

Exam Pass Automated System: A Case Study of Moshood Abiola Polytechnic (MAPOLY), Abeokuta, Nigeria

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ABSTRACT

Automation is an important aspect of the world of technology which speeds up processes and makes life easier, which stand as the major purpose of this project. The project as a whole deals majorly with handling manual processes of registration in a way that eases stress and it is less cost effective, amongst others. The project attempts to solve the very major problem of having to be present on campus and going through a lot of stress and hardship in order to get all the required document for each semester's examinations by automating these processes. It is simpler and easier this way as students no longer have to virtually be present on campus to carry out their respective registrations. Therefore, the scope of the project is to look into the registration system of the institution MOSHOOD ABIOLA POLYTECHNIC, ABEOKUTA by automating it. This however will not cover more than that which has to do with the registration process for the betterment of the students. Furthermore, the main argument of this project is to conveniently have the end of each semester's examination pass printed online as an additional feature to the school portal. The research focuses on a comprehensive study of the manual method of student registration in order to improve on it, which will be helpful in designing the proposed system. Finally, HTML, CSS, JAVASCRIPT, PHP (ICE) and MYSQL will be used to design this application.

Keywords: Exam Pass, Automated System, Moshood Abiola Polytechnic (MAPOLY), Abeokuta, Nigeria

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1. INTRODUCTION

Automation is the technology by which a process is performed with minimal human assistance. It is also the use of electronics and computer-controlled devices to assume control of processes. The aim of automation is to boost efficiency and reliability. In most cases, however, automation replaces labour. Automated system is a combination of both software and hardware which is designed and programmed to work automatically without the need of any human operator to provide inputs and instructions for each operation. It is also a technological tool that can be useful for registration, identification, positioning, counting and so on (Mehmet, et al., 2018). Computer technology is developing day by day in the education field, the usage of computer technologies especially the web-based applications has become a must. Thus, computer technologies especially internet applications have begun to be used in every field of education.

In the qualified education, the assessment and evaluation process carries importance as the teaching process (Sakair, et al, 2015). The automated application is used on computer systems, it improves connectivity between the students and systems, thus helping the institution to provide a more transparent system altogether. (Chandrasekar et al, 2019)

1.1 Statements of Problem

Over the years in Moshood Abiola Polytechnic, Abeokuta, just like other institutions, students are enrolled to pursue a degree in Ordinary National Diploma (OND) and Higher National Diploma (HND) in various disciplines. An enrolled student is expected to register and pay either full or part of the school fees, sundry fees and other necessary dues, proceed to register his courses online and proceed to the registration centre to complete the registration for the semester, which is done manually.

The following are the problems of the current process:

- Inability of students to remotely register for the semester.
- Students take too much time in processing their registration, worse still, it can only be done with their physical presence on campus.
- When a student misplaces his/her exam pass, he/she has to go through a rigorous process of getting another one.

Other basic problems of the existing manual registration are:

- Students must confirm the paid fees receipts which will not be released until after a week or two before going to the next phase.
- Students have to generally be on very long queues before any due can be paid.
- Students are subjected to waiting unnecessarily for hours before they are being attended to due to reasons best known to the attendants, thereby making the students frustrated.
- Most times, students miss lots of classes all because they want to finish up their registrations before the commencement of the semester's exams.
- Virtually all the documents must be duplicated and sometimes triplicated which at the end of the day brings about too much documents loitered all over the place.

In view of the difficulties stated above, this project work is aim at designing an online portal whereby, students can easily process all their registrations online from various location without necessarily having to be physically present on campus. The school portal will be designed in a way that will enable students to be able to print their exam passes online for each semester after paying necessary fees and dues. It will be a web application developed with Html, CSS, Javascript, PHP and MySQL. This project aims at ensuring a convenient way of issuing exam pass to students and processing registrations online without any hassle.

1.2 Objective of the Study

This work aims at automating students' registration and issuing of exam pass online, thereby, reducing the stress that students go through in the manual process and making life on campus less stressful. Objectives are as listed as follows:

- To review relevant literature.
- To design a better online school portal that will enable exam pass automation.
- To automate virtually all the registration processes, from dues payment down to confirmation process.

- To make sure students do not bypass the necessary requirements needed to get their exam pass.
- To make sure there is a unique examination number for each student.
- To make sure there is no duplication of exam pass.
- To make sure the aim of reducing queues and stress is achieved.

2. LITERATURE REVIEW

Banji et al., 2018 of the University of Zambia proposed the use of Cloud model and Web based systems integrated with bulk short message service (SMS) to focus on the challenges faced in the candidate registration process for school examinations in Zambia and explore the use of the emerging technologies in order to improve the efficiency and effectiveness in the process. The study brought out important points on the fact that there were challenges in the mass registration of candidates or capture of data.

Patrick, (2006) also worked on an Online Student Enrolment System. The system incorporates various notification mechanisms like Short Messaging Service (SMS) and Email. XML is used to store the business rules and thus allow the portability of the system interface to wider range of devices such as Personal Device Assistant (PDA). The interface auto-detects the user's device either PC/laptop or much smaller screen device such as PDA. In short, the enrolment system backend engine runs based on the business rules and front-end engine runs to provide high satisfaction user experience. With the business and user interface, the system is able to run the workflow of student enrolment from the online enrolment form to approval workflow cycle running parallel with the notification capability.

(Vamsi et al, 2018) developed Examination Management Automation System for the educational institute to simplify the allocation of halls, seating arrangement of students and allocating staff to the examination halls. Allocation of faculty to corresponding rooms will be done by the exam cell coordinator in the form of word documents and excel sheets and also allocation of students to their corresponding rooms is a frantic work which will be done manually and it takes lot of time and requires man power. The project keeps track of various details in modules such as Students Details, Staff Details, and Hall Details with proper descriptions.

2.1 Manual Examination Pass System

An examination is a formal test that is taken to show the knowledge or ability in a particular subject or to obtain a qualification. In institutions, students are expected to go through some series of processes in order to get a slip (pass in the case of Moshood Abiola Polytechnic, Abeokuta) as a form of eligibility for an examination. Meanwhile, the processes for this are often done manually in Moshood Abiola Polytechnic, Abeokuta. Hence, the need for automation, which is moving from manual form of registration to computer-based form of registration. These processes are however done in the course of student registration.

3. PROPOSED AUTOMATION SYSTEM

The system applied a Web Portal; a system that presents information from diverse sources in a unified way and also support student registration. Contents of a portal may include reports, announcements, e-mail, searches, etc. The portal will cautiously take care of the registration processes of students from various respective payments of fees and dues down to security of data.

4. IMPLEMENTATION

The web application is made up of several pages which can be summarized into three (the student interactive interface, the admin page, and the head of department dashboard, where student's authenticity will be processed in each department). The student page comprises of several pages like: login page, dashboard, profile page, make school fee payment, make all necessary due payments, print payment receipts, course registration, print courses registered, print authorized exam pass and logout. The admin page made up of several pages like: login, profile and dashboard, add and manage head of department. And the head of department dashboard will also have pages like: login, profile, and departmental students' details.

4.1 Implementation Stages

The implementation phase is categorized into three parts which are the student, head of department and the administrator phase. These are stated below:

- Student Phase:** All the application users (that is, the student) must at first register so as to login and gain access to the student portal in order to have the privilege to make school fee payment and other necessary payments, course of study registration, printing of all fee receipts, exam pass and course registration form.
- Head of Department Phase:** This part of the application is only accessible to the various Head of Departments of the school. He or she is entitled to manage students in their departments and verify if any student is genuine before granting them access to print their exam pass.
- Administrator Phase:** This is another part of the application that is not accessible to ordinary users. It is seen as the engine room, where the administrator manages everything on the application.

4.4 Software Pages Screenshots

The Software Pages Screenshots are depicted next



Figure 1: Login Page

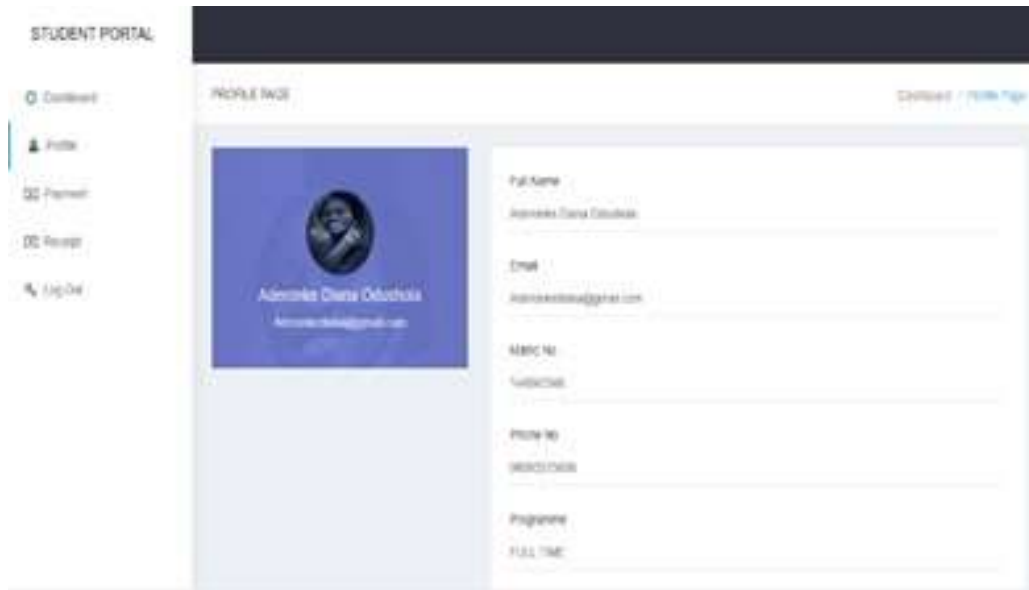


Figure 2: Profile Page

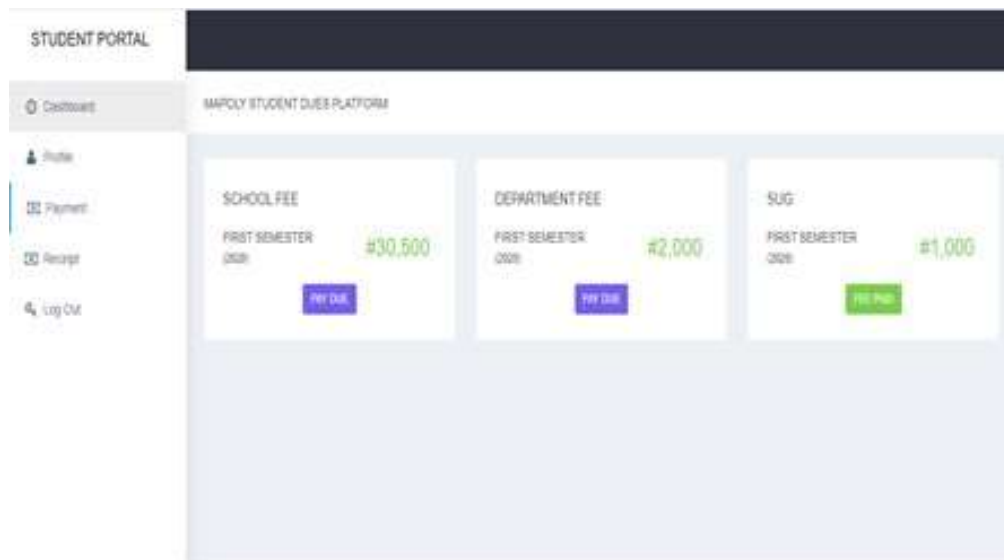


Figure 3: Payment Page.



MOSHOOD ABIOLA POLYTECHNIC ABEOKUTA (DEPARTMENT OF COMPUTER SCIENCE) SUG RECEIPT



The Course/Level / Programme is: **HND2 FULL TIME**

NAME	MATRICULATION NUMBER	SESSION
ADERONKE DIANA ODUSHOLA	14/16/0348	2019/2020
Email	aderonkediana@gmail.com	
Programme:	FULL TIME	
Level:	HND2	
Fees Paid:	SUG	
Payment Status:	Paid	
AMOUNT PAID:	₦1,000	

SCHOOL:	MOSHOOD ABIOLA POLYTECHNIC, ABEOKUTA	Payment Method: ONLINE PAYMENT
COURSE:	Computer Science	

ACKNOWLEDGEMENT
Dear ADERONKE DIANA ODUSHOLA 14/16/0348: The Payment of ₦1,000 was approved and successfully applied to your account in favour of 2019/2020 HND2 FULL TIME SUG

NOTE: This is your SUG Payment Receipt, secure it please!!! Today's Date and Time : Wed Feb 22 2020 13:07:14 GMT-0800 (Pacific Standard Time)

Figure 4: Print Receipt Page.

- Dashboard
- Profile
- Course Form**
- Payment
- Receipt
- Log Out

Dashboard / Course Form Page

Course form not yet submitted. Please submit your course form below. Thanks

Select Course:

S/N	Course Code	Course Desc	Course Unit
1	COM 111	INTRODUCTION TO COMPUTING	3
2	COM 112	INTRODUCTION TO DIGITAL ELECTRONICS	3
3	COM 113	INTRODUCTION TO PROGRAMMING	3
4	STA 111	DESCRIPTIVE STATISTICS 1	3
5	STA 112	ELEMENTARY PROBABILITY THEORY	2
6	MTH 111	LOGIC AND LINEAR ALGEBRA	3
7	MTH 112	FUNCTIONS AND GEOMETRY	2
8	ENS 101	COMMUNICATION IN ENGLISH 1	2

Figure 5: Course Registration Page.



**MOSHOOD ABIOLA POLYTECHNIC
ABEOKUTA**
EXAMINATION PASS
DEPARTMENT OF COMPUTER SCIENCE
Your Current Level / Programme is: ND1 FULL TIME



NAME
Amah Gift

MATRICULATION NUMBER
13/69/0175

SESSION
2019/2020

SCHOOL
SCIENCE AND TECHNOLOGY

SEX
MALE

EXAMINATION NO
CSB507948(COMPUTER SCIENCE)

S/N	COURSE CODE	COURSE DESCRIPTION	UNITS	REMARKS
1	COM 111	INTRODUCTION TO COMPUTING	3	
2	COM 112	INTRODUCTION TO DIGITAL ELECTRONICS	3	
3	COM 113	INTRODUCTION TO PROGRAMMING	3	
4	STA 111	DESCRIPTIVE STATISTICS 1	3	

Figure 6: Examination Pass Page

Register Course for department & Level

COURSE CODE

COURSE DESCRIPTION

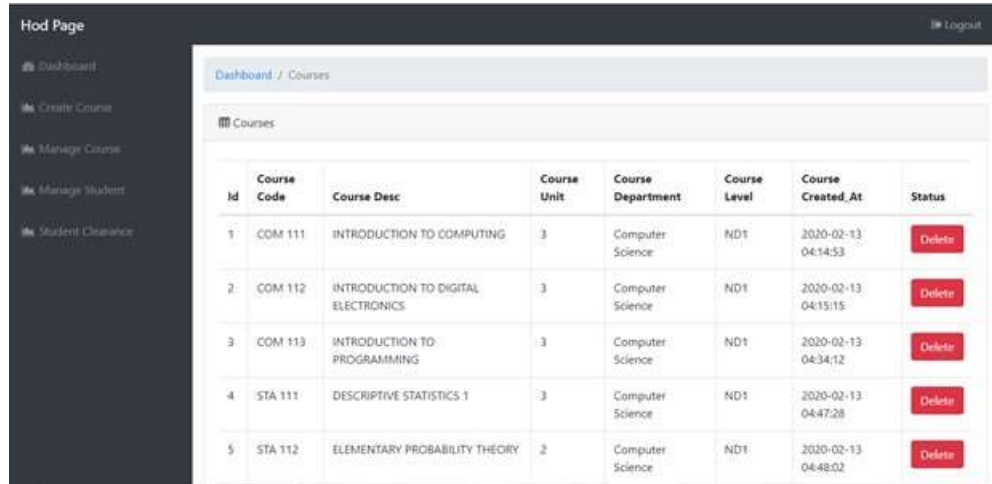
COURSE UNIT

Department
Computer Science

Course Level
Select Level

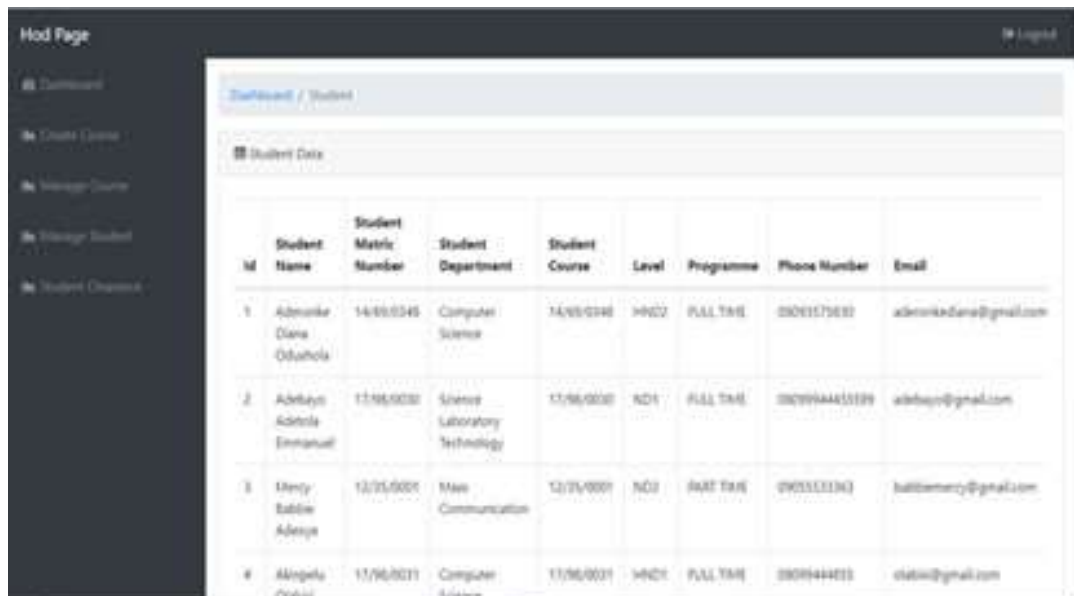
Add Course

Figure 7: HOD Create Course Page.



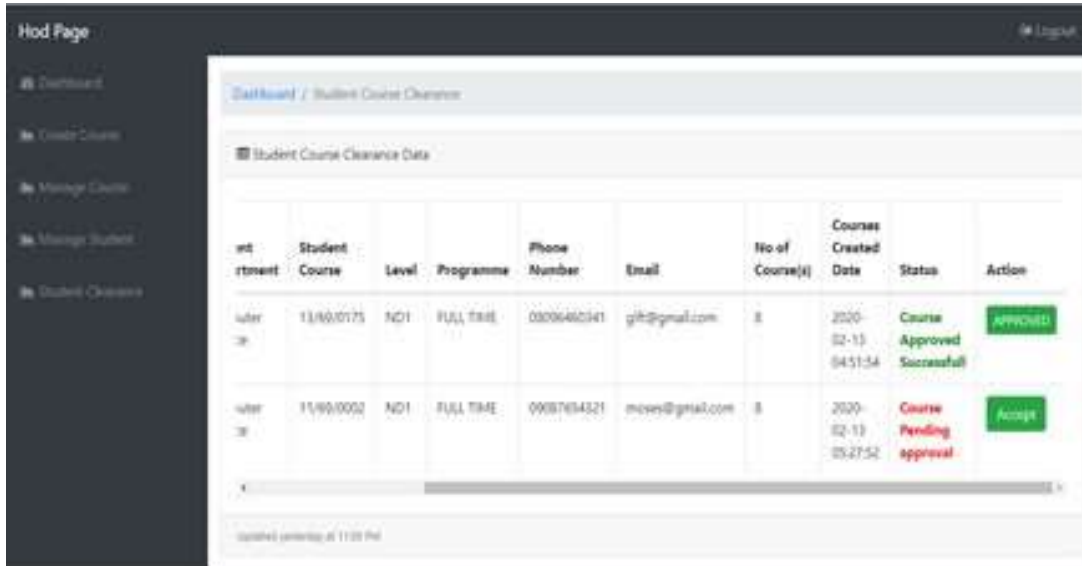
Course Id	Course Code	Course Desc	Course Unit	Course Department	Course Level	Course Created At	Status
1	COM 111	INTRODUCTION TO COMPUTING	3	Computer Science	ND1	2020-02-13 04:14:53	Delete
2	COM 112	INTRODUCTION TO DIGITAL ELECTRONICS	3	Computer Science	ND1	2020-02-13 04:15:15	Delete
3	COM 113	INTRODUCTION TO PROGRAMMING	3	Computer Science	ND1	2020-02-13 04:34:12	Delete
4	STA 111	DESCRIPTIVE STATISTICS 1	3	Computer Science	ND1	2020-02-13 04:47:28	Delete
5	STA 112	ELEMENTARY PROBABILITY THEORY	2	Computer Science	ND1	2020-02-13 04:48:02	Delete

Figure 8: Head of Department Manage Course Page.



Student Id	Student Name	Student Matrix Number	Student Department	Student Course	Level	Programme	Phone Number	Email
1	Adenike Dina Odunola	14/05/0345	Computer Science	14/05/0345	HND2	FULL TIME	0903157900	adenikedina@gmail.com
2	Adekun Adenla Emmanuel	11/06/0030	Science Laboratory Technology	11/06/0030	ND1	FULL TIME	090994440109	adekun@gmail.com
3	Henry Ebbine Adenya	12/05/0001	Mass Communication	12/05/0001	ND1	PART TIME	0903333303	hulleberry@gmail.com
4	Adegoke Odunsi	11/06/0031	Computer Science	11/06/0031	HND1	FULL TIME	0909444031	adeko@gmail.com

Figure 9: HOD Manage Student Page.



Department	Student Course	Level	Programme	Phone Number	Email	No of Course(s)	Courses Created Date	Status	Action
Computer Science	11/MS/0175	ND1	FULL TIME	0906460341	gib@gmail.com	8	2020-02-13 04:51:34	Course Approved Successful	APPROVE
Computer Science	11/MS/0002	ND1	FULL TIME	09087634321	moves@gmail.com	8	2020-02-13 05:27:52	Course Pending approval	APPROVE

Figure 10: HOD Clear Student Page.

5. CONCLUSION

The Exam Pass Automated System is designed to basically make registration easier for students and also put an end to the ancient manual process of registration to get their Examination Passes at the end of each semester in Moshood Abiola Polytechnic, Abeokuta. The application enables more effective and efficient administration and management of information in the school. The administrator has access to virtually all the information on the system, to be able to relate to all Head of Departments as well as confirm registration of newly registered student. Exam Pass Automated System reduced the use of paper expenditure, reduced the number of staffs that might be needed in an institution and also reduced the running cost for the institution.

5.1 Recommendation

Exam Pass Automated System application is recommended for use in Moshood Abiola Polytechnic, Abeokuta and other schools who may still be handling students' registration manually as the stress and hassles attached to manual processes have been duly taken care of in the application to enhance stress free registration for students.

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