

A WEB-BASED FINAL YEAR STUDENT PROJECT DUPLICATION DETECTION SYSTEM

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ABSTRACT

Over the years, human endeavors had experienced series of growth and development attributed to information technology. The Nigeria technological education can further be advanced by engaging this information technology in monitoring the final year student project. It is a common phenomenon in higher institutions of learning that final year student's projects are often managed in paper-pen system where most of these students lay their hands on already completed projects, and present the same to their supervisors without the knowledge of the same. This had caused so many duplications of projects words for words, year in, year out and laziness on the part of the students replicating work without originality. This trend contributed to the poor technological skills of graduates produced in many institutions today which invariably also impact on the society at large. In this research, a web-based student project duplication detection application software was developed to monitor projects that had been implemented before to enable supervisors detect repetitive projects and guide the student right to conduct original and unique projects that will advance the technological skill of the student as well as improve technological advancement of our great nation, Nigeria. The system was developed using HTML, JavaScript, Cascading Style Sheet (CSS) and PHP as the front-end while MySQL Structured Query Language was used as the back end.

Key words: Information Technology, paper-pen system, Students project, technological advancement.

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INTRODUCTION

Web portals are increasing in its everyday use especially in the education sector. It is often seen as a special site designed to provide access to information or to other sites. According to Abdulkareem, Adeyinka and Dike (2013), a web portal allows users to connect with everything they need, the people needed and provides all the tools that are needed to work with. A web

portal has been described by so many researchers with different views or perspectives; however, there is a consensus to the description of web based portals as evident in Karz et. al. (2002) as a single, personalized interface through which users access all information resources in a secure, consistent and customizable manner. A final year project is a task often engaged in by students as a means of applying the acquired knowledge to achieve set objectives. The process of managing final year projects involves three parties: students, supervisors and the head of department. The head of department (sometimes represented by Project coordinator) assigns a lecturer to supervise each student.

Over time, it has been discovered that students are becoming very lazy and are no more original in the project carried out to qualify them for the degree awarded. From the little findings carried out, it was discovered that since students are allocated to different supervisors, a project carried out by a student in a particular year with certain supervisor could be picked up by another student in another year and replicate to another supervisor within the same department without the supervisor's knowledge. The reason for these is often characterized with a manual process which involve a paper-pen method of keeping past projects. Keeping track of such paper-pen projects by supervisors could be tasking, repetitive and tiring, there is the need to design and develop a user-friendly, easily accessible and robust system for users (basically supervisors) to ameliorate this problem. This research develops a web based final year student's project management system.

The department of Computer Science, Federal Polytechnic, Ilaro is used as a prototype for this study. The application developed used HTML, JavaScript, Cascading Style Sheet (CSS) as the front-end and PHP, MySQL Structured Query Language as the back end.

The system developed when implemented will eradicate repetition of projects carried out by students; encourage ingenuity from students since they are aware that all supervisors have access to all existing projects. The application will also provide soft copy of existing projects and a database for previous projects topics accessible only by supervisors. Future suggestions made by previous projects can be taken up if such projects are to be embarked upon so as know the additional contributions being made by the student

RELATED STUDIES

A related study by Leung et. al. developed a final year project management system for Information Technology programmes and tried to implement an online platform that facilitates the final year projects process. The system among others was to help project supervisors track the progress of the projects in form of group projects using project management tools [1].

Abdulkareem et.al. in their work "Design and Development of a University Portal for the Management of Final Year Undergraduate Projects" designed a portal-based system used for the automation of the processes associated with the management of final year projects in the department of Electrical and Information department Engineering, Covenant University, Nigeria. The processes start from the allocation of project supervisors to students down to the final clearance of the student after the project defense. ASP.NET was used to create the web server, C-sharp language (C#), Microsoft SQL server 2005 as the back-end [2].

According to Abubakar et. al. there is the need to inculcate research skills into students by introducing research elements in the school teaching curriculum at all levels. The study developed a prototype web-based supervision management system. The prototype of their work consists of three modules, namely user profile, project monitoring (of software development and report writing) and appointment setting [3]. The case study of this study which is the Federal Polytechnic, Ilaro already introduced research methodology both at the National Diploma and Higher National Diploma levels in the student curriculum to drive home the knowledge required in carrying out proper research. Final year students are required to undertake research in their specific domain of study and develop software prototype as partial requirement for their final year project.

Romdhani, Tawse and Habibullah carried out a statistical analysis on ‘Student project performance management system for effective final year and dissertation project supervision. The study was tailored towards integrated and collaborative online supervision system for final year and dissertation projects. He proposed an e-supervision system under development that can federate the communication and the process among all involved parties in final year project supervision [4].

In this research, we focused on the peculiarity experienced presently in our institution and others concerning duplicating the same projects year in year out by lazy students who are not ready to work. Also, project students are distributed among several supervisors who may not be aware that certain projects had been supervised by specific supervisor in a particular year and the same is being brought up to him verbatim. The system developed ameliorates this aforementioned problem. The system will be made available to all project supervisors to ensure that projects are not repeated and in cases where a project has to be repeated, there must be some novel contribution to knowledge by the students.

SYSTEM DESIGN

A web based application is any application software that runs in a web browser and is created in a browser-supported programming language (such as the combination of JavaScript, Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS)). HTML is the communication standard used by the World Wide Web and a protocol that enables a web browser to retrieve text, graphics, sound and other information from a web server. CSS is a style sheet language used for describing the look and formatting of a document written in markup language. PHP was chosen because it supports all major databases including MySQL. PHP has multiple layers of security to prevent threats and malicious attacks. It has a readable with easy syntax. PHP can be used to design any type of website with a lot of traffic and it is easily deployable.

The system database was designed with MYSQL Database on Apache web server with PHP MYAdmin as the database administrative. PHP MYAdmin is an excellent free set of scripts that provides an administrative interface for MYSQL database(s). It is easy to add, remove, edit, backup and view the databases using this and it is especially useful when trouble shooting the databases. MySQL (back-end software) provides the database for this hardware requirement for the web based final year students’ project management application. The database is responsible

for keeping the record of students, lecturers and the projects uploaded. The choice of MYSQL as the back-end software is because it is an open source database system which can be downloaded and used by the developer for free. It occupies very less disk space and can easily be installed in all major operating systems like Microsoft windows, UNIX and LINUX. It is secure as it includes solid data security layers that protect sensitive data from intruders. It is also scalable and can handle almost any amount of data.

SYSTEM IMPLEMENTATION

The basic function of the developed application include user management which include registration confirmation for students and lecturers respectively, uploading completed students project, downloading existing student project, querying the database to confirm whether a project topic is already in existence or not and lots more. The Figures 4.1 to 4.4 shows the implementation. The main database of the system consists of Student data, supervisors' data and projects available. As student or supervisor login to either upload, view or download projects, they enter their data for identification (login if already registered or register as a new user), which is authenticated by the system to ascertain the users' eligibility. The design of the web based final year student project management system was developed with the use of HTML, PHP for the programming, JavaScript, Cascading Style Sheet (CSS), MySQL as database for dynamism and tested on an Apache web server, hosted on the Federal Polytechnic, department of Computer Science intranet.

Figure 4.1 is the application home page that pops up wherever the application is launched. Figures 4.2 and 4.3 display pages that allow registered students to upload their completed project that are stored in the application database and figure 4.4 is a page that gives access to the lecturer to view and download projects and project topics for the use of monitoring and allocating projects to students to avoid duplication of same project year in year out.

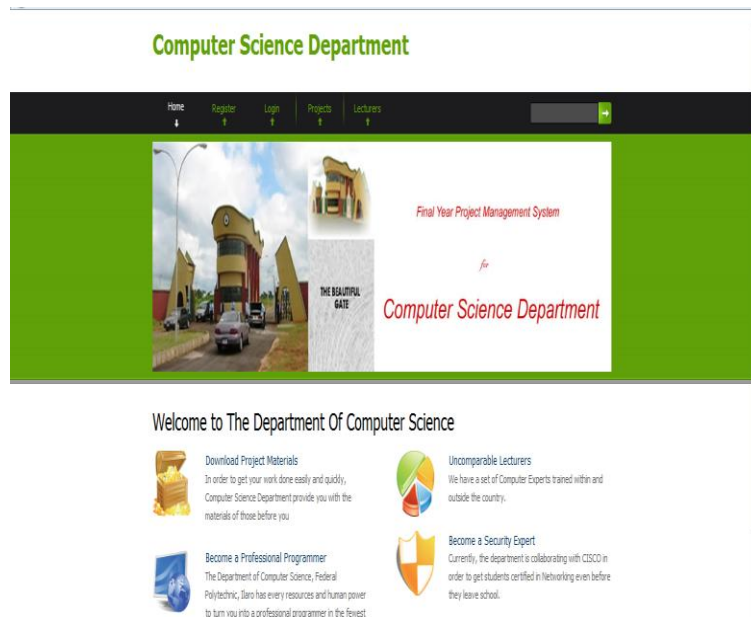


Fig. 4.1: Home Page

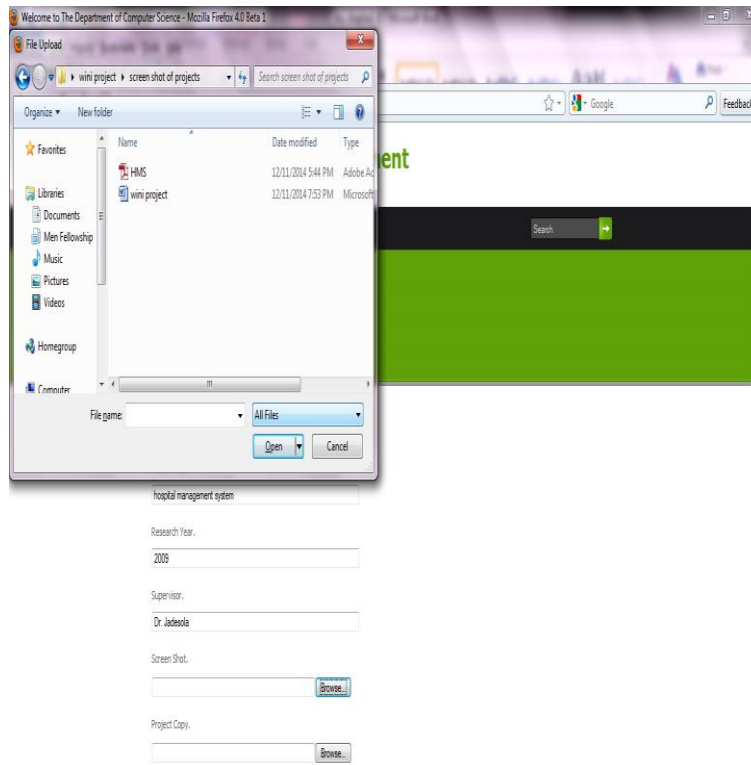


Fig 4.2: The Upload Project Form Page

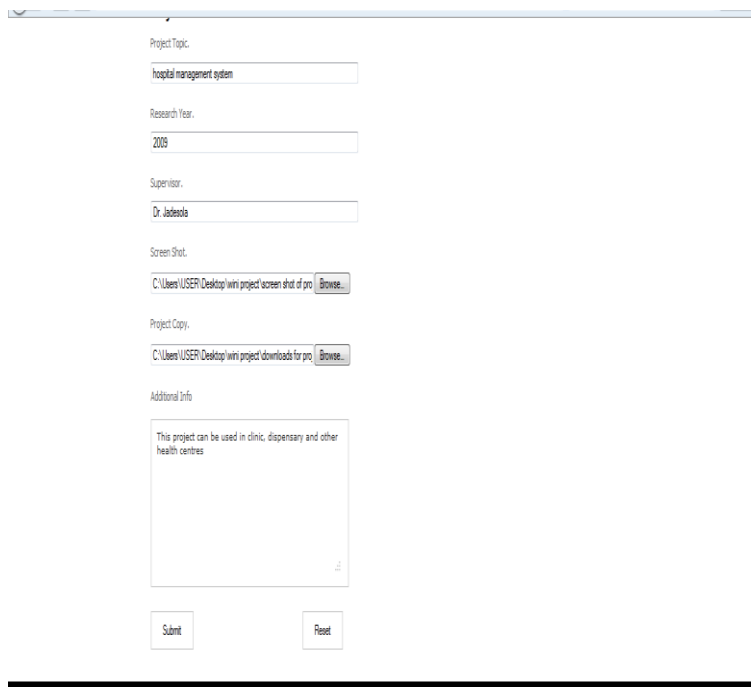


Fig 4.3: The Upload Project Form Page

Figures 4.2 and 4.3 describes the steps in uploading a project; the steps include the project topic, research year, supervisor, screen shot of the project, project copy and additional information of the project to be uploaded.

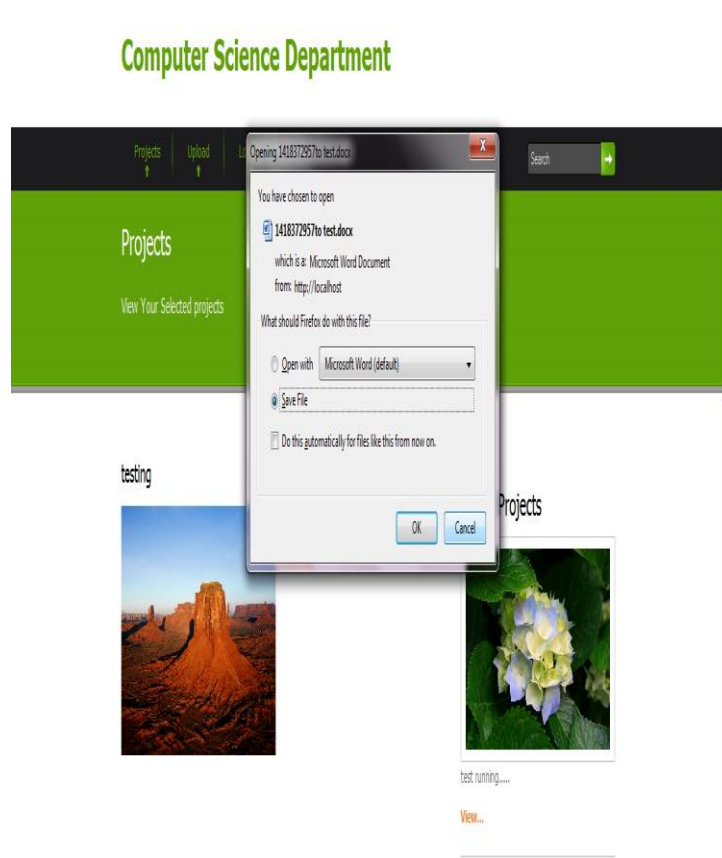


Fig 4.4: The View and Download Project Page

This page is only accessible to supervisors because only supervisors are allowed to view and download projects

CONCLUSION

Manual method of student final year project management is challenging and time consuming. The newly developed application allows supervisors to have access to existing projects, download projects and project topics to guide the students in choosing appropriate research topics to bring out novel contribution that will add to the body of knowledge. Also students gain access to some project topics and project write-ups to guide them in picking their own topic and tailor them towards successfully completing their own research. Finally the department at the end of the day will have a repository of past projects.

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