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DEVELOPMENT OF AN ONLINE COURSE REGISTRATION SYSTEM FOR STUDENTS OF ABIA STATE COLLEGE OF EDUCATION (TECHNICAL), AROCHUKWU, NIGERIA

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Abstract

Presently, Abia State College of Education (Technical) Arochukwu maintains a paper based registration system. Consequent upon this, the College has to use money to print registration form and Students on the other hand have use substantial amount of time and effort in the course of registration; the time that could have been used to engage in meaningful academic activities. To solve the above mentioned problem, the researchers set out to develop an online students registration system. With this system student can register courses at anywhere and at any time. The process of development of the registration system (portal) began with capturing data on the system requirements from both staff and students. This was followed by the formulation of both functional and non-functional requirements of the system based on the information gathered. The registration system was then developed. The system has two major modules; the front-end and the back-end. The front-end enable students to login and register courses while the back-end is for storage of students' registered courses as well as other students registration related data. The system used WordPress as the Content Management System(CMS).The system was evaluated by students and staff in the registry department. The result of the evaluation showed that the online registration system is effective and efficient. Based on this result, the evaluators recommended the use of the developed system for student's course registration in Abia State College of Education (Technical) Arochukwu.

Keywords: Students Registration, Online Course Registration System, Abia State College of Education (Tech) Arochukwu

1.0 Introduction

Students in Abia State College of Education (Technical), Arochukwu (ASCETA) must register and pass a number of courses before graduation in NCE (Nigeria Certificate in Education) programme. The courses are grouped into semesters, with two semesters per session. The process of manual course registration in a semester in ASCETA begins by students collecting course registration forms from the office of the registrar, fill the forms and then submit to HOD's office for lecturers', HODs' and Dean's endorsements. Clearly, manual students' course registration system is associated with some problems. It is time consuming, stressful and costly (Singh,Singh,Kaur, & Gupta,2016). It is for these reasons and more that Colleges and Universities as well as other educational institutions are gradually adopting online course registration system due to its immense benefits over the traditional manual method.

Online course registration system is a type of course registration where students register their courses on internet. This makes it possible for students to register their semester courses from anywhere in the world and at anytime. Chaka (2013) stated that online course registration system can check the maximum number of courses a student can register per semester, thereby reducing the work of academic advisers and administrative staff. Singh, Singh, Kaur and Gupta(2016)developed online course registration system. The system consists of five modules, namely admin, masters, transactions, reports and utilities. The administrative module is managed by the administrator. Masters module manages database entries of all the master tables from the front-end. Transactions module facilitates the entries for programme of work and student registration from the front-end of the web application. Reports Module comprises of the final view

of the entries made into the admin, masters and transactions modules and utilities menu contains two entries namely: backup and documentation. This project sets out to design and develop an online course registration system that will ease students registration problem in Abia State College of Education (Technical), Arochukwu.

2.0 Problem Statement

Presently, Abia State College of Education (Technical) Arochukwu is operating manual course registration system. Each student is expected to take his/her course registration form to individual lecturer for signing and thereafter to the HOD and Dean. This method of registration is not only stressful, but also wastes students' valuable time that could have been used for other academic activities. On the side of the lecturers and registry staff, the manual method of registration added their workloads. The workload on the side of both lecturers and registry staff in departments increases greatly with the recent downsizing of non-academic staff. Furthermore, the method is costly as College spent some money in printing registration forms. One obvious solution to these problems may be the use of online course registration system.

3.0 Objectives of the Study

The objectives of the study are as follows:

1. Determine the online course registration system requirements
2. Design the online course registration system
3. Develop the online course registration system
4. Test the developed online course registration system

4.0 Literature Review

This section reviewed some literatures on online registration systems that guide the present project.

Chaka(2013) developed an online based registration system at Bindura University of Science Education (BUSE) in Zimbabwe. The application will allow students, department members, faculty members and the registry members to view and make changes to course registration related issues for a specific semester. The system was developed using a Service-Oriented Architecture (SOA), which involves grouping components into web services. Figures 1 show the data flow for the system.

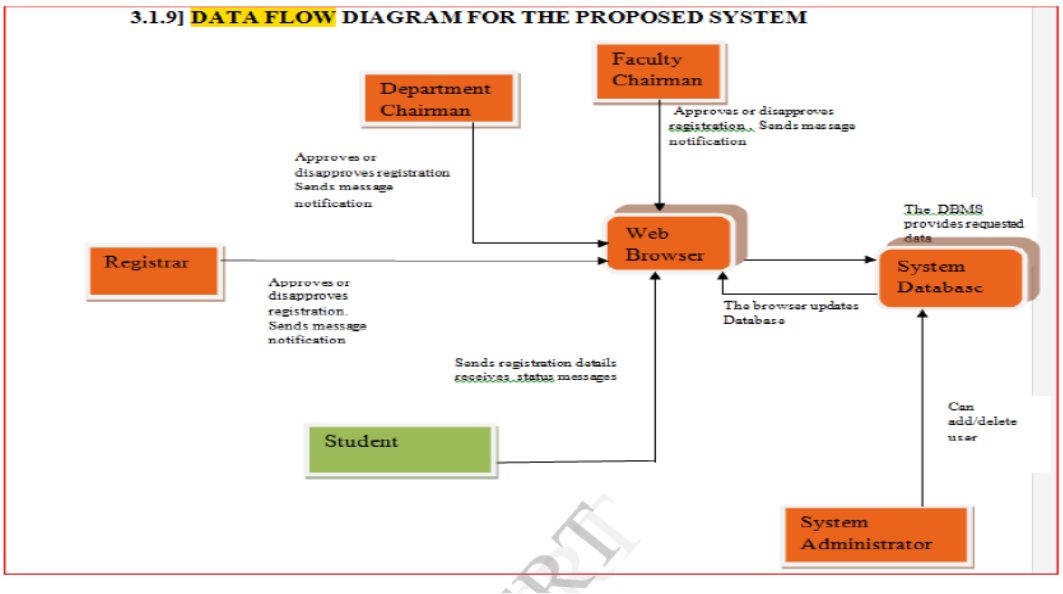


Figure 1: Data flow Diagram for the system

Singh,Singh, Kaur and Gupta (2016) developed online course registration system. The system was developed using PHP, jQuery, Apache and MySQL. The front-end is designed using PHP with excerpts of code written using jQuery and back-end is designed and managed through MySQL. This system developed is more secured, user-friendly and less time-consuming. Figure 2 shows flow of student registration.

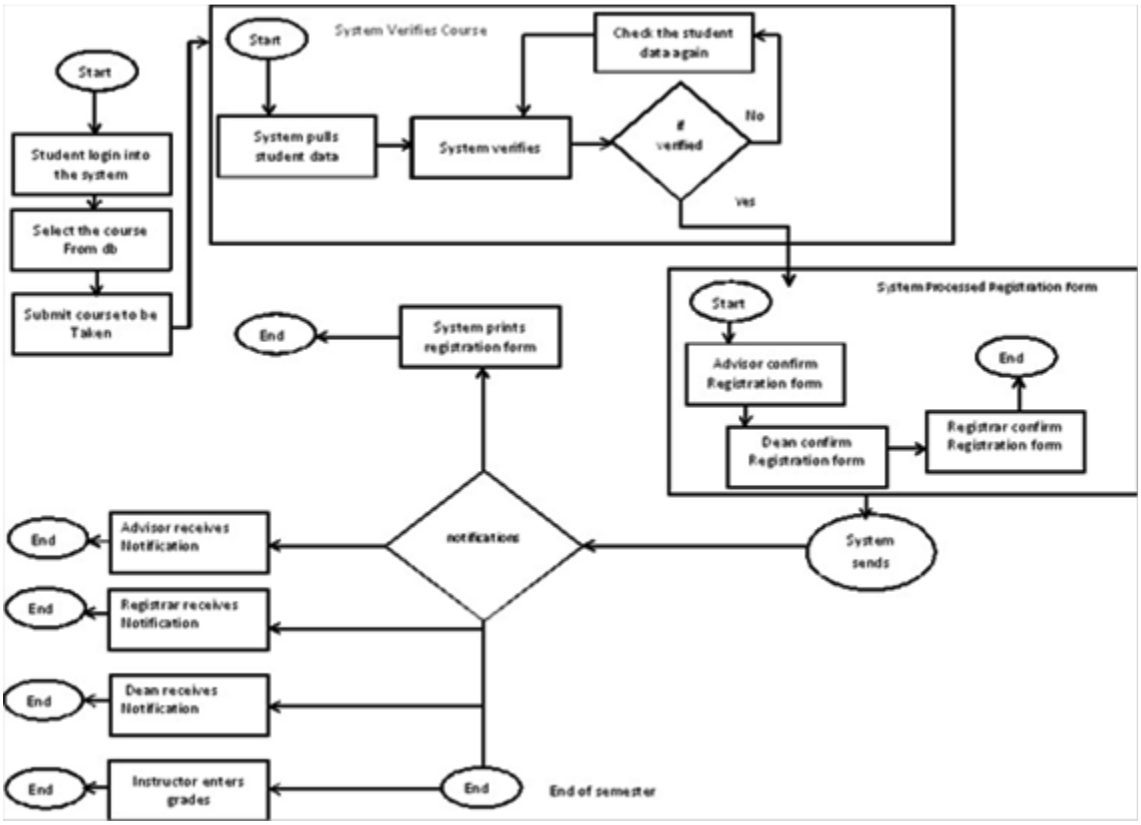


Figure 2 : Flow of Student Registration

Adebisi, Oluwatobi and Adeola (2015) developed mobile application that enable students to automatically register expected courses per semester, view all registered courses and also to add or delete registered courses.Result of user evaluation of the developed MABCRP shows that it has a good usability in terms of usefulness and ease of use. The results also indicate that the developed MABCRP is capable to help students register their academic courses more easily without location being a barrier. Figures 3 and 4 show the use case diagram and course management page for the system.

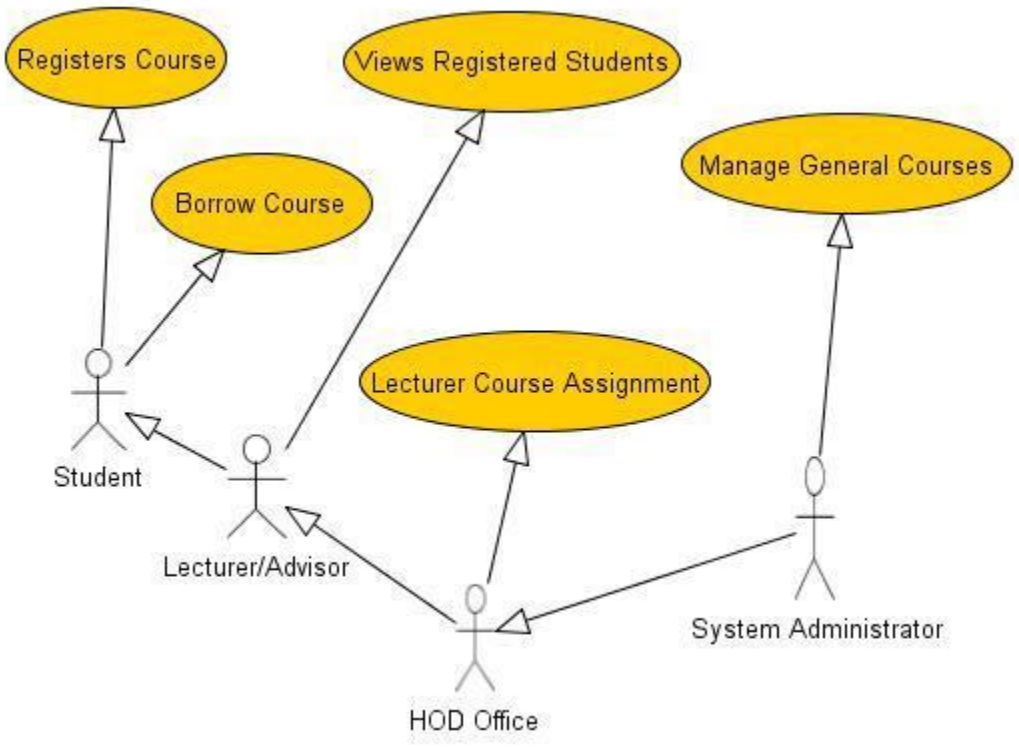


Figure 3: Use Case for the System

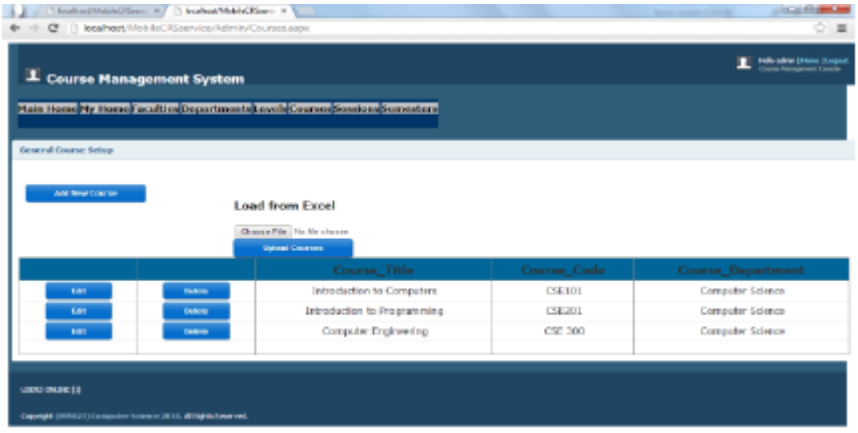


Figure 4: Course management page for the system

5. Methodology

5.1 Hardware and Software Requirements

Hardware Requirements

(a) RAM: 1 GB or above
(b) Hard disk: 4 GB or above
(c)Processor: 2.4GHZ or above

Software Requirements

The following specification are needed

(a) Window 10
(b) Content Management System(WordPress)

5.2 System Users

1.Admin
2. Departmental Registration Clerk
3. College Registrar
4. Students

5.3Functional Requirement Specifications

Admin

1. Login and logout.
2. View,delete,update and print students registration records

Departmental Registration Clerk

1. Login and logout.
2. View and monitor students registration activities and records

College Registrar

1. Login and logout.
2. View and monitor students registration activities and records

Students

1. Login and logout.
2. Register semester courses

5.4Non-Functional Requirement Specifications

1. Provide data security
2. Be efficient during operations
3. Be portable
4. Be reliable
5. Be Maintainable

5.5 Design

5.5.1 System Physical Architecture

The system follows a client-server architecture with two layers; the front-end (client) and the back-end (database server) layer. The architecture is shown in figure5.

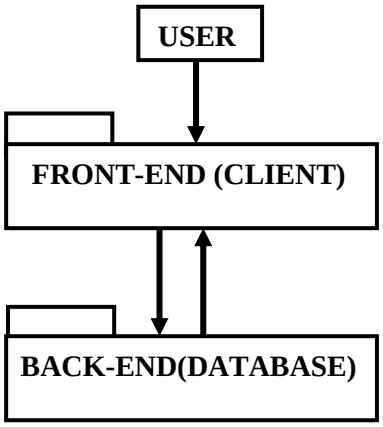


Figure 5: Front and Back-end Modules

5.5.2 Use Case

Figure 6 shows the use case that documents the basic functions of the system.

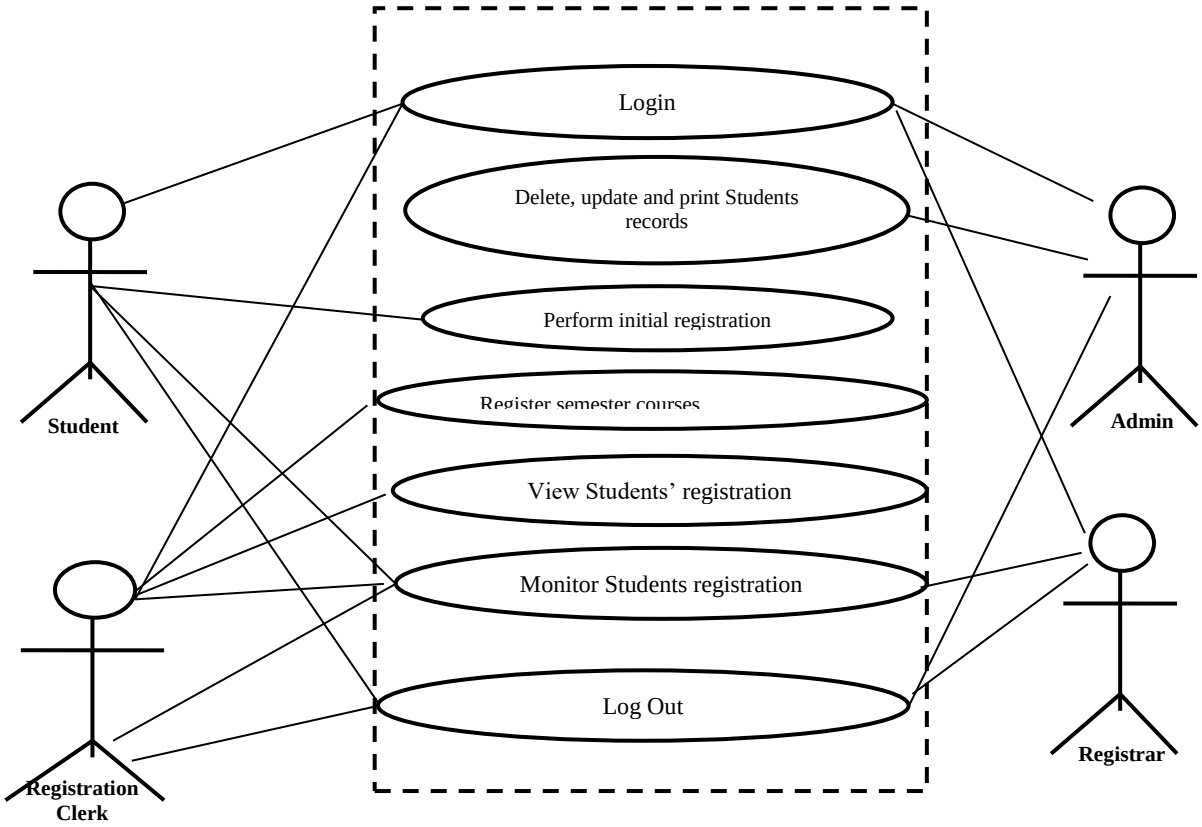


Figure 6: Use case

5.5.3 Registration Form

A student is required to register first prior to registering semester courses using registration form. The registration form contains textfields, labels (eg. Username) and Register button (submit button) as shown in figure 7. The student data entered into the textfields are stored in the database upon clicking of the register button.

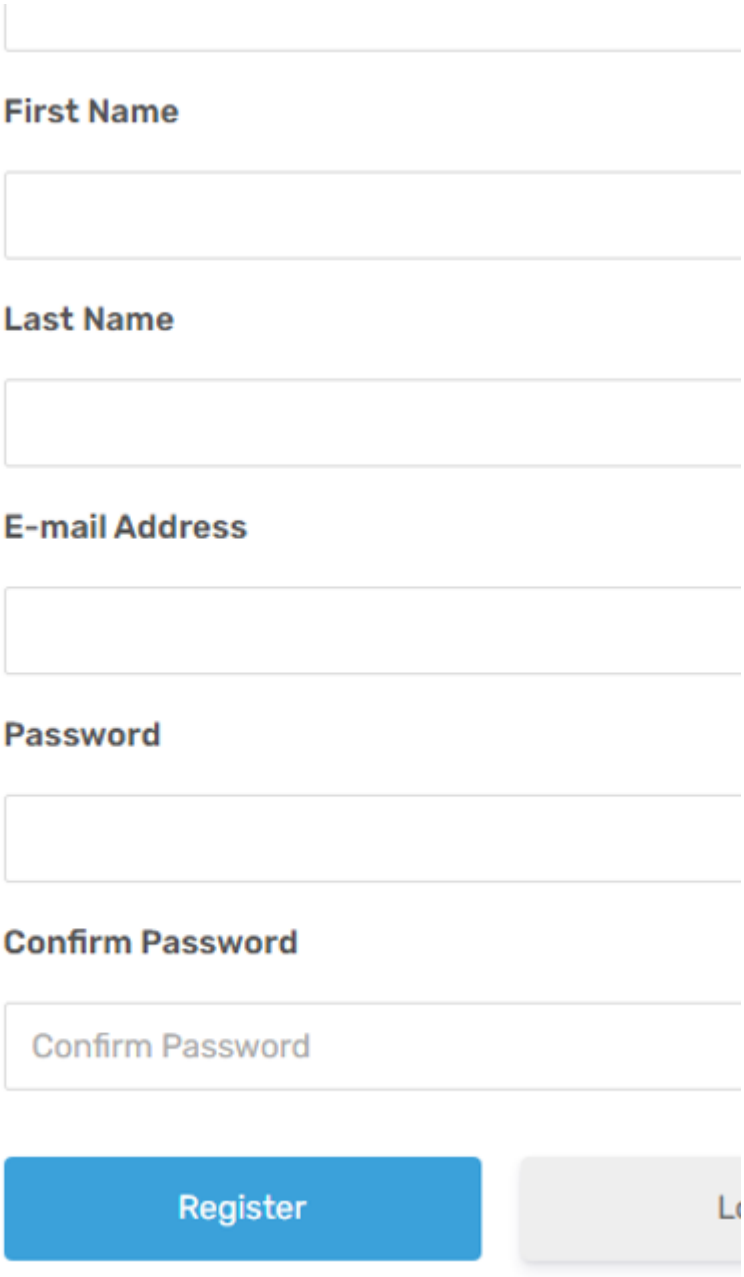


Figure 7: Registration form

5.5.4 Login Form

The login form contains textfields, labels and login button as shown in figure 8. Upon entering the username or E-mail, password and clicking the login button, a course registration form appears as shown in figure 9.

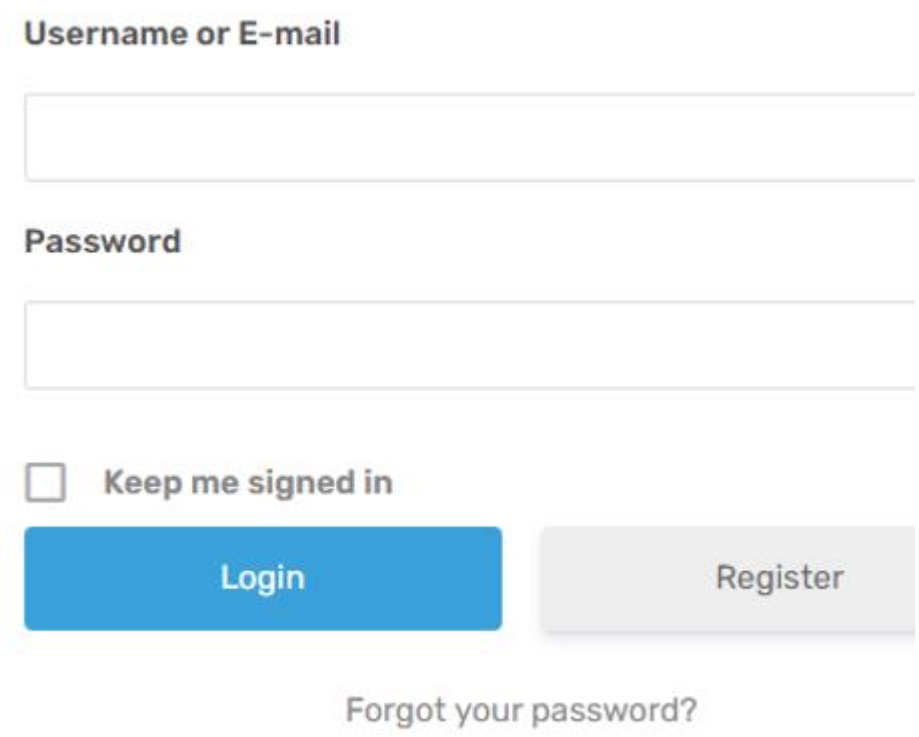


Figure 8: Login form

5.5.5 Course Registration Form

The course registration form contains textfields for collecting student's registration data such as student's name, registration number, course titles, course code and submit button as shown in figure 9.

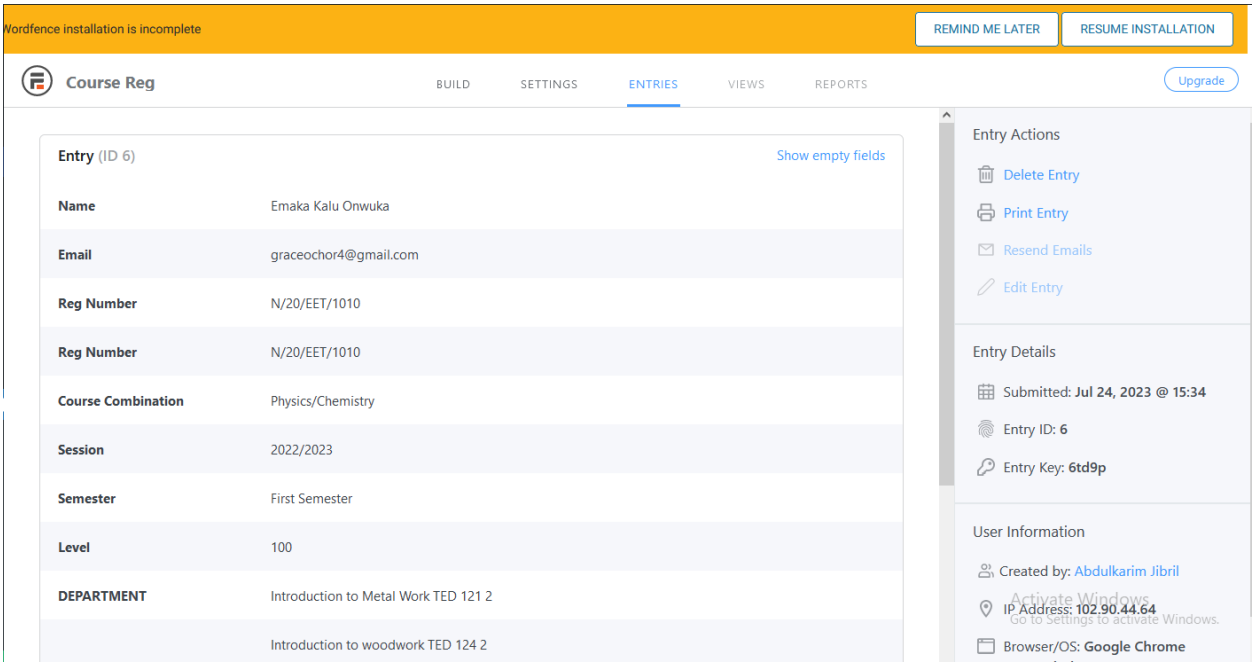
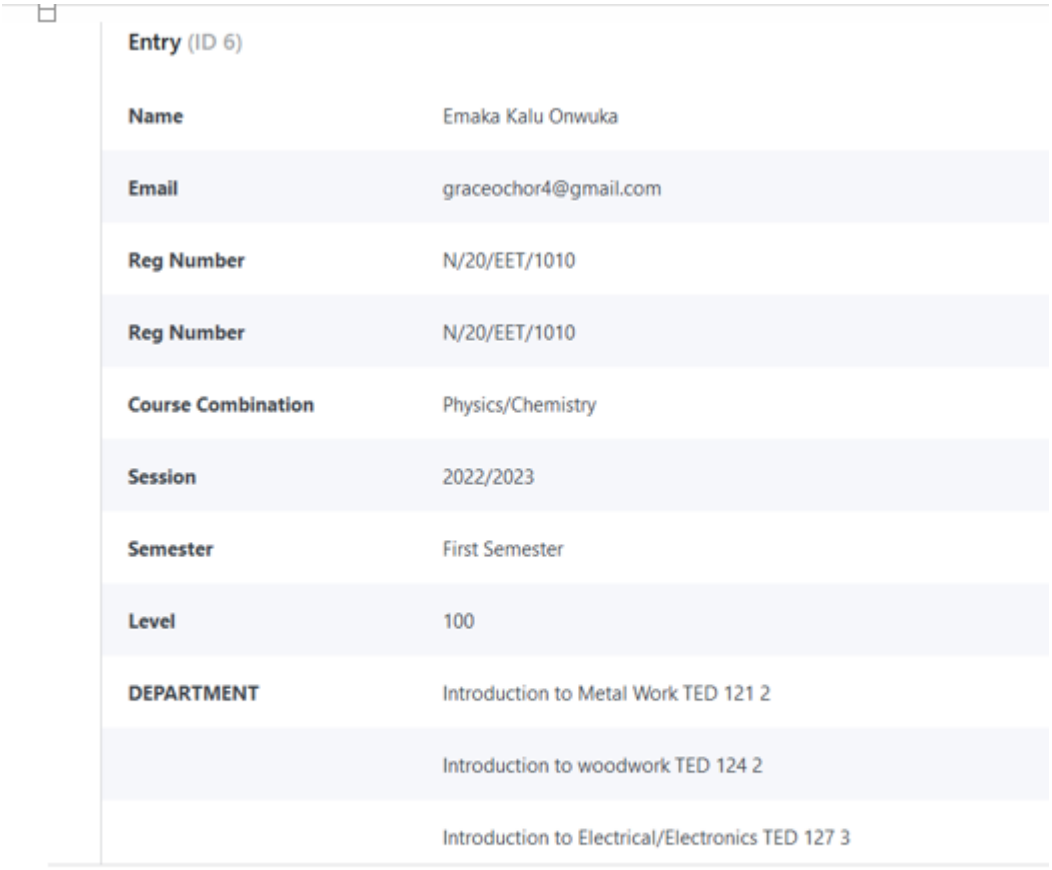


Figure 9: Course Registration Form

5.5.6 Students Registration Entries

Figure 10 shows the records of a student who registered semester courses stored in the systems database.



Entry (ID 6)

Name	Emaka Kalu Onwuka
Email	graceochor4@gmail.com
Reg Number	N/20/EET/1010
Reg Number	N/20/EET/1010
Course Combination	Physics/Chemistry
Session	2022/2023
Semester	First Semester
Level	100
DEPARTMENT	Introduction to Metal Work TED 121 2
	Introduction to woodwork TED 124 2
	Introduction to Electrical/Electronics TED 127 3

Figure 10: Student registration records

5.6 Implementation

The system was implemented using *WordPress Content Management System (CMS).* Educational management theme was then used alongside with relevant plugins for the development and customization of the system.

5.6.1 System Testing

The system was tested using both students and staff of the of the College. Students were asked to register semester courses and registry staff then check to see the records of the registered courses at the back-end. The back-end has buttons for deleting and printing students registration records.

6.0 Conclusion

The availability of internet service in Abia State in general and Abia State College of Education (Technical) Arochukwu in particular has open series of opportunities for the College in many areas of endeavours. One of such opportunities is in the area of student's online registration. The researchers leveraged on this opportunity and developed a student's online registration system.The system was developed using*WordPress as the Content Management System(CMS).*The developed system was then tested. The result of the testing indicated that the developed system was effective and efficient. Based on this result, the

evaluators recommended the use of the developed system for student's online course registration in the College.

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References

Adebisi, A.A. Oluwatobi, A.N&Adeola**,**A.O. (2015).Design and Implementation of a Mobile Students' Course Registration Platform. *International Journal of Advanced Technology and Engineering Exploration*,(2)3, 25-30

Chaka,P. (2013). An Implimentation Of An Online Based Registration System In Tertiary Institutions In Zimbabwe. *International Journal of Engineering Research & Technology (IJERT)*,2 (10), 411-440.

Singh, R.,Singh,R,Kaur,H & Gupta, O.P. (2016).Development of Online Student Course Registration System.*Oriental Journal of Computer Science & Technology*,9(2),66-72.