMSG)) {
401.   if($errTyp ==
'success'){
402.   ?>
403.   <div class="form-group">
404.   <div class="alert alert-success">
405.   <span class="glyphicon
glyphicon-info-sign">
<?php echo $errMSG; ?>
406.   </div>
407.   </div>
408.   <?php
409.   }
410.   else {
411.   ?>
412.   <div class="form-group">
413.   <div class="alert alert-danger">

414.   `<span class="glyphicon glyphicon-info-sign"></span> <?php echo $errMSG; ?>`

415.   `</div>`

416.   `</div>`

417.   `<?php}}`

418.   `?>`

419.   `<form class="form-signin" method="post" action="<?php echo htmlspecialchars($_SERVER['PHP_SELF']); ?>" autocomplete="off">`

420.   `<h2 class="form-signin-heading">To register fill up the following:</h2>`

421.   `<label for="fname" class="sr-only">First Name</label>`

422.   `<input type="text" id="fname" name="firstname" class="form-control" placeholder="First Name" required autofocus style="width: 27%"> <br>`

423.   `<label for="mname" class="sr-only">Middle Name</label>`

424.   `<input type="text" id="mname" name="midname" class="form-control" placeholder="Middle Name" required style="width: 27%"> <br>`

425.   `<label for="lname" class="sr-only">Last Name</label>`

426.   `<input type="text" id="lname" name="lastname"class="form-control" placeholder="Last Name" required autofocus style="width: 27%"> <br>`

427.   `<label for="srcode" class="sr-only">Student ID</label>`

428.   `<input type="text" id="srcode" name="studID" name="firstname" class="form-control" placeholder="Student ID" required autofocus style="width: 27%"> <br>`

429.   `<label for="username" class="sr-only">Username</label>`

430.   `<input type="text" id="username" name="username" class="form-control" placeholder="Username" required autofocus style="width: 27%"> <br>`

431.   `<label for="password" class="sr-only">Password</label>`

432.   `<input type="password" id="password" name="userpass" class="form-control" placeholder="Password" required autofocus style="width: 27%"> <br>`

433.   `<label for="tokken" class="sr-only">Verification Code</label>`

434.   `<input type="text" id="tokken" name="code" class="form-control" placeholder="Verification Code" required autofocus style="width: 27%"> <br>`

435.   <select name="semester" required>
436.   <option value="" disabled selected >Choose School Year</option>
437.   <option value="S.Y 2017-2018" >S.Y 2017-2018</option>
438.   <option value="S.Y 2018-2019">S.Y 2018-2019</option>
439.   <option value="S.Y 2019-2020">S.Y 2019-2020</option>
440.   <option value="S.Y 2020-2021">S.Y 2020-2021</option>
441.   </select>

442.   <button class="btn btn-lg btn-primary btn-block" type="submit" name="btn-signup" style="border-color: #FF0000; width: 27%; background-color: #FF0000;">Register</button>
443.   Sign In
444.   </form>
445.   </div> <!-- /container -->
446.   >
447.   </section>
448.   <section class="custom-footer">
449.   <p>Copyright © 2017 Thesis Management System by BatStateU Malvar </p>
450.   </section>
451.   </div>

452.   <!-- Placed at the end of the document so the pages load faster -->
453.   <script src="assets/js/jquery.js" type="text/javascript"></script>
454.   <!-- Latest compiled and minified JavaScript -->
455.   <script src="assets/js/bootstrap.js"></script>
456.   </body>
457.   </html>
Thesis File Uploading
458.   <?php
459.   include_once 'config.php';
460.   session_start();
461. $adviser = $_POST['adviser'];
462. $panel1 = $_POST['panel1'];
463. $panel2 = $_POST['panel2'];
464. $chairman = $_POST['chairman'];
465. $check = [$adviser, $panel1, $panel2, $chairman];
466.   if(isset($_POST['btn-upload']))
467.   {
468.   if($adviser == '' || $panel1 == '' || $panel2 == '' || $chairman == '')
469.   {
470.   ?>
471.   <script>
472.   window.location.href=' upload_file.php?incomplete';
473.   </script>
474.   <?php
475.   }

```php
476.        else{
477.        if (count($check) !==
       count(array_unique($check)))
       {
478.        ?>
479.        <script>
480.        window.location.href='
       upload_file.php?duplicate';
481.        </script>
482.        <?php
483.        }
484.        else
485.        {
486.        $file =
       $_FILES['file']['name'];
487.        $file_loc =
       $_FILES['file']['tmp_name'];
488.        $folder="thesis_collecti
       on/";
489.        $path = $file_loc .
       $folder;
490.
491.        $today =
       date("Y/m/d");
492.        // make file name in
       lower case
493.        $new_file_name =
       strtolower($file);
494.        // make file name in
       lower case
495.        $user =
       $_SESSION['user'];
496.        $final_file=str_replace('
       ','-',$new_file_name);
497.        if(move_uploaded_file(
       $file_loc,$folder.$final_file))
498.        $check =
       mysqli_query($db, "SELECT
       `thesis_uploaded` FROM
       `student` WHERE `stud_id` =
       '$user'");
499.        $row=mysqli_fetch_arr
       ay($check);

500.        if($row['thesis_uploade
       d'] == NULL)
501.        {
502.        $sql="UPDATE
       `student` SET
       `thesis_uploaded`='$final_file',
       `date_uploaded` = '$today'
       WHERE `stud_id` = '$user';";
503.        $res =
       mysqli_query($db, $sql);
504.        $sql="INSERT INTO
       `thesis`(`thesis_name`,
       `approvals`, `uploaded_by`,
       `chairman`, `panelist_1`,
       `panelist_2`, `adviser`,
       `date_uploaded`) VALUES
       ('$final_file', 0,'$user',
       '$chairman', '$panel1',
       '$panel2', '$adviser',
       '$today');";
505.        mysqli_query($db,
       $sql);
506.
507.        $res =
       mysqli_query($db, "SELECT
       `thesis_id` FROM `thesis`
       WHERE `thesis_name` =
       '$final_file'");
508.        $row=mysqli_fetch_arr
       ay($res);
509.
510.        $thes_id =
       $row['thesis_id'];
511.
512.        $sql = "INSERT INTO
       `thesis_progress`(`thesis_id`,
       `checker_id`,
       `checker_position`, `status`)
       VALUES ('$thes_id',
       '$adviser','adviser',0);";
513.        $sql .= "INSERT INTO
       `thesis_progress`(`thesis_id`,
       `checker_id`,
```

```php
`checker_position`, `status`)
VALUES ('$thes_id',
'$panel1','panel1',0);";
514.        $sql .= "INSERT INTO
`thesis_progress`(`thesis_id`,
`checker_id`,
`checker_position`, `status`)
VALUES ('$thes_id',
'$panel2','panel2',0);";
515.        $sql .= "INSERT INTO
`thesis_progress`(`thesis_id`,
`checker_id`,
`checker_position`, `status`)
VALUES ('$thes_id',
'$chairman','chairman',0)";
516.        mysqli_multi_query($d
b, $sql);
517.        }
518.        else
519.        {
520.        ?>
521.        <script>
522.        window.location.href='
upload_file.php?exists';
523.        </script>
524.        <?php
525.        }
526.        else{
527.        $sql="UPDATE
`student` SET
`thesis_uploaded`='$final_file'
WHERE `stud_id` = '$user';";
528.        $res =
mysqli_query($db, $sql);
529.
530.        $sql="INSERT INTO
`thesis`(`thesis_name`,
`status`, `uploaded_by`,
`chairman`, `panelist_1`,
`panelist_2`, `adviser`)
VALUES ('$final_file',
0,'$user', '$chairman',

'$panel1', '$panel2',
'$adviser');";
531.        $check =
mysqli_query($db, $sql);
532.
533.        if($check)
534.        {
535.        $res =
mysqli_query($db, "SELECT
`thesis_id` FROM `thesis`
WHERE `thesis_name` =
'$final_file'");
536.        $row=mysqli_fetch_arr
ay($res);
537.
538.        $thes_id =
$row['thesis_id'];
539.
540.        $sql = "INSERT INTO
`thesis_progress`(`thesis_id`,
`checker_id`,
`checker_position`, `status`)
VALUES ('$thes_id',
'$adviser','adviser',0)";
541.
542.        mysqli_query($db,
$sql);
543.        }
544.
545.        }*/?>
546.        <script>
547.        window.location.href='
upload_file.php?success';
548.        </script>
549.        <?php
550.        }
551.        //$sql="UPDATE
`thesis_progress` SET
`thesis_uploaded`='$final_file'
WHERE `stud_id` = '$user';";
552.        //mysqli_query($db,
$sql);
```

```
553.    //$sql1="SELECT
        `thesis.thesis_name`,
        `student.thesis_uploaded`
        FROM `thesis` INNER JOIN
        `student` ON
        `thesis.thesis_name` =
        `student.thesis_uploaded`;";
554.
555.
556.    /*$_SESSION['prevVal
        '] = $final_file;
557.    $count =
        mysqli_num_rows($res);
558.    if ($count == 1){
559.    $sql="UPDATE
        `thesis` SET `thesis_name`=
        '$final_file', `status`= 0
        WHERE thesis = ;";
560.    mysqli_query($db,
        $sql);
561.    }
562.    else{
563.    $sql="INSERT INTO
        `thesis`(`thesis_name`,
        `status`) VALUES
        ('$final_file', 0);";
564.    mysqli_query($db,
        $sql);
565.    }
566.    }
567.    }
568.    ?>
```

**Writing Comments on
Online Editor**

```
569.    <html>
570.    <head>
571.    </head>
572.    <body>
573.    <?php
574.    include 'config.php';
575.    $thes_id =
        $_POST['Revise'];
576.    $sql = "SELECT
        thesis_name FROM thesis
        WHERE thesis_id =
        '$thes_id';";
577.    $res =
        mysqli_query($db, $sql);
578.    $row =
        mysqli_fetch_array($res);
579.    $filename =
        $row['thesis_name'];
580.    $filename_actual =
        preg_replace('/\\.[^.\\s]{3,4}$/'
        , '', $filename);
581.    ?>
582.    <div class="auto-
        style1" align="center">
583.    <form
        enctype="multipart/form-data"
        action="https://www.pdfzorro.
        com/api.php?path_to_pdf=PO
        ST&save_url=http://localhost/
        capstone/fetch_pdf.php&titel_
        save=<?php echo
        $filename_actual;
        ?>_commented&data=<?php
        echo $thes_id; ?>"
        method="POST">
584.    Choose
        file:
585.    <input
        name="pdfzorro_upload"
        type="file"/>
586.    <input
        type="submit" value="Add
        Comment"/>
587.    </form>
588.    </div>
589.
590.    </body>
591.    </html>
```

File Status and Progress

```
592.    <?php
```

```
593.    include_once 'config.php';
594.    session_start();
595.    $user = $_SESSION['user'];
596.    $sql="SELECT * FROM student WHERE stud_id = '$user'";
597.    $result_set=mysqli_query($db, $sql) or die("Error: ".mysqli_error($db));
598.    $row=mysqli_fetch_array($result_set);
599.    $_SESSION['fname'] = $row['firstname'];
600.    $firstname = $_SESSION['fname'];
601.    ?>
602.    <!DOCTYPE html>
603.    <html lang="en">
604.    <head>
605.    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
606.    <meta charset="utf-8">
607.    <title>Home</title>
608.    <meta name="viewport" content="width=device-width, initial-scale=1.0">
609.    <meta name="description" content="">
610.    <meta name="author" content="">
611.    <!-- Le styles -->
612.    <!-- GOOGLE FONT-->
613.    <link href='http://fonts.googleapis.com/css?family=Roboto:400,300,700italic,700,500&amp;subset=latin,latin-ext' rel='stylesheet' type='text/css'>
614.    <!-- /GOOGLE FONT->
615.    <!-- Le styles -->
616.    <!-- Latest compiled and minified CSS BS 3.0. -->
617.    <link href="assets/css/bootstrap.css" rel="stylesheet">
618.    <link href="assets/css/custom.php" rel="stylesheet">
619.    <link href="assets/css/registration.css" rel="stylesheet">
620.    <link href="http://netdna.bootstrapcdn.com/font-awesome/3.2.1/css/font-awesome.min.css" rel="stylesheet">
621.    <!--[if lt IE 7]>
622.    <link href="http://netdna.bootstrapcdn.com/font-awesome/3.2.1/css/font-awesome-ie7.min.css" rel="stylesheet">
623.    <![endif]-->
```

624.	<!-- Fav and touch icons -->
625.	<!-- Le HTML5 shim, for IE6-8 support of HTML5 elements -->
626.	<!--[if lt IE 9]>
627.	<script src="http://html5shim.googlecode.com/svn/trunk/html5.js" type="text/javascript"></script>
628.	<![endif]-->
629.	<!-- Le fav and touch icons -->
630.	<link rel="shortcut icon" href="assets/ico/favicon.ico">
631.	<link rel="apple-touch-icon-precomposed" sizes="144x144" href="assets/ico/apple-touch-icon-144-precomposed.png">
632.	<link rel="apple-touch-icon-precomposed" sizes="114x114" href="assets/ico/apple-touch-icon-114-precomposed.png">
633.	<link rel="apple-touch-icon-precomposed" sizes="72x72" href="assets/ico/apple-touch-icon-72-precomposed.png">
634.	<link rel="apple-touch-icon-precomposed" href="assets/ico/apple-touch-icon-57-precomposed.png">
635.	<body>
636.	<div class="wrap">
637.	<section>
638.	<nav id="topnav" class="navbar navbar-fixed-top navbar-inverse" role="navigation">
639.	<div class="container">
640.	<div class="navbar-header">
641.	<button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-ex1-collapse"> Toggle navigation</button> Title
642.	</div>
643.	<div class="collapse navbar-collapse navbar-ex1-collapse">
644.	<ul class="nav navbar-nav">
645.	<li class="active">
646.	Home
647.	
648.	
649.	<div class="nav navbar-nav navbar-right">

```
650.        <span style="color:
   white; padding-right:
   20px;">Hi <?php echo
   $firstname ?>!</span>
651.        <a class="btn btn-
   danger navbar-btn" data-
   toggle="#" data-
   target="#collapse1">Sign
   Out</a>
652.        </div>
653.        </div>
654.        </div>
655.        </nav>
656.        </section>
657.        <section>
658.        <img
   src="assets/img/header-bsu-
   newpng2.png" alt=""
   style="width: 100%">
659.        </section>
660.        <section
   class="features-section">
661.        <div class="container"
   style="margin-top: -50px;">
662.        <div class="row">
663.        <div class="col-xs-12
   col-sm-12 col-md-12 col-lg-
   12">
664.        <div class="page-
   header text-center">
665.        <h3 style="margin-
   bottom: -10px;">
666.    Thesis Status
667.        </h3>
668.        </div>
669.        </div>
670.        </div>
671.        <table class="table">
672.        <thead>
673.        <tr>
674.        <th>ID</th>
675.        <th center>File
   Name</th>
676.        <th>Status</th>
677.        <th>Progress</th>
678.        <th>Comments</th>
679.        </tr>
680.        </thead>
681.        <tbody>
682.        <?php
683.        $sql="SELECT *
   FROM thesis WHERE
   uploaded_by = '$user'";
684.        $result_set=mysqli_que
   ry($db, $sql) or die("Error:
   ".mysqli_error($db));;
685.        while($row=mysqli_fet
   ch_array($result_set))
686.        {
687.        ?>
688.        <tr>
689.        <td><?php echo
   $row['thesis_id'] ?></td>
690.        <td><a
   href="thesis_collection/<?php
   echo $row['thesis_name'] ?>"
   target="_blank"><?php echo
   $row['thesis_name']
   ?></a></td>
691.        <td><?php
692.        $thes_id =
   $row['thesis_id'];
693.        $res =
   mysqli_query($db, "SELECT
```

```php
        * FROM thesis_progress
        WHERE thesis_id = '$thes_id'
        AND status = 1");
694.    $count =
        mysqli_num_rows($res);
695.    if ($count == 0){
696.    echo 'No Approvals
        Yet.';
697.    }
698.    else {
699.    echo 'Approved by '
        .$count;
700.    }
701.    ?>
702.    </td>
703.    <td>
704.    <?php
705.    $thes_id =
        $row['thesis_id'];
706.    $res =
        mysqli_query($db, "SELECT
        * FROM thesis_progress
        WHERE thesis_id = '$thes_id'
        AND status = 1");
707.    $res2 =
        mysqli_query($db, "SELECT
        * FROM thesis_progress
        WHERE thesis_id =
        '$thes_id'");
708.    $count =
        mysqli_num_rows($res);
709.    $count2 =
        mysqli_num_rows($res2);
710.    echo ($count/$count2)
        * 100 .'%';
711.    ?>
712.    </td>
713.    <td>
714.    <a
        href="thesis_commented/<?ph
        p echo $row['thesis_name']
        ?>" target="_blank"><?php
        echo
        $row['thesis_commented'];
        ?></a>
715.    </td>
716.    </tr>
717.    <?php
718.    }
719.    ?>
720.    </tbody>
721.    </table>
722.    </div>
723.    </div>
724.    </section>
725.    </div>
726.    <!-- Placed at the end of
        the document so the pages
        load faster -->
727.    <script
        src="assets/js/jquery.js"
        type="text/javascript"></script
        >
728.    <!-- Latest compiled
        and minified JavaScript -->
729.    <script
        src="assets/js/bootstrap.js"></
        script>
730.    </body>
731.    </html>
```

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B.EVALUATION TOOL

"An Online Thesis Management System for the College of Engineering and Computing Sciences using Workflow Model"

EVALUATION FORM (for System Administrator)

Part I. General Information

Name (*Optional*):_____

Part II. Survey Questionnaire

Directions: Check the corresponding box according to your answer. Please be guided by the scale provided below.

5 - Strongly Agree   **4** – Agree   **3** – Fair **2** – Disagree **1** - Strongly Disagree

FUNCTIONALITY	5	4	3	2	1
1. I was able to view the number of users, students account, and faculty's uploaded thesis.					
2. I was able to register the account of the faculty members.					
3. I was able to view all the uploaded file of the students.					
4. I was able to track all the progress of the uploaded file.					
5. I was able to update the password of all the users.					

RELIABILITY	5	4	3	2	1
1.The file that are given by the user are validated first					
2. The process of document checking is organized.					
3. The security of the system and its data are on high level.					
USABILITY	5	4	3	2	1
1. The design of the user interface is attractive and understandable by the user.					
2. It is user friendly and can be easily accessed by the user.					
3. The user can easily navigate the system which results to user's efficiency and productivity.					
4. The website helps to lessen the workload of the faculty.					
EFFICIENCY	5	4	3	2	1
1. It lessens the processing time and responds immediately to the user's need.					
2. The website produces the needed output in a short time.					

COMMENTS/SUGGESTIONS:

_____

_____

Thank you very much for your cooperation. God Bless!

"An Online Thesis Management System for the College of Engineering and Computing Sciences using Workflow Model"

EVALUATION FORM (for Students)

Part I. General Information

Name (*Optional*):_____

Part II. Survey Questionnaire

Directions: Check the corresponding box according to your answer. Please be guided by the scale provided below.

5 - Strongly Agree   **4** – Agree   **3** – Fair **2** – Disagree **1** - Strongly Disagree

FUNCTIONALITY	5	4	3	2	1
1. I was able to upload my thesis documents.					
2. I was able to assign my adviser, panel and chairman.					
3. I was able to receive comments and suggestions from my adviser.					
4. I was able to receive comments and suggestions from the panelists.					
5. I was able to receive comments and suggestions from the chairman.					
6. I was able to see the progress of my documentation.					

RELIABILITY	5	4	3	2	1
1.The file that are given by the user are validated first					
2. The process of document checking is organized.					
3. The security of the system and its data are on high level.					
USABILITY	5	4	3	2	1
1. The design of the user interface is attractive and understandable by the user.					
2. It is user friendly and can be easily accessed by the user.					
3. The user can easily navigate the system which results to user's efficiency and productivity.					
4. The website helps to lessen the workload of the faculty.					
EFFICIENCY	5	4	3	2	1
1. It lessens the processing time and responds immediately to the user's need.					
2. The website produces the needed output in a short time.					

COMMENTS/SUGGESTIONS:

_____

_____

Thank you very much for your cooperation. God Bless!

___

"An Online Thesis Management System for the College of Engineering and Computing Sciences using Workflow Model"

EVALUATION FORM (for Faculty Members)

Part I. General Information

Name (*Optional*):_____

Part II. Survey Questionnaire

Directions: Check the corresponding box according to your answer. Please be guided by the scale provided below.

5 - Strongly Agree   **4** – Agree   **3** – Fair **2** – Disagree **1** - Strongly Disagree

FUNCTIONALITY	5	4	3	2	1
1. I was able to receive document uploaded by students that I am part of the thesis committee.					
2. I was able to provide comments and suggestions using the online editor.					
3. I was able to see the progress of the files of my handled students.					
RELIABILITY	5	4	3	2	1
1.The file that are given by the user are validated first					

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	5	4	3	2	1
2. The process of document checking is organized.					
3. The security of the system and its data are on high level.					
USABILITY	5	4	3	2	1
1. The design of the user interface is attractive and understandable by the user.					
2. It is user friendly and can be easily accessed by the user.					
3. The user can easily navigate the system which results to user's efficiency and productivity.					
4. The website helps to lessen the workload of the faculty.					
EFFICIENCY	5	4	3	2	1
1. It lessens the processing time and responds immediately to the user's need.					
2. The website produces the needed output in a short time.					

COMMENTS/SUGGESTIONS:

_____

_____

_____

Thank you very much for your cooperation. God Bless!

C. Sample Input / Output Reports

Figure 39 shows the process of putting input to data and file for uploading.

The data that are needed to be input are the names of the thesis committee.

Figure 39. Sample Input

Figure 40 shows the output of the input of file and data of the students. The

admin can view the entire uploaded thesis file of students

Figure 40. Sample Output

D. User's Guide

Login Form for the Research Instructor

The page shows the interface where students must input their username and password to access the website. The account of the student is obtained through registration.
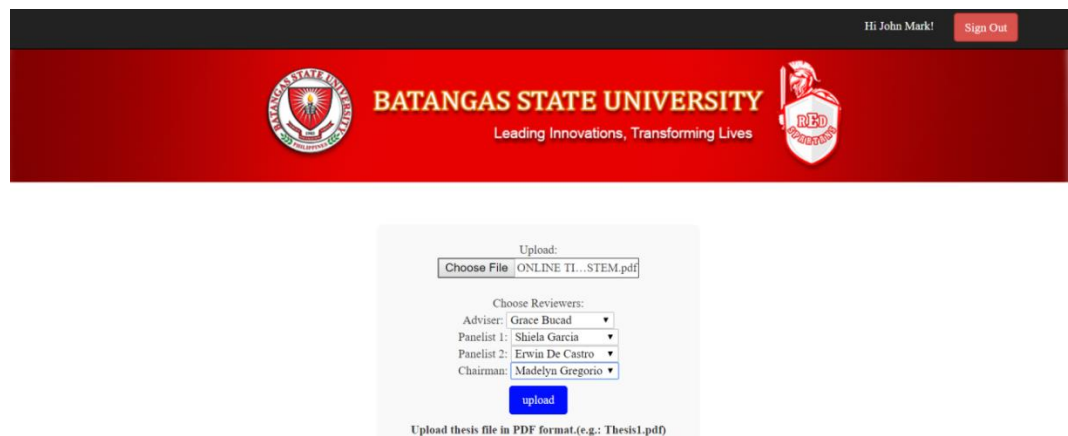
1.) Input username and password.

Upload Thesis File

This page shows the interface where the uploading of thesis file is done.

1.) Choose the thesis file to be uploaded.

2.) Choose the assigned adviser, panelists and chairman.

3.) Click submit button to finish.

Update Thesis File

This page shows the interface of updating the thesis file of the student.

Once the student received the commented thesis file, they have to update it.

1.) Choose the Thesis File that is updated.

2.) Click update button.

Login Form for the Group Leader

This page shows the interface where the research instructor must input their username and password. Their account is obtained by asking the system administrator to provide an account.
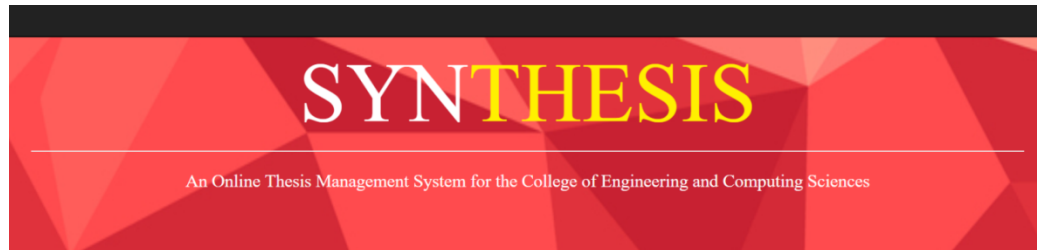
1.) Input username and password.

Revising the Thesis File

This page shows the interface where the research instructor can revise the uploaded thesis file of the student.
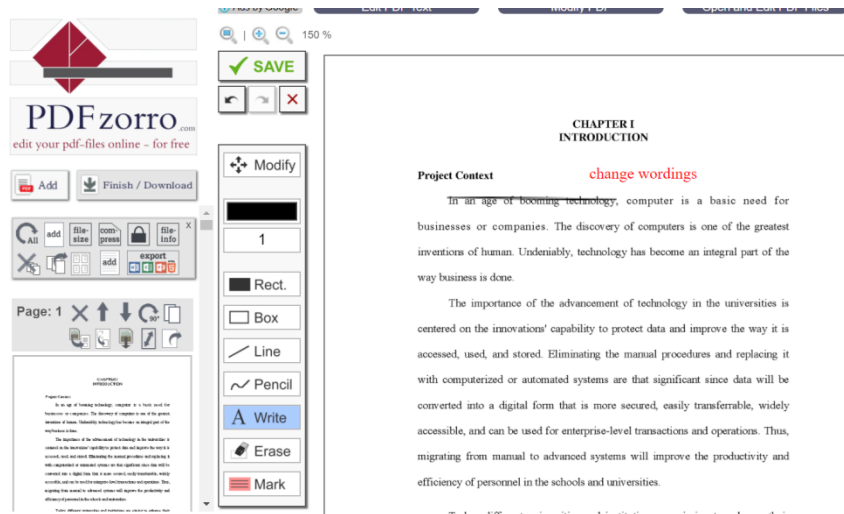

1.) Click the revise button.

2.) Save the commented file.
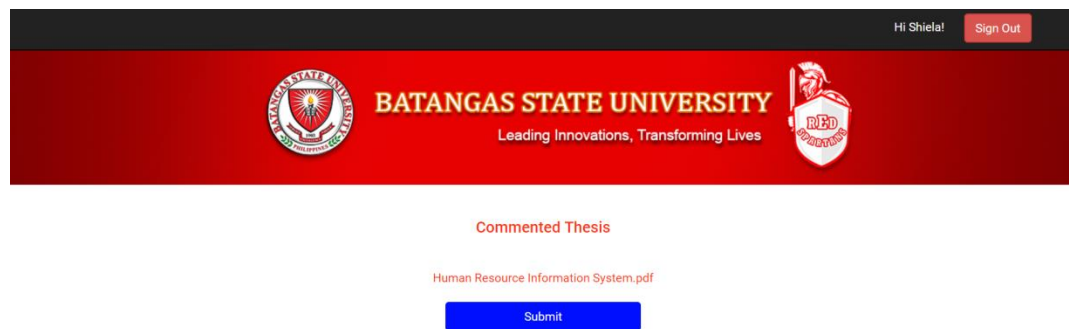
3.) Send it back to student.

Admin's account

The admin's account shows the information of the number of users and numbers of file uploaded. The admin can also modify passwords and register faculty accounts can view the entire uploaded thesis file.

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Summary

Subject	Information
Number of Users	10
Number of Student Accounts	3
Number of Faculty Accounts	7
Number of Thesis Uploaded	3

E. CURRICULUM VITAE

Bachelor of Science in Information Technology
Batangas State University JPLPC-Malvar Campus, Malvar, Batangas
2017 – Present

SUMMARY OF QUALIFICATION

- Knowledgeable in Web Designing and Web Development (HTML, CSS, PhP)
- Knowledgeable in Programming (Visual Basic)
- Proficient in Microsoft Office (MS Word, Excel, PowerPoint, Internet, etc)
- Adobe Creative Suite (Photoshop, Dreamweaver)

PERSONAL INFORMATION

Age : 26 yrs. old
Date of Birth : September 3, 1991
Place of Birth : Ragay, Camarines Sur
Gender : Male
Civil Status : Single
Height : 5' 7"
Weight : 60kgs
Nationality : Filipino
Religion : Roman Catholic

I do hereby certify that the above information is true and correct to the extent of my knowledge and ability.

MATRIMON M. AMBOS
Developer

MATRIMON M. AMBOS
Address: San Andres Malvar, Batangas
Contact No.:09102003002
Email:matrimon.ambos@gmail.com

CAREER OBJECTIVE

- To design, develop and deploy an Online Thesis Management System for CECS Department of Batangas State University-JPLPC Malvar.

SEMINARS ATTENDED

- **Internet of Things: The Next Industrial Revolution**
  Batangas State University – JPLPC Malvar , September 15,2017

CHARACTER REFERENCE

Mrs. Maria Graciela R. Bucad
Computer Instructor, BatStateU-JPLPC Malvar
Malvar, Batangas

Mr. Joseph M. Torres
Computer Instructor, BatStateU- JPLPC Malvar
Malvar, Batangas

Engr. Erwin F. De Castro
Computer Instructor, BatStateU - JPLPC Malvar
Malvar, Batangas

CHARLES DANIEL S. LAGRIMAS

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CAREER OBJECTIVE

- To design, develop and deploy an Online Thesis Management System for CECS Department of Batangas State University-JPLPC Malvar.

SEMINARS ATTENDED

- **Internet of Thins: The Next Industrial Revolution**
  Batangas State University – JPLPC Malvar
  September 15, 2017

CHARACTER REFERENCE

Mrs. Maria Graciela R. Bucad
Computer Instructor, BatStateU- JPLPC Malvar
Malvar, Batangas

Mr. Joseph M. Torres
Computer Instructor, BatStateU- JPLPC Malvar
Malvar, Batangas

Engr. Erwin F. De Castro
Computer Instructor, BatStateU- JPLPC Malvar
Malvar, Batangas

EDUCATIONAL BACKGROUND

Bachelor of Science in Information Technology
Batangas State University JPLPC-Malvar Campus, Malvar, Batangas
2013 – Present

SUMMARY OF QUALIFICATION

- Knowledgeable in Web Designing and Web Development (HTML, CSS, PHP)
- Knowledgeable in Programming (Visual Basic)
- Proficient in Microsoft Office (MS Word, Excel, PowerPoint, Internet, etc)
- Adobe Creative Suite (Photoshop, Dreamweaver)

PERSONAL INFORMATION

Age   : 20 yrs. old
Date of Birth : August 8, 1997
Place of Birth : Nabua, Camarines Sur
Gender   : Male
Civil Status   : Single
Height   : 5' 5"
Weight   : 68kgs
Nationality   : Filipino
Religion   : Roman Catholic

I do hereby certify that the above information is true and correct to the extent of my knowledge and ability.
Charles Daniel S. Lagrimas
Developer

EDUCATIONAL BACKGROUND

Bachelor of Science in Information Technology
Batangas State University JPLPC-Malvar Campus, Malvar, Batangas
2017 – Present

SUMMARY OF QUALIFICATION

- Knowledgeable in Web Designing and Web Development (HTML, CSS, JavaScript, PhP)
- Knowledgeable in Programming (Visual Basic andJava)
- Proficient in Microsoft Office (MS Word, Excel, PowerPoint, Internet, etc)
- Adobe Creative Suite (Photoshop, Dreamweaver)

PERSONAL INFORMATION

Age : 19 yrs. old
Date of Birth : November 2, 1997
Place of Birth : Tanauan City, Batangas
Gender : Female
Civil Status : Single
Height : 5'
Weight : 45kgs
Nationality : Filipino
Religion : Born Again Christian

I do hereby certify that the above information is true and correct to the extent of my knowledge and ability.

ANGELYN A. NOLO
Developer

ANGELYN A. NOLO
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Contact No.:09293206465
Email:angelynnolo@gmail.com

CAREER OBJECTIVE

- To design, develop and deploy an Online Thesis Management System for CECS Department of Batangas State University-JPLPC Malvar.

SEMINARS ATTENDED

- **Internet of Things: The Next Industrial Revolution**
  Batangas State University – JPLPC Malvar, September 15,2017

CHARACTER REFERENCE

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