

STUDENT PROJECT ALLOCATION FOR MONITORING DUPLICATION

A Report for the Evaluation 3 of Capstone Project 2

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ABSTRACT

This project is aimed at developing a web-based system, which manages the activity of “Student Project Management” and allocation. This system will manage the database and maintain a list of all student or groups of student that have registered as a finalist in this site, and for those students that been shortlisted who have passed the eligibility criteria as set by the lecturer/supervisor. The programming Language used is Microsoft ASP.NET. This Language was chosen because of its object oriented features and class libraries for developing online applications.

The application is secured so only the people responsible are allowed to perform the allocation and to view the sensitive data. The front-end enables the administrators to configure the system in response to changing project regulations and assignment desiderata. The system can also be used as a reporting tool regarding project and allocation details. The system is able to check duplications by disregarding repeated data but allows different students from different supervisors take the same project topic at a time. The system was tested using data that simulate actual real-time use after its completion.

1.0 INTRODUCTION

In many tertiary institutions in the country, students seek a project in a given field of specialty as part of the upper level of their degree programme. Usually, a project can be filled by at most one student, though in some cases a project is suitable for more than one student to work on simultaneously. To give students something of a choice, there should be as wide a range of available projects as possible, and in any case the total number of project places should not be less than the total number of students. Typically a lecturer will also offer a range of projects, but does not necessarily expect that all will be taken up. Each student has preferences over the available projects that he/she finds acceptable, whilst a lecturer will normally have preferences over the students that he/she is willing to supervise. There may also be upper bounds on the number of students that can be assigned to a particular project, and the number of students that a given lecturer is willing to supervise. In this paper we consider the ways of allocating student project in our various institutions.

1.1 STATEMENT OF THE PROBLEM

The traditional way of allocating project to students in our higher institution need to be reconsidered since project/research writing is sensitive aspect of student education in the higher institution. Before now, lecturers ask students to go out and get project topics for themselves for approval. This system made project writing look less like a class assignment which does not require an extra effort to complete rather an issue of copying.

1.2 OBJECTIVE OF THE STUDY

With the advancement in file saving and file retrieval system, institution cannot afford to be ignorant of the basic tool, which is the driving force behind technological oriented administration.

Much can be achieve if an institution have a well organized management system. Students project can easily be allocated to each or group of students without the problem of delayed project allocation from the supervisor or conflict of topic between two individual or group of student in the same department. Students update can be easily be accessed if the database system is enhanced.

1.3 SIGNIFICANCE OF THE STUDY

Projects provide a flexible framework for engaging students in exploring curricular topics and developing important 21st century skills, such as communication, teamwork, and technology skills. In addition, students are motivated by the fun and creative format and the opportunity to make new friends around the world. For teachers, a school portal enables quick and easy management of student accounts and review of project work.

1.4 SCOPE OF STUDY

The research will centre on the design and implementation of Student Project Allocation and Management system for the department of computer science in the Galgotias University.

1.5 LIMITATION OF STUDY

Usually, every work has some limitations and this study is not exempted. The two major limitations of this study are the time limits within which the study is expected to be completed as well as financial constraints. The time constraint prevents the researcher to have an in depth study and analysis on the subject matter. While the issue of financial constraint limits the frequency of investigation to/ fro the institution toward gathering the necessary information relevant for the study.

1.6 KEYWORDS

- **HTML CODE-** HTML stands for Hyper Text Mark-up Language. It is a type of computer language that is primarily used for files that are posted on the internet and viewed by web browsers. HTML files can also be sent via email.
- **WEB BROWSER** - A Web browser is a software program that interprets the coding language of the World Wide Web in graphic form, displaying the translation rather than the coding. This allows anyone to “browse the Web” by simple point and click navigation, bypassing the need to know commands used in software languages.
- **TCP/IP** - This often used but little understood set of operations stands for Transmission Control Protocol/Internet Protocol. TCP/IP is the combination of the two and describes the set of protocols that allows hosts to connect to the Internet.
- **www** – acronym for World Wide Web

- **Hyper Link** - A hyperlink is a graphic or a piece of text in an Internet document that can connect readers to another webpage, or another portion of a document. Web users will usually find at least one hyperlink on every webpage. The simplest form of these is called embedded text or an embedded link.
- **WEB DESIGN**- Web design is the “skill of creating presentations of content (usually hypertext or hypermedia) that is delivered to an end-user through the World Wide Web, by way of a Web browser or other Web-enabled software like Internet television clients, micro blogging clients and RSS readers”. M. Thorn, 2003 The intent of web design is to create a web site—a collection of electronic documents and applications that reside on a web server/servers and present content and interactive features/interfaces to the end user in form of Web pages once requested. Such elements as text, bit-mapped images (GIFs, JPEGs) and forms can be placed on the page using HTML/XHTML/XML tags. Displaying more complex media (vector graphics, animations, videos, sounds) requires plug-ins such as Adobe Flash, QuickTime, Java run-time environment, etc. Plug-ins are also embedded into web page by using HTML/XHTML tags.
- **WYSIWYG WEB BUILDER / WEB DESIGN SOFTWARE** - WYSIWYG is acronym of What You See Is What You Get. It simply means that the software provides an editing interface which resembles how the page will be displayed in a web browser. And it does not require any HTML knowledge or experience for creating a web page or site. This makes the program simple and

easy to use, especially for average computer users. And the program makes web design process faster and easier than using text editor or HTML editor.

All of the WYSIWYG web design provides easy to use drag and drop feature which allows user to add image, text, link and other web elements by using mouse clicks. The good program supports many web languages including HTML, XHTML, CSS, JavaScript, PHP, ASP.NET, ASP.NET and AJAX.

2.0 EXISTING MODEL

This is a system used by Educational Institutions or other organizations, which are willing to give student projects. We have three roles in this system, an administrator, a supervisor/lecturer and a student. An administrator logs into this system, and can register a professor who belongs to that institution. Students register in this system and get user-id (similar to a website like Yahoo). A student should register, provide his information (technologies familiar with, prior project experience etc.,) and also provide information about his team members. This is saved in a database. The department shortlist student for supervisors.

The lecturer/supervisor extract project topic from the list of topic in his profile page to students/group under him/her Facility for password changing - There is facility for changing the password for the student as well as the lecturer. Mail sent to students - An auto-generated email is sent to students intimating them that a supervisor/lecturer has allocated them a project. This email should be responded by the students in a week's time as then only can a lecturer/supervisor communicate with their group The data entered by the student like name, percentage, marks, age etc should be validated appropriately. This feature will improve the robustness of the application; also this feature is a must as it prevents the incorrect data being entered in the database.

2.1 PROBLEMS OF EXISTING SYSTEM

Although, the manual process of project allocation meet the requirement, in order to make the job more effective some development has to be involve. The problem, of this system however is in the speed of the process and the dissemination of information to users of the system. In the existing system, it will take a student to must wait for lecturer to collect his/her project topic. Sometime, it takes days or even weeks to get a topic. Another problem with the existing system is the fact that some of this topic given to the students are brought forward by the student thereby creating a chance of “copy and paste” which do not at the end of the day make the project work a “research study”. This problem is solved in the new system.

3.0 PROPOSED SYSTEM

This project is aimed at developing a web-based system, which manages the activity of “Student Project Management”. This system will manage the database and maintain a list of all student groups that have registered in the department. Allocation of project will be done by lecturers registered in this system through a list of topics in the department database organized by the department board.

To join other standard educational institutions in the world, it became necessary to develop a computerized students project allocation system.

From implementation standpoint, modules are implemented in this project as application logic in the web pages of the web application. A module may contain several web pages each of which is used to perform a specific function.

The development of any web solution begins by first sketching a rough diagram of your design based on the basic pages that need to be created. The diagram shown below illustrates the structure of the web application. The entire pages do not all inter link because the creation of a new, personalized presentation is available only if no session exist for the current user.

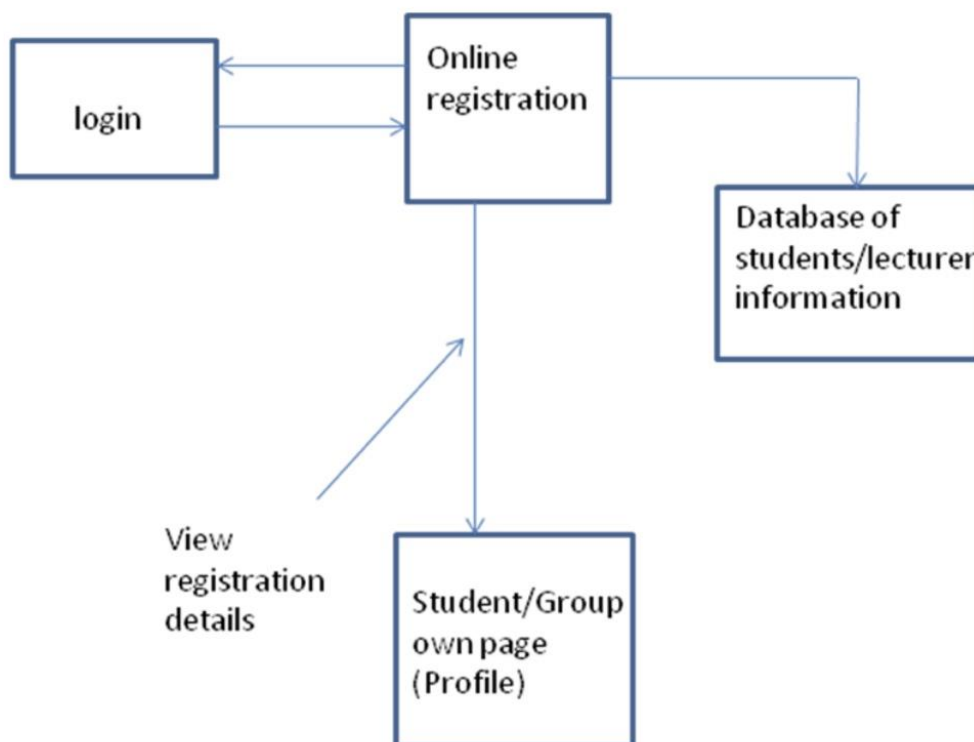
3.1 EVALUATION OF FORMS

The system design is based on three –tier architecture. The three –tier (layer) is a client –server architecture in which the user interface, registration process and data storage and data access are developed and maintained as independent modules or most often on separate platforms.

The three logical tiers are-

- i. Presentation Tier – Dreamweaver, web forms, Master Pages, Images
- ii. Middle Tier – web module
- iii. Data Tier – Database

The figure below show the basic design of the web application:



System flowchart

4.0 IMPLEMENTATION AND PROGRAM DESIGN

Our application package for students project allocation is realized using ASP.NET (Active Server Pages) as main scripting language, J Query to simplify menus, CSS (Cascading Style Sheet) to style the interface, MSSQL server as database server, and Vertigo as web server. The application can be accessed using any web browser.

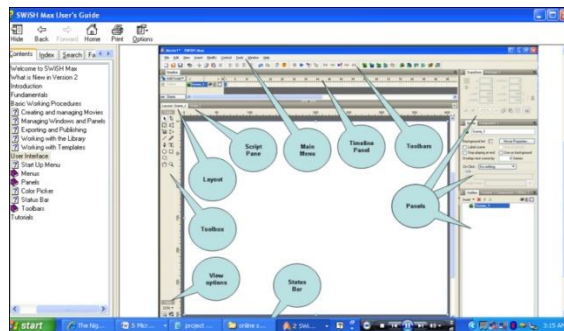
4.1 JUSTIFICATION OF THE PROGRAMMING LANGUAGE

Adobe Dreamweaver is the most powerful web design software program on the market today. Adobe Dreamweaver gain its popularity through its WYSIWYG (wee-see-wee-what you see is what you get) feature. Dreamweaver is use in this research work for the design of the application. Dreamweaver is a powerful but easy-to-use web site development program that bridges the gap between designer and developer. Although it includes advanced features for developing complex web-based data-driven applications, Dreamweaver's intuitive interface and extensive libraries let even the novice web designer develop a professional web site quickly and easily. Dreamweaver's interface makes it easy to design and manage both simple and complex web sites by providing a point-and-click interface that simplifies most tasks. Designers can drag and drop page elements in Design view, while developers can work directly with the page's code, making use of the various tools Dreamweaver provides for ensuring correct syntax. The programming Language used is Microsoft ASP.NET. This Language was chosen because of its object oriented features and class libraries for developing online applications.

4.1.1 SWISH MAX VERSION 2

SWISH max is also use in the design for creating animation. SWISH Max is a complete Flash™ animation authoring application. Create stunning and powerful Flash™ animations without using Adobe Flash™. SWISH Max is easy to use and produces complex animations with text, images, graphics, video and sound. SWISH Max has tools for creating lines, rectangles, ellipses, vector and freehand curves, motion paths, movie clips, rollover buttons, and input forms all in an intuitive easy-to-use interface. Earlier versions were called SWISH LITE, SWiSH2 then SWISH Max. SWISH Max version 2 is the latest addition to the SWiSHzone.com family of Flash™ authoring tools and is an upgrade from the first version of SWISH Max. SWISH Max exports the SWF file format used by Adobe Flash™, so the animation will play on any machine that has the Flash™ Player installed. SWISH Max animations can be incorporated into any web page or imported into Flash™. They can also be sent in an email, embedded in a Microsoft PowerPoint presentation or included in a Microsoft Word document.

Below is a typical diagram of SWISH Max interface use for the design of this research work -

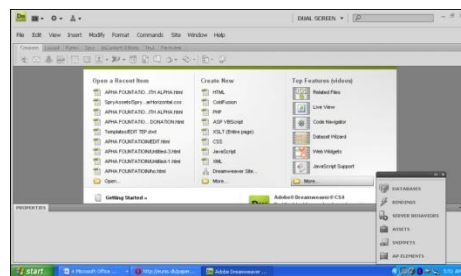


4.1.2 HOW TO INSTALL AND RUN THE APPLICATION

In this section, we will briefly discuss how to setup this web application on a standalone computer system and then how to operate it. The installation that is discussed in this section applies to the ordinary user that wants to implement or use the web application on a standalone computer or over a network. At this level, it is assumed that the web application has been developed already. To run web application, you need a computer that is capable of running any versions of window XP SP2, Windows Vista and Windows 7. After that, you need to install Adobe Dreamweaver CS3 or CS4. Because a database is required to power the web application you have to install one, such as internet information server (IIS), but I'll recommend VertrigoServ 2.19.

4.1.3 INSTALLING DEVELOPMENT TOOL (DREAMWEAVER)

The installation process of DREAMWEAVER CS4 is very easy. Just insert the installation CD/DVD ROM and then follow the instructions on the screen that appears.



4.1.4 INSTALLING THE WEBSERVER

In this project a web server is required to provide components that will enable the web Application to run. VERTRIGOSERV is the recommended web server. To enable the installation of the Apache HTTP server and MSSQL Database, download Vertrigoserv from VertrigoServ Project page on <http://vertrigo.sf.net> install the application by following the steps.

4.1.5 USING VERTRIGO IN THIS PROJECT

The apache web server's duty is to host and serve the web application's output to the web browser that requested it. This include receiving the request for a resource that the web server has by the web browser, triggering the necessary server side scripting languages to interpret server side script code (if need be), collect the result HTML document and sending it to the web browser that made the request for the web page. It is important to note that the web server and web browser can both exist on the same machine especially because of design and testing purposes as with this project. But the web server, its utilities and the web browser must be present either together in the same machine or remotely for a web application system to be complete.

Web browser is needed to retrieve the student personal data identification system from the host server (Apache HTTP Server) over the internet or a local area network. It receives the HTML codes for the contents of the current page it is accessing and interprets the HTML codes to produce the interface where data can be collected from the user and sent to the server.

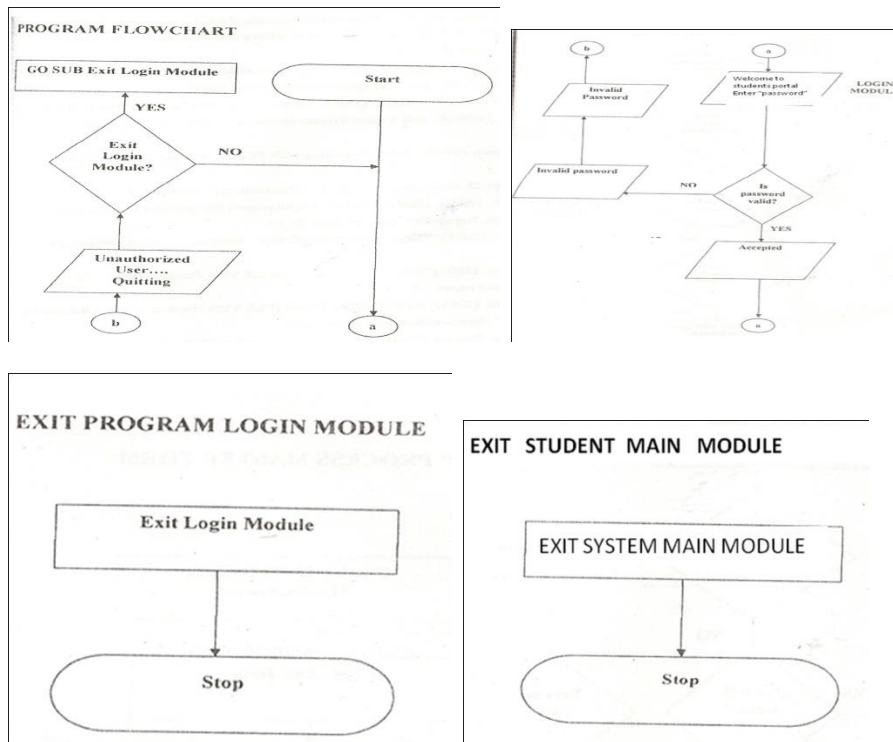
4.2 SETTING UP THE MSSQL DATABASE

Setting up the MSSQL database is relatively simple. It can be done in two ways;

By writing SQL code and with the use of Microsoft SQL Management Server, it is controlled entirely through SQL scripts.

4.3 FLOW CHART OF THE ONLINE PROJECT ALLOCATION SYSTEM

A flowchart is a common type of diagram that represents an algorithm or process showing the steps as boxes of various kinds, and their order by connecting these with arrows. This diagrammatic representation can give a step by step solution to a given problem. Data is represented in these boxes, and arrows connecting them represent flow/direction of flow of data. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.



4.5 IMPLEMENTATION

When preparing system implementation plans, certain things must be considered. For this project, the new system differs a little from that of the existing one because of its nature. It is computerized and requires the services of competent and well trained staff for it to be effectively operational. Implementation of the new system involves:

- (1) Training of staff
- (2) System testing
- (3) System change over
- (4) System review and maintenance

4.5.1 TRAINING OF-STAFF

It is important to prepare training schedule for the staff before the new system is to be installed. The user of the new system should be given specific time for training courses. This will enable them fit into the new system. Also, user manual will be produced in regards to the operation of the new system.

4.5.2 SYSTEM TESTING

For the implementation of the new system, data must be prepared for live testing. The result from the new system is compared to that of the existing system to check if the expected result was achieved. It is also necessary to formulate the operation of the new system to check the overall time and ability of the staff to handle the operation of the new system.

4.5.3 SYSTEM CHANGE OVER

The parallel method is adopted in the changeover process. This method was adopted because it creates an avenue where by the old and new systems are being run concurrently. With this method, the users of the system will gain a practical knowledge of how the new system is being operated. When this is achieved, the old system is discontinued and the new system takes its place. This method also helps to introduce the new system to users having little or no notice of the change over process.

4.5.4 SYSTEM REVIEW MAINTENANCE

The system should be reviewed and maintained periodically in order to deal with unforeseen operational problems that may arise and to make sure that the new system meets its planned objectives or standard.

4.6 DOCUMENTATION

The administrator controls the logging in process in such a way that unauthorized user do not log in, add new lecturer/supervisor to the list, update lecturer/supervisor's profile, determine if a student should be given project supervisor after students assessment, add and delete student or supervisor below requirement.

5.0 OUTPUT/INPUT SPECIFICATION

There are various input and output screens:-

1) THE LOGIN PAGE:

Here the student or group login to their own page.

SOFTWARE INTERFACE

Login



Username

Password

2) THE EDIT PROFILE MODULE: - The Edit profile module should have fields such as Login id, Password, Confirm Password, User name. One can make changes to the data entered.



User name

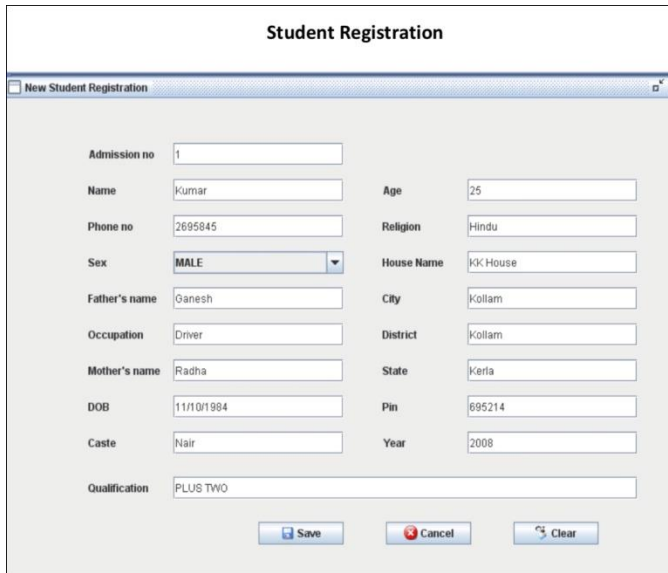
Enter the password

Confirm password

Student Administrator

3) THE REGISTRATION FORM:

Here the students or group register for their student project before allocation is made by the department and supervisor given.



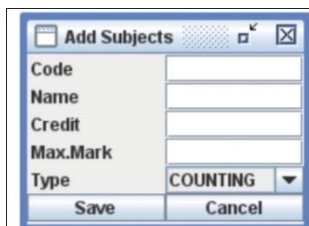
The screenshot shows a web-based form titled "Student Registration" with a sub-header "New Student Registration". The form contains the following fields:

Admission no	1	Age	25
Name	Kumar	Religion	Hindu
Phone no	2695845	House Name	kk House
Sex	MALE	City	Kollam
Father's name	Ganesh	District	Kollam
Occupation	Driver	State	Kerala
Mother's name	Radha	Pin	695214
DOB	11/10/1984	Year	2008
Caste	Nair		
Qualification	PLUS TWO		

At the bottom of the form are three buttons: "Save", "Cancel", and "Clear".

4) THE STUDENT SHORTLISTING MODULE:

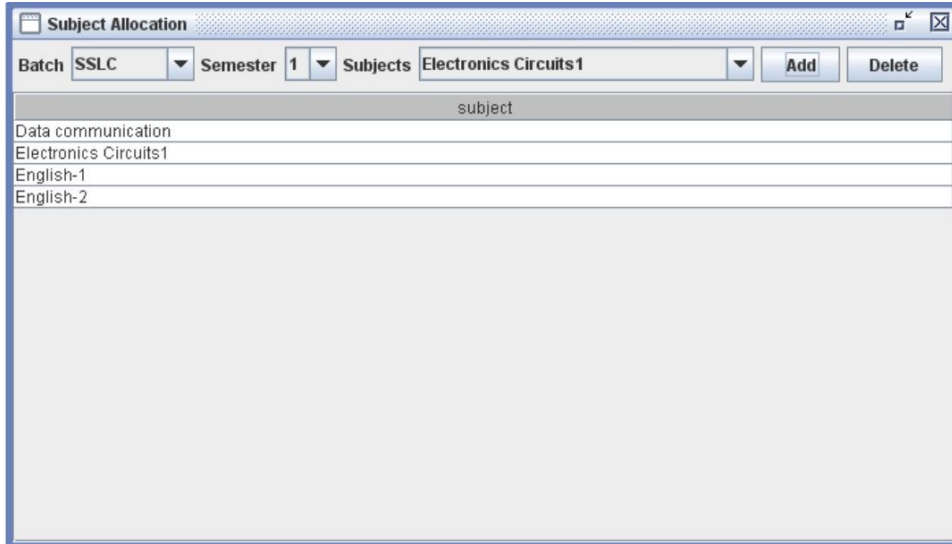
This module should have fields like the student name, the group code, name, credit, max.mark and the project type.



The screenshot shows a small form titled "Add Subjects" with the following fields:

Code	
Name	
Credit	
Max.Mark	
Type	COUNTING
Save	Cancel

5) RESULT



6.0 CONCLUSION

The Internet has truly changed the way we do a lot of things today; we now have the ability to do virtually everything from our computers. The online student project allocation is an emerging technology and a computer system has revolutionized the world thereby making tasks that seems difficult easy by the use of Internet. Students no longer need to overcrowd supervisor office because of project topic or research suggestion as this as been solved by this web application. Students can now at their comfort proceed with their project work online. What a welcoming development. This project work has emphasized the capabilities and reliabilities of a computer system i.e. It accuracy, speed and timeliness of information that it encompasses. The most important lesson from this project work is that information is essential and its availability cannot be washed away and the ability to move such information through

7.0 FUTURE ENHANCEMENT

Considering all that has been researched, I would like to emphasize that the adoption of this new System will not be regretted as it would rather be a help for building more complex design to boost operations and promote the cooperate image of our academic institution. I would also advise that this system be employed in other aspect of our educational system to revive the fallen image of our educational system. Like the saying goes, there is' nothing with advantages without disadvantages; this System may result in overhead in some application but the benefits to be derived overrides the overheads.

The designed System is capable of storing needed information, analyzing them, limiting access to information for integrity purposes, but it is however recommended that the different conditions stipulated for the smooth operations of the application are strictly adhered to i.e. regular review and maintenance done etc.

