**DEVELOPMENT OF AN ONLINE ASSIGNMENT SUBMISSION MANAGEMENT SYSTEM   
A CASE STUDY OF THE DEPARTMENT OF COMPUTER SCIENCE, ADEKUNLE AJASIN UNIVERSITY.**

**BY**

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**A RESEARCH PROJECT WORK SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE, FACULTY OF SCIENCE, ADEKUNLE AJASIN UNIVERSITY AKUNGBA AKOKO ONDO STATE, NIGERIA**

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**ABSTRACT**

This research examines the design and implementation of an online assignment submission management system (OASM). The challenges faced by students in meeting assignment deadlines, the costs associated with printing hard copies of documents and the issue of misplaced or damaged assignments necessitated the researcher to develop a user friendly system to tackle these challenges.

The system allows students to submit assignments online to a particular course lecturer, who has access to the system for the purpose of reviewing the assignment. This system does not provide facilities for grading. The system is implemented using PHP, Bootstrap, CSS and Maria DB technologies.

The main goal of this project is to design and implement an online assignment submission management system and provide an interface for uploading assignments for students while also giving lecturers, who would be able to evaluate the assignments, the ability to download assignments in zip format.

The most obvious advantage offered by online assignment submission is that it offers a more effective method of transmission of assignments. The system will save time and cost for teachers and students respectively and will enable faster feedback to students.

**CHAPTER ONE**

**INTRODUCTION**

**1.1 BACKGROUND OF THE STUDY**

An online assignment handling system is a system contained within a learning environment. The functionality of the standard assignment handling module has been extended to cater for all the schools’ needs in terms of receiving assignments from students and making them available to tutors to mark, (David Jones and Sandy Behrens, 2003).

Universities, Polytechnics and Colleges of Education are considered the main providers of knowledge in various fields. Various courses of study are taught in institutions, covering several fields including Applied Sciences, Mathematics, Computer, Human Resources, and Accounting. Most courses at universities consist of theoretical as well as practical subject matters. To evaluate the level of understanding and degree of comprehension amongst students, assignments are often given (Poorya *et al*,2016).

Assignment management involves collecting, marking, and redistributing to students. Ealier works like Tregobov (1998), breaks the process down into four stages, which are: submission, marking, recording and return. Online assignment submission and management (OASM) involves the use of the World-Wide Web, the Internet and computers to aid these processes (Jones, 2003). In view of this, the unrealistic approach(es) considered by the traditional or conventional system in processing assignments; promoted the problems the new system is proposing to unravel. The problems mentioned above may arise due to:

* Distance
* Format of the assignment (written or printed) etc.

As the educational world is moving faster and becoming more competitive, almost every university has started to use an online submission system, or newer technologies to facilitate their task, to have more time, and to be in pace with this fast moving IT world. The Centre for Entrepreneurship and Development study in Adekunle Ajasin University also implored the use of this system during the 2014/2015 school session to facilitate effective grading of the assignments due to the large number of students offering the course.

**1.2 STATEMENT OF THE PROBLEM**

From previous research on this topic, it has been detected that many failures in courses taught in tertiary institutions can be attributed to the following:

* Carelessness of the course representative or the teaching assistant who failed to submit an assignment to the lecturer for marking (Jones, 2003).
* The possibility of an assignment going missing or getting damaged, even after submission to the lecturer.
* Unorganized files uploaded by students leading to cumbersome task of reorganizing the files by lecturer.

All these problems highlighted are the main reasons the researcher is developing an online assignment submission system to curtail these challenges and make studying more enjoyable in our tertiary institution.

**1.3 MOTIVATION FOR THE STUDY**

The traditional system of submitting assignments in educational institutions can prove to be ineffective at times and can also be overbearing to certain students in the form of financial constraints.

Being a student and having experienced these difficulties before, I proposed to develop this research work in order to fully exploit the present technological advances to facilitate a better, cheaper and more effective system for submitting assignments.

**1.4 AIM AND OBJECTIVES**

**1.4.1 AIM**

The aim of this study is to develop an online system that will promote assignment submission and facilitate better grading and feedback to students by the lecturer.

**1.4.2 OBJECTIVES**

The objectives of this project are:

* To identify requirements for the development of the new system.
* To eradicate the possibility of losing or damaging assignments.
* To reduce the cost of submitting assignments.

**1.5 SCOPE OF THE STUDY**

This project assesses the constraints of the traditional assignment submission system and the viable objectives to provide a more effective system for assignment submission.

**1.6 SIGNIFICANCE OF THE STUDY**

This project will aid lecturers to have a well-structured system for assignment submission and grading. In a few years, this project could eliminate paper work in their offices and improve on their efficiency in managing students’ assignments. Unlike attaching files in a mailing system like yahoo mail and Gmail and then sending to a lecturer, this system will systematically arrange assignments with respect to courses and students’ ID, creating a more user friendly environment for both the students and the lecturers.

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.1 INTRODUCTION**

This chapter entails the entire details of this project topic and related terms. A breakdown of this topic is given to ensure proper understanding of the topic.

Assignment is a set of tasks assigned to students by their teachers to be completed outside the class. Common assignments may include required reading, a writing or typing project, mathematical exercises to be completed, information to be reviewed before a test, or other skills to be practiced **(**Cooper *et al* 2006).

According to Coughlan, (2016), the effect of assignment is debated. Generally speaking, assignment may improve academic skills among older students, especially lower-achieving students. Assignments also creates stress for students and their parents and reduces the amount of time that students could spend outdoors, exercising, playing, working, sleeping, or in other activities.

The basic objectives of assignment to students are the same as schooling in general: to increase the knowledge and improve the abilities and skills of the students, to prepare them for upcoming (or complex or difficult) lessons, to extend what they know by having them apply it to new situations, or to integrate their abilities by applying different skills to a single task. Homework is designed to reinforce what students have already learned.

Lecturers have many purposes for assigning tasks. These includes:

* practice,
* preparation,
* participation
* personal development,
* peer interactions,
* policy,
* public relations

Assignment research dates back to the early 1900s. However, no consensus exists on the general effectiveness on assignments results, studies vary based on multiple factors, among college students who spend somewhat more time on assignment generally have higher grades, and somewhat higher test scores than students who spend less time on assignments. Low-achieving students receive more benefit from doing homework than high-achieving students. Some educators argue that assignments are beneficial to students, as it enhances learning, develops the skills taught in class, and lets educators verify that students comprehend their lessons. Proponents also argue that assignments make it more likely that students will develop and maintain proper study habits that they can use throughout their educational career (Needleman and Robert, 2006).

Assignments can be done individually or in groups. Individual assignment relates to a specific topic of the study for the students. In case of such assignment teacher generally select the topic of the subject which may help the student not only for the guideline of study but also it may help them to develop ideas for further study and their development.

In case of group assignment, it involves specific group for their study of development & progress which remain common & beneficial to the entire groups as a whole.

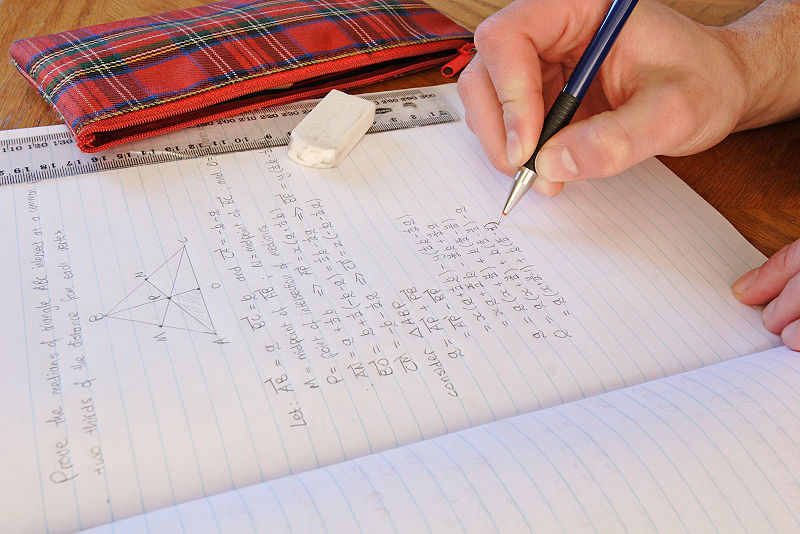


FIG 2.0 Shows a student having an assignment done through the traditional paper-based approach

FIGURE 2.1. shows a group of students having an assignment done through traditional based approach

Group work can help students develop a host of skills that are increasingly important in the professional world (Caruso & Woolley, 2008; Mannix & Neale, 2005).Positive group experiences, moreover, have been shown to contribute to student learning, retention and overall college success (Astin, 1997; Tinto, 1998; National Survey of Student Engagement, 2006).

Properly coached and structured group projects can reinforce skills that are relevant to both group and individual work, including the ability to:

· Break complex tasks into parts and steps

· Plan and manage time

· Refine understanding through discussion and explanation

· Give and receive feedback on performance

· Challenge assumptions

· Develop stronger communication skills.

Group works can also help students develop skills specific to collaborative efforts, allowing students to:

· Tackle more complex problems than they could on their own.

· Delegate roles and responsibilities.

· Share diverse perspectives.

· Pool knowledge and skills.

· Hold one another (and be held) accountable.

· Receive social support and encouragement to take risks.

· Develop new approaches to resolving differences.

· Establish a shared identity with other group members.

· Find effective peers to emulate.

· Develop their own voice and perspectives in relation to peers.

In education assessment, large-scale examining bodies find the journey from traditional paper-based exam assessment to fully electronic assessment a long one. Practical considerations such as having the necessary IT hardware to enable large numbers of student to access an electronic assessment system at the same time, as well as the need to ensure a stringent level of security are among the concerns that need to resolved to accomplish this transition (Young *et al,* 2000).

Electronic submission of assignments has been widely used by information technology teachers for many years. It takes the form of email submission or File transfer protocol (FTP – which involves transferring files to a specified directory or providing access to directories and files on a Unix system; the latter common in more advanced institutions). Different types of online assignment systems contain elements of one or more of the following components, depending on the assessment's purpose: formative, diagnostic, or summative Instant and detailed feedback may (or may not) be enabled. A brief search of the web still reveals many examples where these practices are continued. (Seetohul *et al.,* 2012)

Online assessment is used primarily to measure cognitive abilities, demonstrating what has been learned after a particular educational event has occurred, such as the end of an instructional unit or chapter. When assessing practical abilities or to demonstrate learning that has occurred over a longer period of time. This system could be used to determine if learning is happening, to what extent and if changes need to be made

All of the reasons for adopting OASM are based on three main technological characteristics of OASM:

1.it provides a quick transmission of assignments providing geographic independence for students and staff.

2.The digital format of assignments and the inexpensive nature of computer storage enabling the creation of a single central storage place for student assignments and related data.

3.The information processing capabilities of computers that allow for a wide range of analysis, manipulation and reporting. The most obvious advantage offered by online assignment management is that it offers faster transportation of assignments than traditional, physical

methods.

**PROBLEMS OF CONVENTIONAL ASSIGNMENT SUBMISSION SYSTEM**

One of the primary goals of an assignment is to give informative feedback to thelearner on their progress and attainment of the learning objectives. However, when thestudent tutor ratios are large, effective and timely feedback is hard to achieve, However, assignment assessment is confounded by large student/tutor ratios, which is an  
inevitable consequence of resource constraints in publicly funded higher education today.  
Indeed, for assignment assessment to be effective, the feedback to the learner must be timely,  
specific to the individual, and discursive.

For example, returning the marked scripts of a class test late and then giving only a  
summative grade completely defeats these aims. However, to be able to give individualized  
discursive' comments on a script and return it back to the learner in a reasonable length of  
time is only possible if the student/tutor ratio is low. Ideally, if resources are available and  
scripts are multiply marked, this would give students greater confidence in the validity of  
the grade and comments.

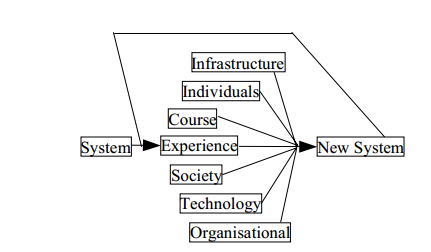
Traditional assignment submission systems had difficulties for lecturers in evaluating the assignments. To make the system effective and a portal with ease of use an ideal submission of assignments has to be provided. A traditional system consists of an email way of approaching the assignments – submission and collection. The system with insecurity and the capacity of sending the files is an issue (Godfrey.B 1997). Some has only a particular type of files to be submitted.

According to (Sam Hsu, 2000) The inherent problem with an email based submission system lies in its security and its capacity for attaching files. Most existing submission system do not allow for structuring of files, automatic correction of automated assessment.

**EXISTING WORKS ON OASM**

All teaching and learning requires administrative support. Much of this administrative support is to some degree transparent but if performed inefficiently can become immediately obvious and can distract students and staff from the learning process (J. young, 2001). Online Assignment Submission and Management (OASM) is one administrative task that can consume much of a course coordinator's time Reducing the amount of time consumed, addressing other problems, and benefiting from new practices are some of the reasons that have driven many staff to adopt and use OASM. (P. Derbyshire, 2006) reports finding over 6000 hits from web search engines for pages describing online assignment submission procedures to students.

A range of factors have been identified as influencing the evolution of OASM The figure below proposes that the evolutionary development of assignment submission and management starts with the existing system. Be it traditional or OASM. The experience gained with the existing system will drive whether or not changes are required.



**FIGURE 2. Factors influencing OASM**

**I**t is the assumptions, characteristics, conceptions, and perceptions of the individuals using the system, which are important. If they perceive few problems with the existing system, then the requirement for change is reduced. Staff who are not familiar with technology or prefer traditional methods will not adopt OASM.

In many cases the perceptions of **individual** staff will be influenced by the characteristics of the courses they teach. Characteristics including delivery modes, pedagogy, content, and assessment methods will influence the evolution of OASM. A **course** offered entirely to on campus students has less of a need to use OASM than a distance education class. A pedagogy based around live presentations (for example, a drama class) is not conducive to using OASM.

The current state of technology will influence what is possible. For example, the advent of viruses in Word documents encourages an adoption of different file formats. The availability of simple and cheap computers and Internet access are a requirement for the adoption of OASM. The available infrastructure for the implementation of OASM also plays a large part. The absence of sufficient servers, network bandwidth, or technically competent support staff also inhibits the adoption of OASM.

The policies, procedures, and structure of the organization in which OASM is used will also influence its evolution. An organization, which limits academic freedom and experimentation, can limit the growth of OASM. The wider context for OASM is set by the **society** in which the organization operates. Legal requirements, perceptions of technology, and other issues from the wider society can also inhibit or encourage OASM evolution.

There are various examples of sophisticated uses of electronic-based assessment, ranging from online questionnaire generators to comprehensive systems which may include submission of assignments, plagiarism checking and marking. Few amongst these will be considered below:

**THE BOSS SYSTEM:**

According to (Mike Joy et al, 2005)The number of students enrolling in degree courses universities has increased substantially over the past few years, leading to large class sizes and increased student-staff ratios. A specific problem arising from this concerns the substantial  
resources required to manage the assessment of practical exercises, so that students receive accurate and timely feedback which will benefit their progress.

One of the earliest and most successful examples of electronic courseware in Information Technology is the BOSS system. The BOSS system is closer to OASM in terms of its intended use. This system allows assignments to be submitted online and they are then manually marked in a secure environment. Recently, facilities have been added for electronic marking using electronic mark sheets. The project is driven by demands of increasing student numbers and is restricted to particular operating systems (warwick,2000).

In Mike *et al.,* (2005) the primary administrative function of BOSS is the online collection and storage of work submitted by students. This part of the process requires security features, includes; The identity of a student using the software is verified, Integrity of files submitted by a student are assured, Transmission of data between student and the system, and the data stored on the system, is protected from unauthorized access and Appropriate audit trails are in place so that all parts of the process can be checked. Two strategic decisions were taken relating to the architecture of BOSS. Firstly, there should be an overall model for the structure of an assignment, which we refer to as the component model, which is designed to support arbitrarily complex rubrics which might accompany an assessed piece of work. Secondly, the users of the system (students, module managers, administrators, markers and moderators) should have clearly-defined roles. The software uses a client-server architecture with separate clients for students and for authorized staff (for security reasons). Each client is provided both as a secure web client and as a stand-alone application, so maximizing the flexibility of the system in terms of a user’s working environment. There are consequently two distinct views of the software, according to whether the user is a student or a member of staff.

**2.\*\* COURSE MASTER:**

The Course Master is another example of such systems. It is a system designed for students to submit only programming assignments and it provides functions for automatic assessment of students’ work, administration of the resulting marks, solutions and course materials. It is also able to detect plagiarism in students’ programs.

The OASM provides all of the functionality of BOSS and improves on this and other existing systems in a number of ways. Firstly, it was motivated-to some extent-by large class sizes but more so by the desire to provide more useful feedback to students, which has proved to be popular. Secondly, the OASM may be used across all units in a course of study and is not restricted to particular course materials like Course Master. A further advantage of the OASM is that it is a single integrated system unlike BOSS which is a suite of related programs and it can work across all operating systems(David and Jones, 2003).

**2.\*\* Benefits of using Online Assignment System**

Online assignment system is a system contained within a virtual learning environment. The functionality of the standard assignment handling module can be extended to cater for all the Department's needs in terms of receiving assignments from students, making them available to tutors to mark, returning grades, comments and marked work to students and keeping Registry and course administrators informed at all stages of the process. Extension requests are an integral part of the system.

**Assignment handling all in one place, accessible from anywhere:**

By having the assignment handling system integrated into Module, which can also act as a course website, all aspects of dealing with assignments are maintained in a single location, accessible from anywhere with an internet connection.

**All students have the same deadlines, no need to allow time for posting**

By dealing with assignment submission electronically over the internet, all students, wherever they are in the world, can operate to the same time schedule. No-one has to allow time for posting assignments in the regular mail.

**Reduced paper handling: less to photocopy and post, simpler archiving**

An electronic system reduces the amount of paper handling required. The academic staff do not need to photocopy assignments nor spend time and money putting them into envelopes and posting them out to tutors. Archiving electronic versions of documents reduces the physical storage space required for paper versions.

**Email notifications of key events, easy communication**

. Everyone involved in the process can access the system at any time to check whether assignments have been received or marked and the status of extension requests. Communication between all those involved is easy, lessening delays in the whole process.

**Tracking of who submitted what and when**

The logging of every action is integrated into the system so it is easy to track who submitted what and when, and all documents uploaded to the system are stored for easy reference and retrieval.

**Simple-to-use interface**

The system provides an easy-to-use interface, supported by full documentation. Students will find the online system straightforward and easy to use both for essay submission, It will be simple to download student essays and to provide feedback.

The advent of technology in the 1990s was seen as having the potential to revolutionize  
electronic management of student assignments. While there were advantages and  
disadvantages, the potential was seen as a necessary part of the future of this aspect of  
academia. A number of studies including(Dalgarno et al in 2006) identified issues that  
supported positive aspects of electronic assignment management but consistently identified  
drawbacks, suggesting that the maximum achievable potential for these processes may have  
been reached

Although computers cannot make effective judgements of scripts they can certainly  
simplify the document management problem. The current Web and database architectures  
now offer a great deal of flexibility and portability in the development of computer-based  
assessment systems. Reducing the amount of time consumed, addressing other problems, and benefiting from new advantages are some of the reasons which have driven many staff to adopt and use OASM. Derbyshire (2006) reports finding over 6000 hits from web search engines for pages describing online assignment submission procedures to students. In addition, there is a large amount of literature written on the topic.

However, according to (Rovai et all 2008) academic dishonesty, commonly known as cheating, occurs in all levels of educational institutions. In traditional classrooms, students cheat in various forms such as hidden prepared notes not permitted to be used or looking at another student's paper during an exam, copying homework from one another, or copying from a book, article or media without properly citing the source. Individuals can be dishonest due to lack of time management skills, pursuit for better grades, cultural behavior or a misunderstanding of plagiarism.

Online assignment environments are no exception to the possibility of academic dishonesty. It can easily be seen from a student's perspective as an easy passing grade. Proper assignments types, meetings and projects can prevent academic dishonesty in the online assignment submission system However, online assignment systems may provide additional possibilities for cheating, such as hacking. Two common types of academic dishonesty are identity fraud and plagiarism.

Identity fraud can occur in the traditional or online classroom. There is a higher chance in online classes due to the lack of proctored exams or instructor-student interaction. In a traditional classroom, instructors have the opportunity to get to know the students, learn their writing styles or use proctored exams. To prevent identity fraud in an online class, instructors can use proctored exams through the institutions testing center or require students to come in at a certain time for the exam. Correspondence through the phone or video conferencing techniques can allow an instructor to become familiar with a student through their voice and appearance. Another option would be personalize assignments to students backgrounds or current activities. This allows the student to apply it to their personal life and gives the instructor more assurance the actual student is completing the assignment. Lastly, an instructor may not make the assignments heavily weighted so the students do not feel as pressured.

Plagiarism is the misrepresentation of another person's work. It is easy to copy and paste from the internet or retype directly from a source. It is not only the exact wordage, but the thought or idea. It is important to learn to properly cite a source when using someone else's work.

In  **(**Joy & Luck, 1999)As student population in computer science courses continue to increase, the corresponding demands placed on teaching staff in terms of assessment grow even stronger. This research aims to develop a secure system that provides a platform for submission of assignments.This system reduced the stress associated with manual marking of large assignments and facilitated a more effective means of submission for students.The proposed system was meant only for research purposes and was not implemented as an active system for the users.

In (David Jones and Sandy Behrens, 2003) Due to the potential benefits, there has been widespread interest in an online assignment management system. However, much of the reported work is limited to small-scale use, usually in courses taught by innovative staff. This paper draws on the experience with OASM in a growing number of courses taught by a number of different staff from different disciplines.This paper aims were to Investigate the process by which the OASM is adopted across and organization and identify the factors that influence its growth, adoption and adaptation and to contribute to the understanding of OASM by proposing a model that encapsulates the issues, challenges and opportunities encountered when OASM is adopted by a wider range of faculty.The most obvious advantage offered by the OASM is that it offers faster transportation than traditional, physical methods but Much of the reported work is limited to small-scale use, usually in courses taught by innovative staff.

In (Swetha *et al,* 2017),the system provides an onlineportal for the Universities to collect and manage thesubmitted assignments. The student can login, submitand preview assignments, check the profile and askqueries with their respective faculty members.

This system provideda secured system for submission of assignmentsand an effectiveway of submitting assignments by students andautomatic evaluation of credits.This system reduced the stress associated with manual marking of large assignments and facilitated a more effective means of submission for student but the current system could not meet all the real world scenarios and some interface design considerations where not considered.

In (Poorya Bagheri *et al*,2016),AnOnline Project and Assignment Submission, Management and Progress Monitoring System (OPAS) is a system that enable the student to submit their assignment or project online without submitting any physical file. This system is

integrated with Turnitin system to check the plagiarism percentage. Before the submission, the

student needs to update their progress to the system and the lecturer able to view the progress and give comments online. OPAS is providing an online discussion, document sharing for student and

lecturer and web real time communication technology. The OPAS system was able monitor and control the students’ assignment or project progress and increase student and supervisor accessibility and availability. The paper presented a limited workable prototype of an educational web based application that is capable to track students’ progress, allow communication between student and educator and equip with project management tool

**2.3 REASONS FOR USING OASM**

All of the reasons for adopting the OASM described in the following passages are based on the three main technological characteristics of the system, they are:

* Almost uniformly quick transmission of assignments, providing geographic independence for students and staff.
* The digital format of assignments and the inexpensive nature of computer storage enabling the creation of a single central storage location for student assignments and related data.
* The information processing capabilities of computers that allow for a wide range of analysis, manipulation and reporting. The most obvious advantage offered by online assignment management is that it offers faster transportation of assignments than traditional, physical methods. Studies focusing on the use of online assignment management in a programming course found that students reported a decrease in assignment turnaround time from 2 weeks down to 5-7 days.

Bruce et al 2005**,** Distance learning students and internal students enrolled in any course at a University may now take advantage of the flexibility provided by an Assignment Management System. Using this system, students may receive assignment specifications, submit completed assignments in many formats (text, graphics, multimedia) and, annotated assignments from their home personal computer or from any networked computer on campus. This easy-to-use system significantly reduces time delays associated with the conventional assignment-return cycle and eliminates the need for paper documents. Instructors avoid the problems associated with managing assignments and record keeping, since these tasks are now automated. The flexibility of this client-server system encompasses many areas: more time for assignment submission, no restriction on the student’s geographical location, flexibility in assignment size and format, marks and grades automatically handled, and flexibility for future system growth to add new features

**2.4 SUMMARY**

This chapter covers everything that needs to be understood about the project topic and related

Online Assignment Submission Management (OASM) is a system that will drastically reduce the amount of time consumed and the cost of manually submitting assignments while also limiting the stress on the lecturers or tutors in handling assignment assessment and giving feedback to students.

**CHAPTER THREE**

**METHODOLOGY**

**3.1 RESEARCH METHODOLOGY**

This chapter involves the specification of procedures that clearly explain the behavior of the system in view.

The research method employed in this project will be based on qualitative technique (which takes a look at existing systems). This chapter also aims to briefly explain the model of the proposed system.

**3.2 METHOD OF DATA COLLECTION**

The researcher made use of secondary data which involves qualitative data that are needed to define and solve problems in the subject domain.

The information was retrieved from the existing literatures and similar systems already put in place that were discussed in the previous chapter.

**3.3 MODEL OF THE PROPOSED SYSTEM**

The proposed system is geared towards providing a system to assure impartial review of student assignment submission, in the department of Computer Science at Adekunle Ajasin University. The online assignment submission system to be developed allows for assignment submission by students and review by lecturers.

Models of the new system are used to explain the proposed requirements of the OASM. Engineers use these models to discuss design proposals and to document the system for implementation.

For this project research, however, emphasis shall be on representing the system with a combination of different types of models that best suit the concept of the system. A survey in 2007 (Erickson and Siau, 2007) showed that most users of the UML thought that five diagram types could represent the essentials of a system:

* Activity diagrams, which show the activities involved in a process or in data processing.
* Use case diagrams, which show the interactions between a system and its environment.
* Sequence diagrams, which show the interactions between actors and the system and between system components.
* Class diagrams, which show the object classes in the system and the associations between these classes.
* State diagrams, which show how the system reacts to internal and external events.

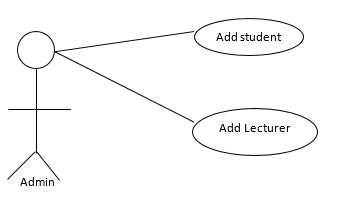
In this project research, a few of the above listed types will be used.

**3.3.1 INTERACTION MODELLING (using USE-CASE)**

One can visualize high level system functions of requirements by drawing use case diagrams, which contain primary actors and use cases. The interactions between the various classes of users and the system is depicted graphically below.

The elements of the use case model are:

* **Actor:** A model element representing each user.
* **Use Case:** A model element representing each use case.
* **Associations:** This describes the relationships between actors and the use cases they participate in.



Delete assignment

**Fig. 3.3.1 Use Case Diagram Depicting the Basic Functions of the System Administrator.**

Student

**Fig. 3.3.2 Use Case Diagram Depicting the Functions of the Student.**

Lecturer

**Fig. 3.3.3 Use Case Diagram Depicting the Functions of the Lecturer.**

As seen in **Figures 3.3.1, 3.3.2 and 3.3.3**, the use case diagrams represent the entities that are involved in the operation of the system and also the actions that can be carried out by each entity.

**CHAPTER FOUR**

**SYSTEM DESIGN AND IMPLEMANTAION**

**4.1 INTRODUCTION**

Systems design is the process of defining elements of a system like modules, architecture, components and their interfaces and data for a system based on the specified requirements.

This chapter discusses the analysis and design of the proposed system. It focuses on the system structure and interactions. It begins with a description of the system using software UML diagrams such as the activity diagram and proposed architecture of the system. A program specification showing the flow of commands and segmenting the system into subroutines is also used to further describe the system.

**4.1.1 PROCESS (ACTIVITY DIAGRAM)**

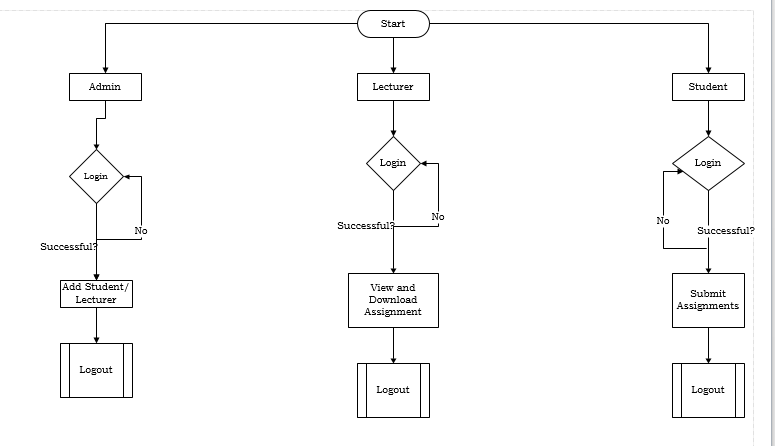
The sequence of activities, events, actions and links connecting points in sequence from end to end in a system is shown by the activity diagram.

An activity diagram is basically a flow chart to represent the flow from one activity to another. An activity can be described as an operation of a system. Therefore, the control flow is drawn from one operation to another. This flow can be sequential, branched or concurrent.

The goal of this model is to:

* Define the desired process and how they should be performed.
* Provide explanations about the rationale of processes.
* Explore and evaluate the several possible courses of action based on rational arguments.

The proposed model is shown below

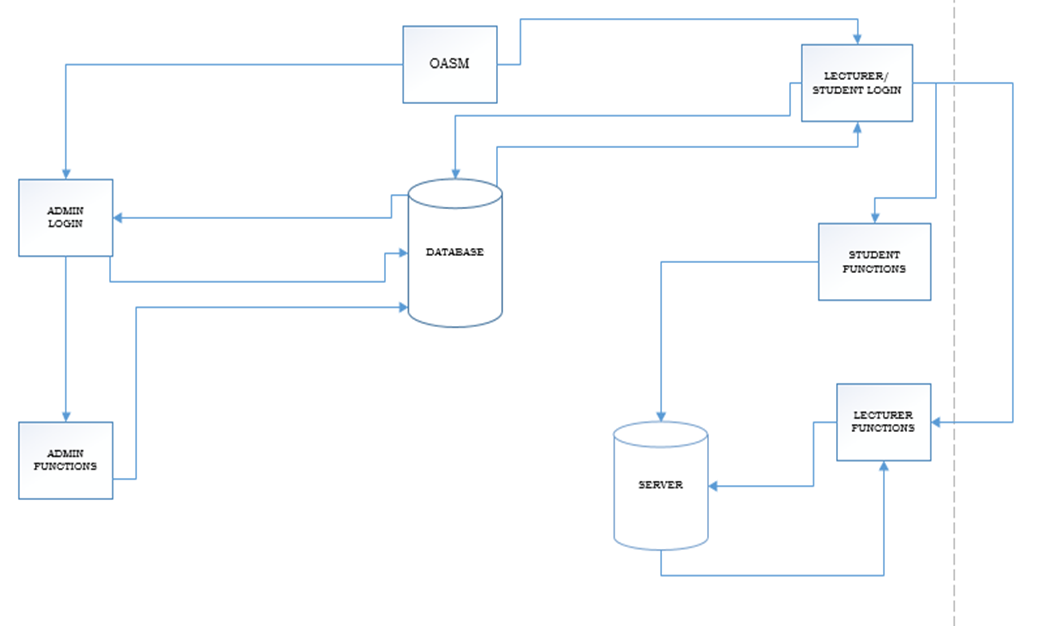
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**Figure 4.1.1 Activity Diagram for the System**

As seen in **Figure 4.1.1**, the activity diagram of the proposed system represents the sequence of activities that are involved in the operation of the system. The activities shown are those to be carried out by the administrator as well as the students and lecturers.

**4.2 SYSTEM ARCHITECTURE**

The architecture of the proposed system is defined by the following model:



**Figure 4.2 Proposed System Architecture**

Figure **4.2** shows the proposed architecture of the system. The Administrator interacts with the database (where he adds student and lecturer details to enable them access the OASM). Once students and lecturers have been added to the database, they can then access the system to perform their various functions. The students log into the OASM, submit assignments to the web server and the lecturers are then able to access those assignments from the server.

**4.3** **PROGRAM SPECIFICATION**

A program specification is simply the definition of what a computer program is expected to do. It is mostly considered a user manual from a developer point of view, it is usually defined in mathematical or programmatic terms as seen below for this project work:

Main program

Begin main program

Enter command

If command = Admin Login

Call Admin Login Subprogram

Else if command = Student Login

Call Student Login Subprogram

Else if command = Lecturer Login

Call Lecturer Login Subprogram

End if

Admin Login Subprogram

Begin

Enter command

If command = Add Student

Call Add Student Subprogram

Else if command = Add Lecturer

Call Add Lecturer Subprogram

End if;

End subprogram

Student Login Subprogram

Begin

Enter Student Details

Search database for details

If Student Details = Database Details

Login is Successful

Else

Login is not successful

End if

Call Upload Subprogram

End subprogram

Lecturer Login Subprogram

Begin

Enter Lecturer Details

Search database for details

If Lecturer Details = Database Details

Login is Successful

Else

Login is not successful

End if

Call Download Subprogram

End subprogram

Upload Subprogram

Begin

Display Assignment UI form

Enter assignment details

Submit details to database

End subprogram

Download Subprogram

Begin

Display Download Link

Click on Link

End subprogram

**4.4 DATABASE STRUCTURE**

The database should be designed in a manner that enforces data integrity and should also be normalized to avoid data redundancy. Fields should be designed so that partial records do not occur and default values are used.

The tables below illustrate how the database will look:

**Student Data**

|  |  |  |
| --- | --- | --- |
| FIELD | DATA TYPE | DESCRIPTION |
| ID | Int(11) | ID auto-increment |
| First\_Name | Varchar(20) | First Name |
| Last\_Name | Varchar(20) | Last Name |
| Username | Varchar(25) | Username |
| Password | Varchar(20) | Password |

**Lecturer\_Data**

|  |  |  |
| --- | --- | --- |
| FIELD | DATA TYPE | DESCRIPTION |
| Firstname | Varchar(20) | First Name |
| Surname | Varchar(20) | Last Name |
| Username | Varchar(25) | Username |
| Password | Varchar(20) | Password |

**Admin\_Data**

|  |  |  |
| --- | --- | --- |
| **FIELD** | **DATA TYPE** | **DESCRIPTION** |
| **Admin\_ID** | **Varchar(20)** | **Administrator ID** |
| **Admin\_Password** | **Varchar(20)** | **Administrator Password** |

**Course Data**

|  |  |  |
| --- | --- | --- |
| **FIELD** | **DATA TYPE** | **DESCRIPTION** |
| **ID** | **int(11)** | ID auto-increment |
| **Course\_code** | **Varchar(20)** | **Course code** |
| **Course\_name** | **Varchar(20)** | **Course name** |

**4.5 INTERFACE DESIGN**

This section shows the aspect of the system design that defines the interfaces and data that satisfy specified requirements.

**4.5.1 Login interface**

**LOGIN   x**

**User\_ID**

**PASSWORD**

**LOGIN**

**Fig. 4.5.1** login window for the proposed system

**Fig 4.5.1** shows the login in interface and the required information for system access, the window defines the system admin, lecturer and student.

**sST**

**COURSE:**

**BROWSE:**

**FILE:**

**SUBMIT**

**4.5.2 ADD ASSIGNMENT INTERFACE**

**4.5.3 THE ADMINISTRATOR INTERFACE**

The administrators’ interface allows the site administrator to populate the database with both students’ and lecturers’ details.

The administrators’ interface is shown in the figures below:

**WELCOME……. ADMIN**

**STUDENT DATA: LECTURER DATA:  
First Name: First Name:**



**Last Name: Last Name:**



**User Name: User Name:**

****

**Password: Password:**



**ADD LECTURER**

**ADD STUDENT**

**Fig 4.5.3 Admin can add both students and lecturers through these forms that have been linked to the database.**

**4.6 SYSTEM IMPLEMENTATION**

This discusses the features and choice of the programming language used for the implementation of the system in this research. Also discussed here is the system testing strategies. The target computer requirements are explained as well as the maintenance issues that should be considered.

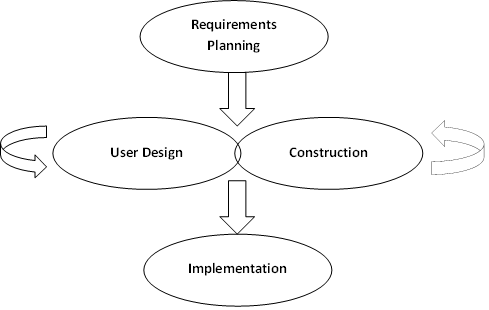
Systems implementation is the process of defining how the information system should be built, ensuring that it is operational and used. The main purpose of the implementation process is to fabricate a system element conforming to that elements design properties and or requirement.

**4.6.1** **IMPLEMENTATION APPROACH**

The implementation approach to be adopted for this study would be a web-based approach. For this, the web server interacts with the database with the intermediate language PHP, while Maria DB will be used for the database and apache for the web server. Other tools for the implementation include HTML, for the scripting, CSS, for the styling and Bootstrap, for the formatting and responsiveness.

**4.6.2 IMPLEMENTATION PROCEDURE**

Software Development Life Cycle (SDLC) Rapid Application development model (RAD) was adopted as the implementation procedure used for this system. The model emphasizes ‘fast/quick’ design approach to solution development, this model emphasizes component-based construction in rapid software development approach.



**FIGURE : 4.6 A variant of the RAD(Rapid application development) model**

**4.7 CHOICE AND JUSTIFICATION OF PROGRAMMING LANGUAGES AND**

**TECHNOLOGIES USED**

**Client-Side-Scripting:**

**1. HTML (Hypertext Markup Language)**

HTML is a markup language for describing web documents (web pages). It is a globally accepted programming language for formatting web pages. In today’s world, it is commonly used along with JavaScript and Cascading Style Sheets (CSS) to give web pages the look and feel we desire. Through HTML, the look and appearance of images, links, headings, text, page layout and just about

every element of a web page can be formatted. While there are other globally-recognized web programming languages and tools like content management systems (CMS) today, HTML continues to be the predominant programming language for creating web pages. It is also the most optimal for small and growing businesses that do not really need advanced functionality on their website. Below are some of the advantages of using HTML:

* It is easy to use and understand.
* It is supported by all browsers.
* It is supported by most development tools.
* It does not have any strain on servers.

**2. CSS (Cascading Style Sheets)**

Cascading Style Sheets were introduced in the 1990’s and provide web developers with a way of separating the web page content from its default style and content. The style sheets can be implemented at a document level, inline level or external level. Although, inline level style sheets may be considered but for this study, the external level style sheets are adopted, so as to separate the content and layout further and allow for a consistent style across multiple web pages.

**3. Bootstrap**

Bootstrap is a free and open-source front-end library for designing websites and web applications. It contains HTML and CSS-based design templates for typography, forms, buttons, navigations and other interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only and the main function or selling point of bootstrap is its ability to make webpages responsive across all devices.

**Server-Side-Scripting:**

**PHP (Hypertext Processor)**

PHP is an open-source server side scripting language, used for the creation of dynamic web pages. Three years after its initial development in 1994, more than 50,000 websites were using PHP to accomplish different tasks -connecting to a database, displaying dynamic content, etc; an incredible uptake in such a short period of time. Though, given the fact that PHP is open source, the figure is hardly surprising.

In terms of performance, PHP works by receiving a request from a PHP page via a web browser at which point the request is passed to the PHP parser to process the requested page, it then sends the output to the clients’ web browser in form of HTML.

PHP also has the functionality to create and maintain database connections, which are handled by the necessary drivers.

The following features make PHP a preferred implementation language for this project:

* PHP is an open source language released under the PHP license and includes hundreds of classes and methods such as language support classes for advanced language features like Stings, Arrays, Threads, and Exception Handling.
* The PHP programming language delivers software-as-a-service (SAAS), and it is run on a web server, making its execution dependent on a web browser. This feature allows for software created with PHP (as the one in this research) to be platform independent because it functions, independent of the type of operating system running on the target machine.
* PHP has evolved to include a command-line interface capability and can be used in standalone graphical applications. PHP can be deployed on most web servers and also on a standalone shell of almost every operating system and platform free of charge.
* PHP7, as used in this research, includes new features such as improved support for object–oriented programming.

**Database Technologies**

For the implementation of the database, among the available database applications, Maria DB will be used.

**Maria DB**

Maria DB is one of the most popular database server in the world. As a database server, its primary functions are to store data securely and return that data in response to requests from other software applications. It is made by original developers of MySQL, it’s is an enhanced, drop-in replacement for MYSQL.

It can handle workloads ranging from small, single-machine applications to large internet-facing applications with many concurrent users. It works mainly on Linux, windows and macOS operating systems.

**4.8 IMPLEMENTATION REQUIREMNENT**

**HARDWARE REQUIREMENTS**

The hardware requirements are listed below:

* A laptop or desktop.
* A 500GB /1TB Hard Disk Drive.
* 2GB Random Access Memory (RAM).
* 32 or 64 bit Operating System size.

**SOFTWARE REQUIREMENTS**

The following software packages are required for the application to function:

* Web browser (Firefox).
* Web Server (XAMPP, WAMP, MAMP etc.)
* Text editor (Sublime Text, Notepad ++, etc.)
* Operating Software (LINUX, UNIX, Windows, etc.)

**4.8.1 FUNCTIONAL REQUIREMENTS**

Functional requirements explain what has to be done by identifying the necessary task, action or activity that must be accomplished. (Sofia, 2010.)

The system should have:

* The ability to upload/download files to/from the server.
* The ability to support multiple user interactions with the system simultaneously.

**4.8.2 NON-FUNCTIONAL REQUIREMENTS**

Non-functional requirements are requirements that specify criteria that can be used to judge the operation of a system, rather than specific behaviors. (Sofia, 2010.)

* **Security:** As with all information systems, suitable security measures need to be put in place so that information is only available to users who are authorized to it.
* **Usability:** The system should use a simple, yet pleasing interface. The number of mouse clicks required to complete key tasks should be kept minimal and the most important elements of the interface should be clearly visible.
* **Database Structure:** The database should be designed in a manner that enforces data integrity and should also be normalized to avoid data redundancy. Fields should be designed so that partial records do not occur and default values are used.

The tables below illustrate how the database will look:

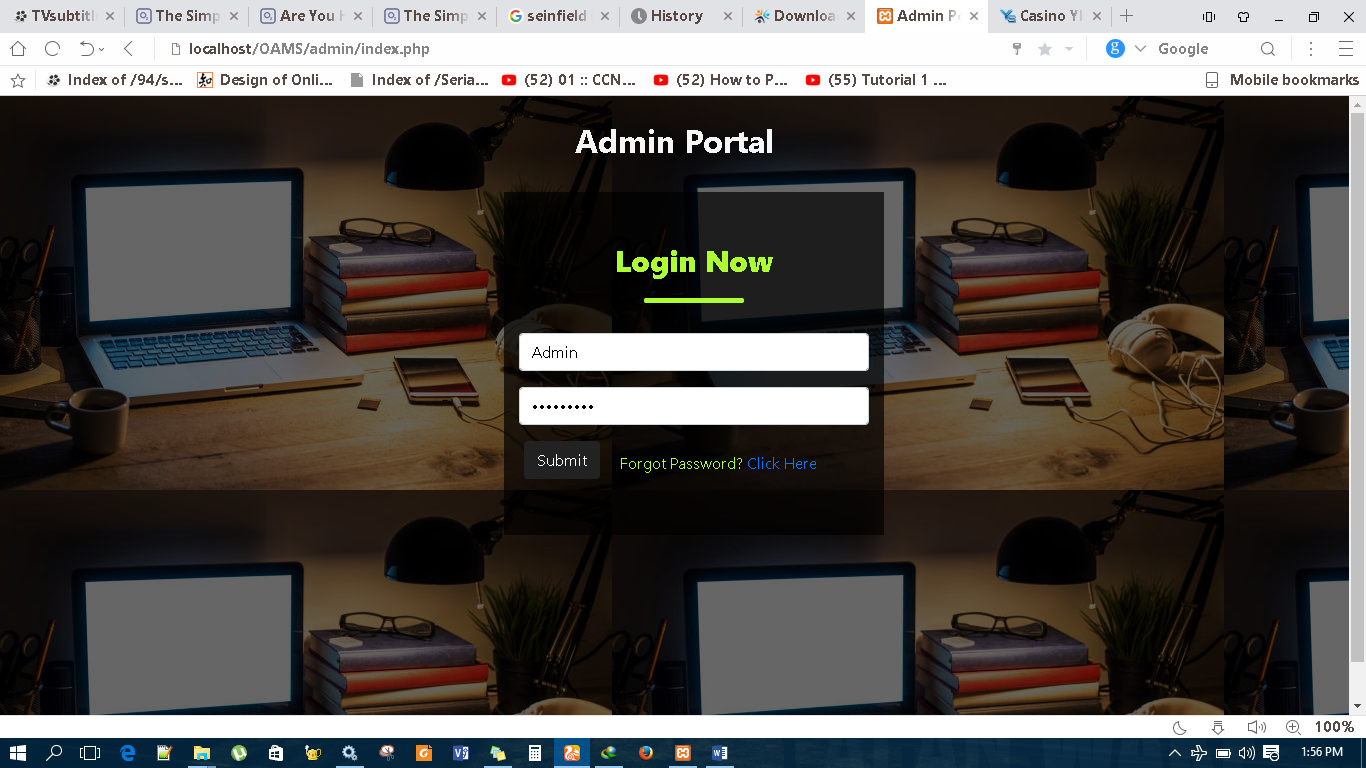
**4.9 OPEARTING THE SYSTEM**

The system has different modules, each of which is operated by the entities (users, lecturers and admin) involved with the system.

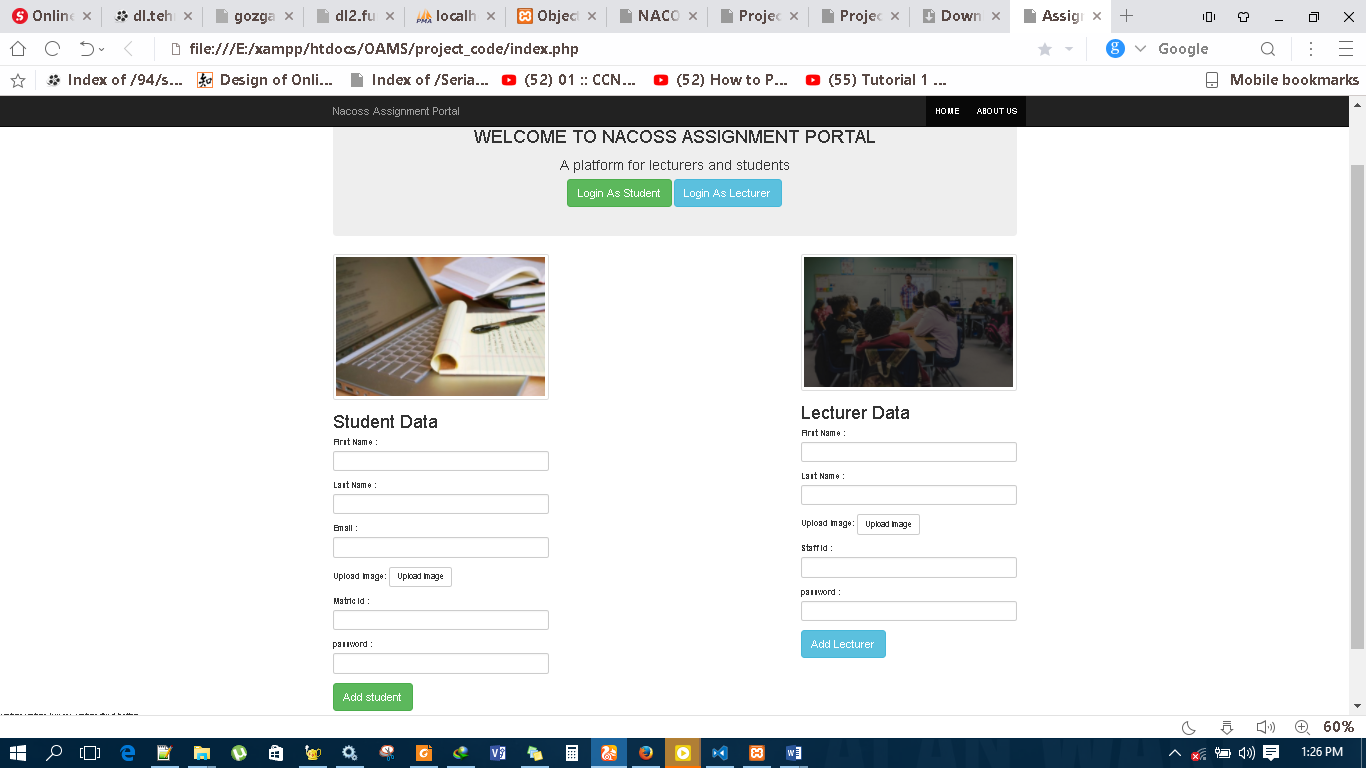
**THE ADMINISTRATOR’S MODULE**

The administrators’ module allows the site administrator populate the database with both students’ and lecturers’ details. It can be accessed via the Admin Login Form which is displayed

on the homepage. The administrators’ page is shown in the figures below:



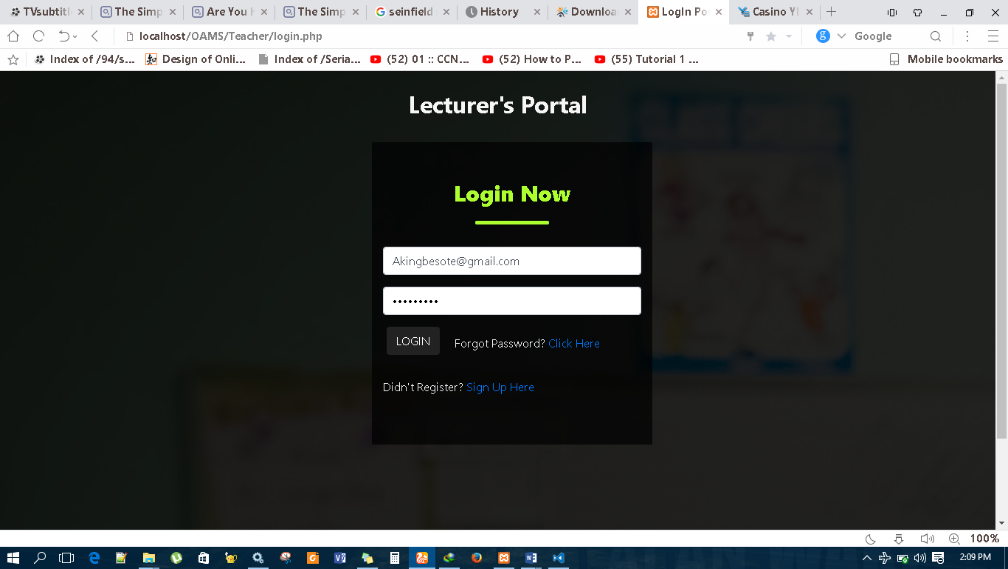
**Fig4.9.Admin Login form**

**Figure 4.9.1 Admin can add both students and lecturers through these forms that have been linked to the database.**

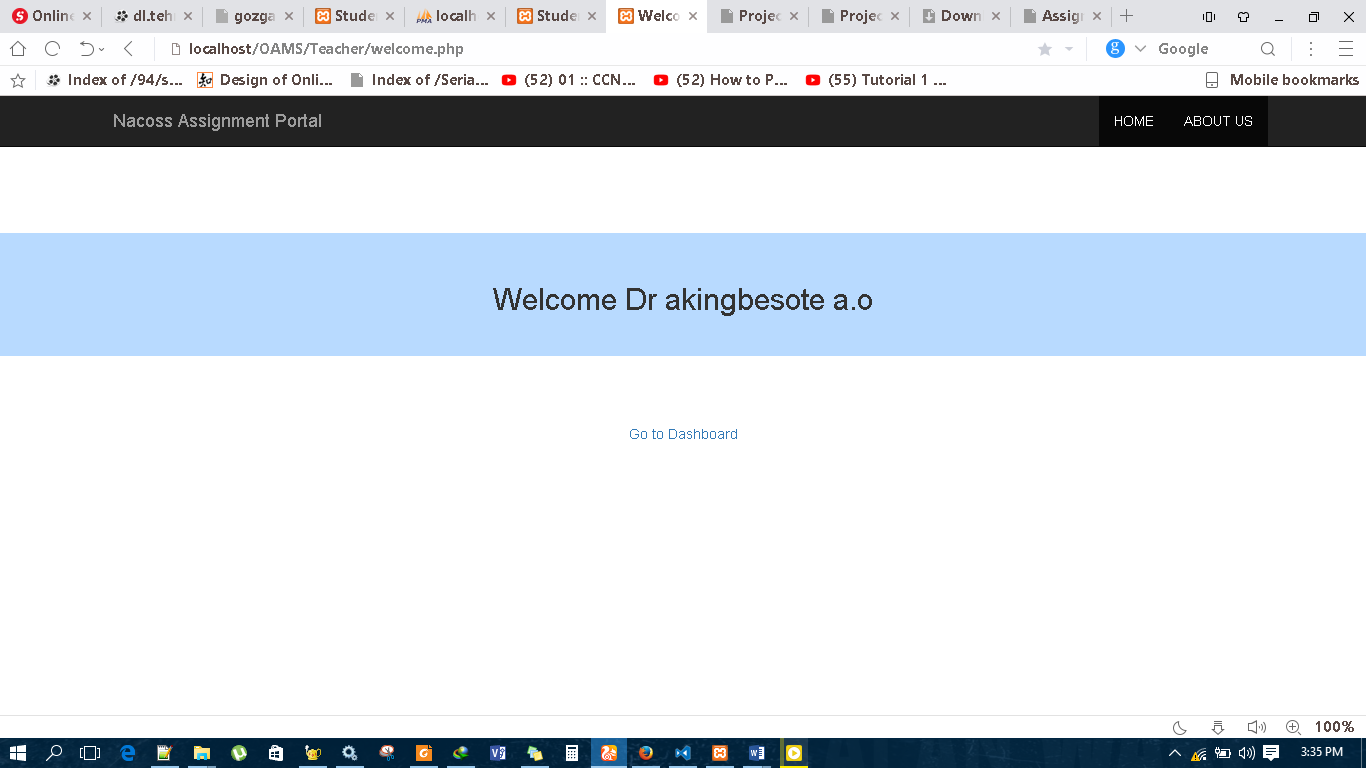
**LECTURERS’ MODULE**

At this module, after gaining access to the system, lecturers can view assignments submitted by students by selecting the course they are currently in charge of, clicking on and downloading the assignments submitted in zip format (which would be saved with the date of submission appended to the assignment name) and can then proceed to extracting the files from the zip format on any device of their choice.

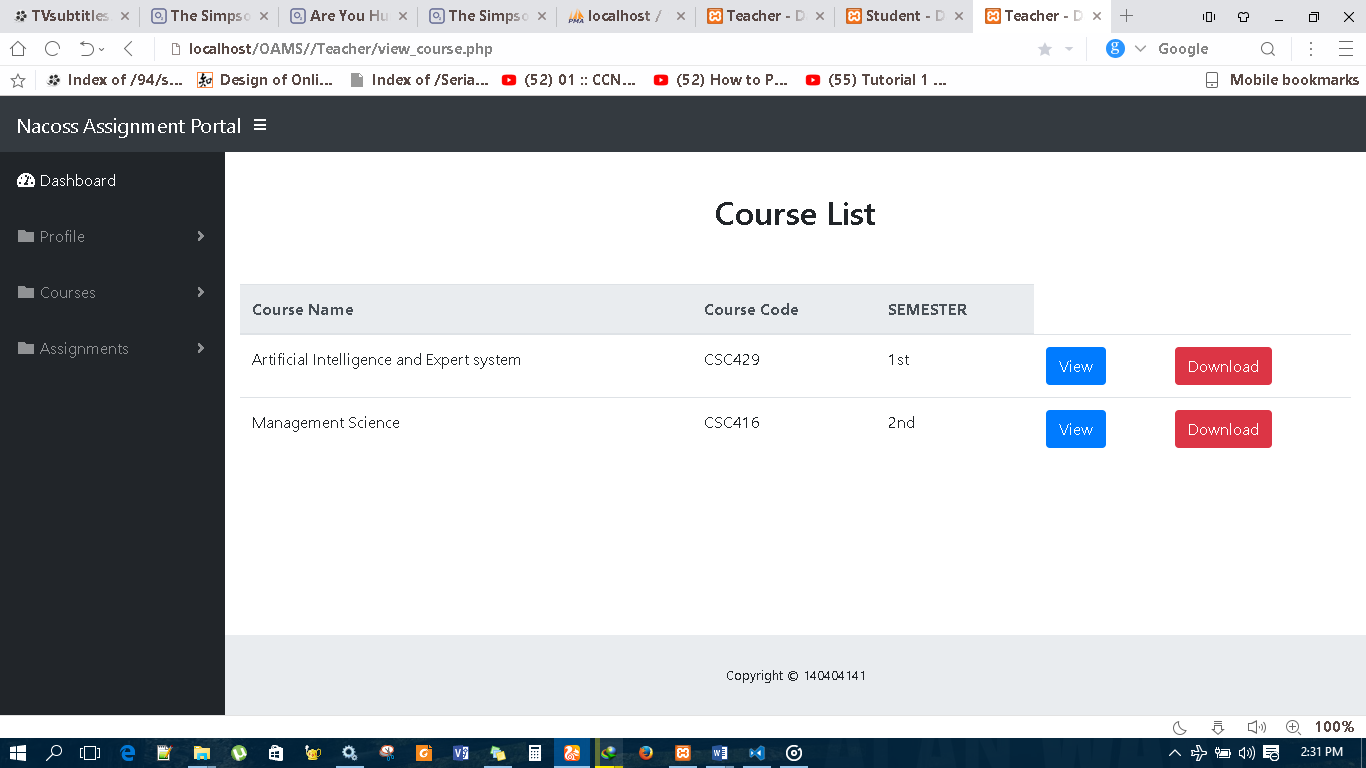
The figures below show successful logins and highlight the process of downloading a file:



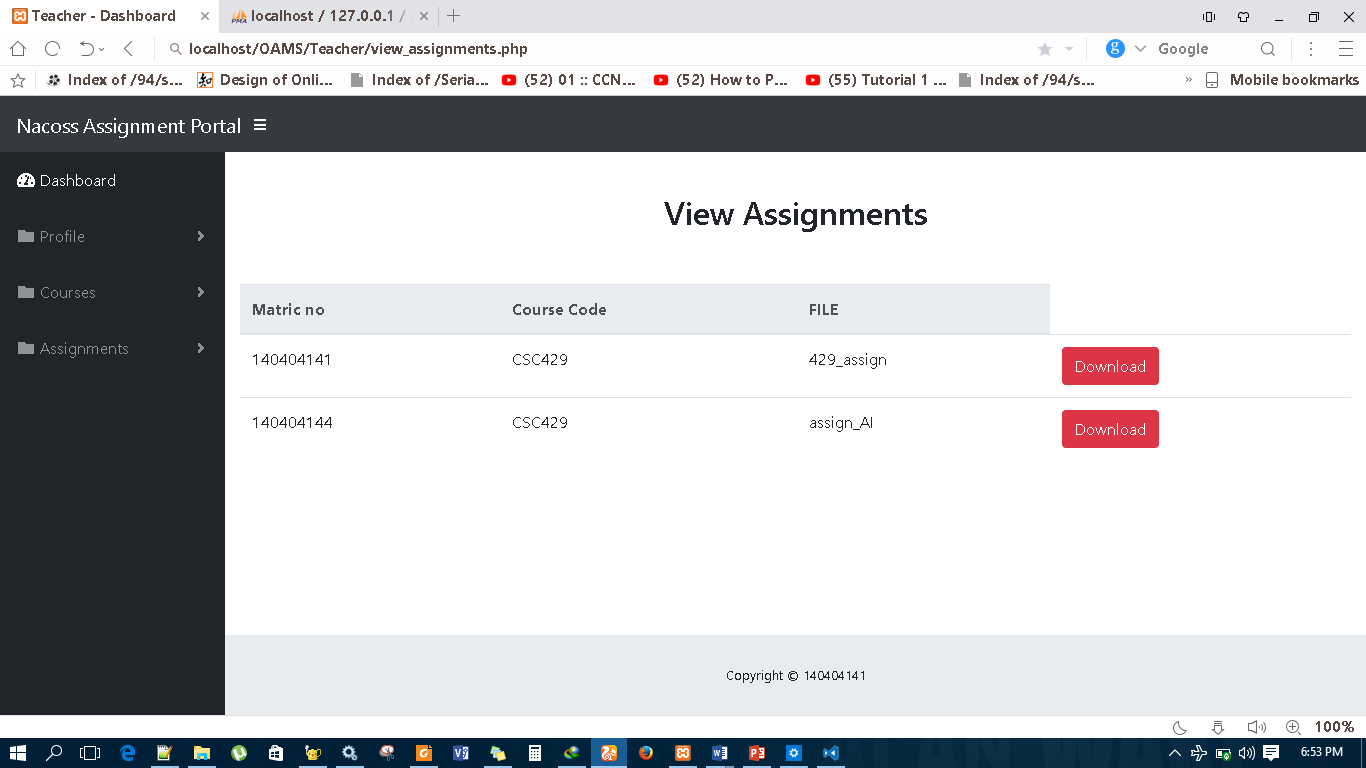
**FIG 4.9.2 A lecturer’s Login page**

****

**FIG 4.9.3 A lecturer’s Successful Login**

****

**FIG 4.9.4 Lecturers can view the courses and select the ones they are taking then proceed to download all submitted assignments in a zip format**

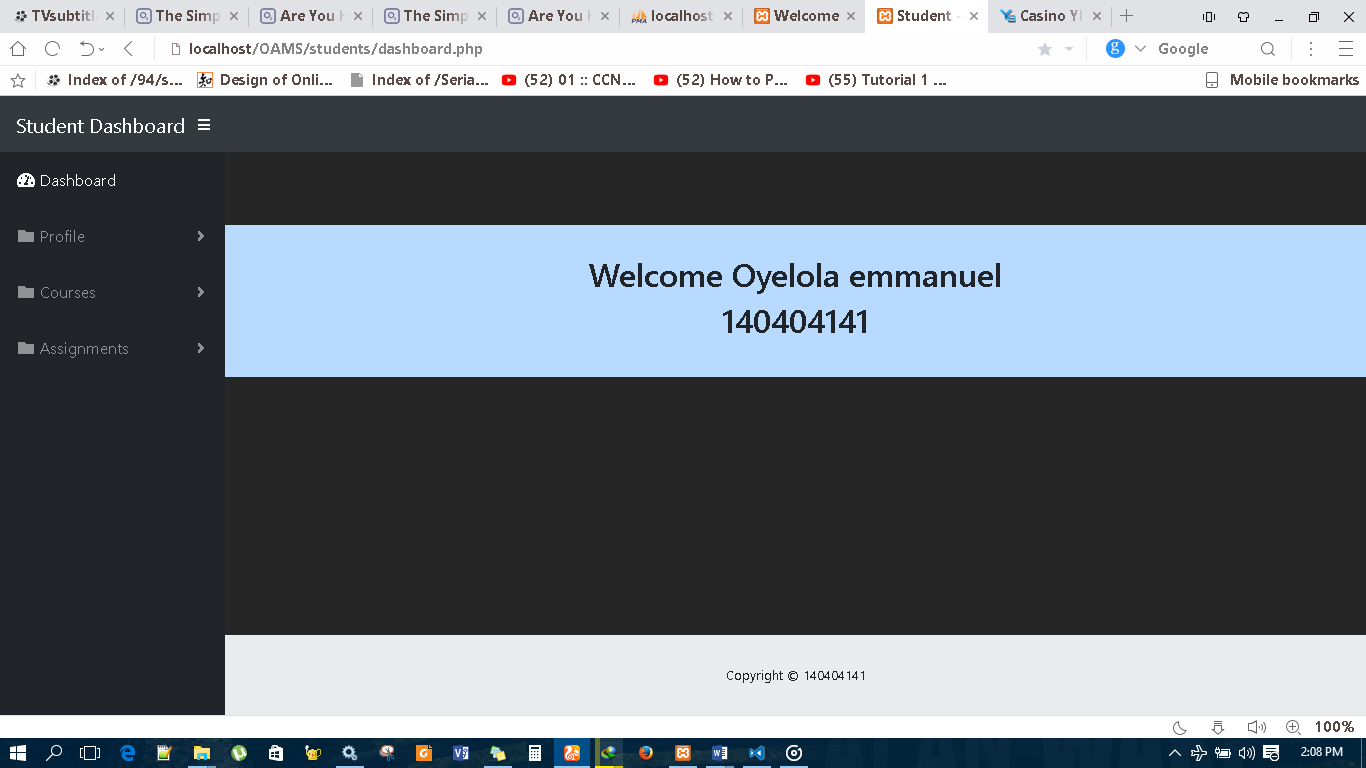
****

**FIG 4.9.5 Lecturers can view the submitted assignments**

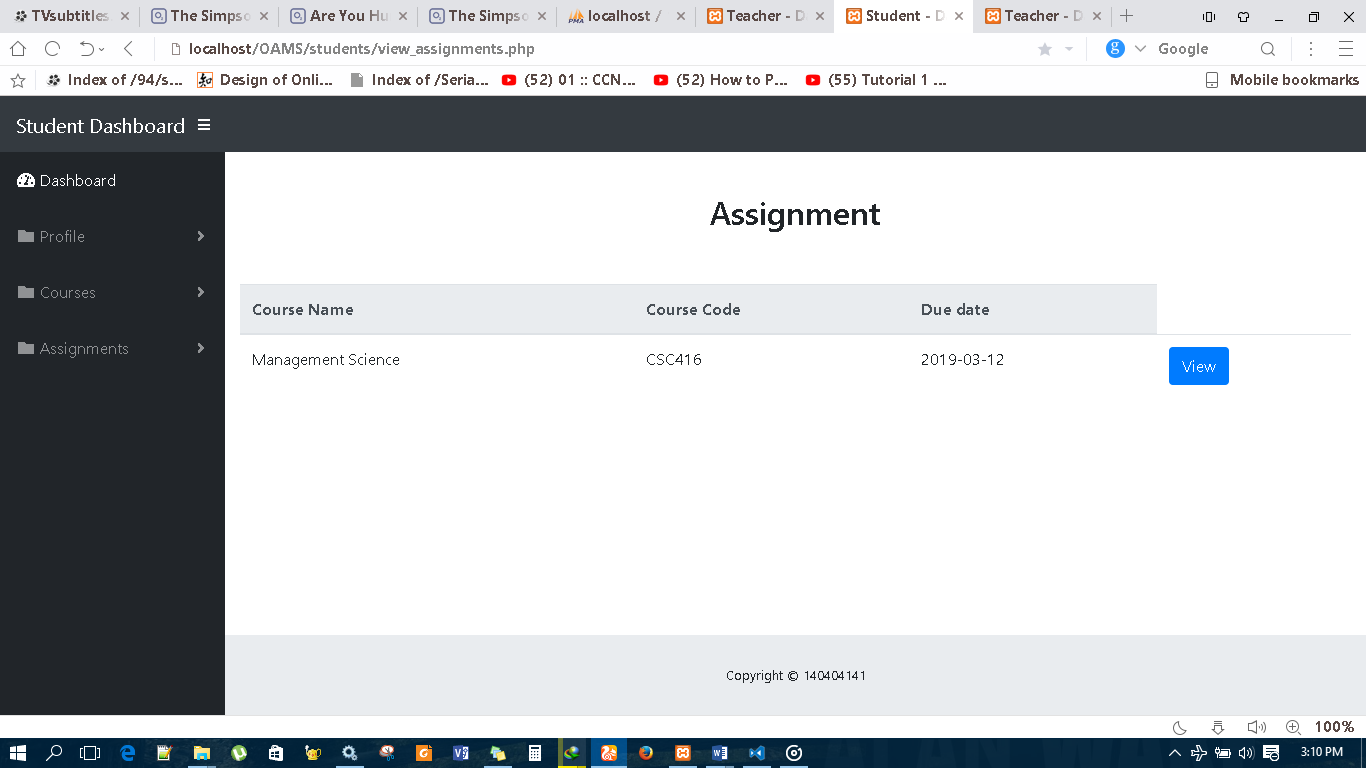
**STUDENTS’ MODULE**

At this module, students can access the system after a successful login, select their level and course of choice and then proceed to submitting their assignments to the course.

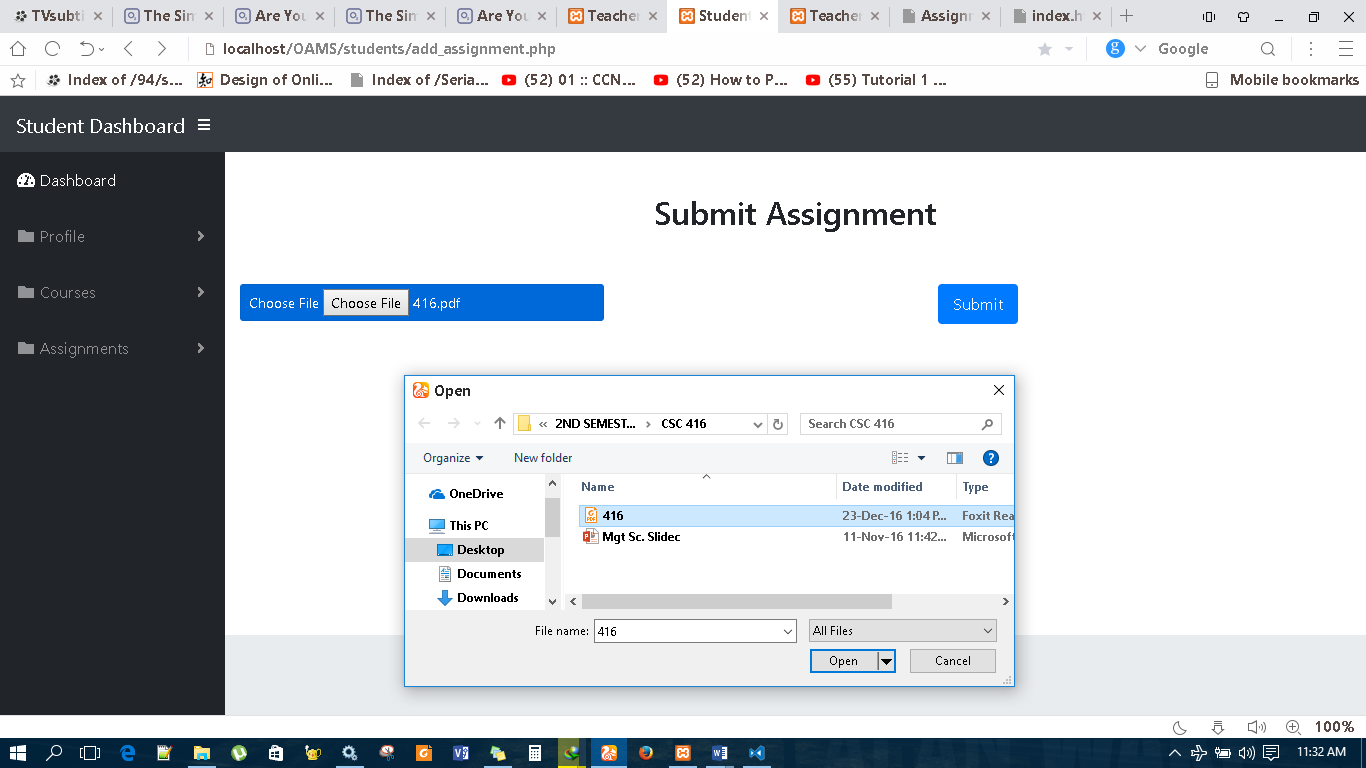
The figures below show a successful student login and assignment submission.



**Figure 4.9.6 Student Successful Login**



**Figure 4.9.7 students’ view assignment page**

****

**Figure 4.9.8 Students’ Submit Assignment Page**

**4.10 SYSTEM TESTING**

This section is concerned with testing and debugging ofs the programs and general processes involved in achieving the objectives of the system requirement. System testing is conducted on a complete integrated system to evaluate the system’s compliance with its specified requirements. So we can also refer to the system testing phase as the investigatory testing phase of the software development life cycle. The system testing strategies used in this system include the unit test and integration test.

**UNIT TESTING**

The primary goal of unit testing is to take the smallest piece of testable software in the application, isolate it from the remainder of the code and determine whether it behaves exactly as it is expected to. Developers who seek to understand the functionality provided by a unit and how to use it can look at the unit test to gain a basic understanding of the unit’s function. In this research, unit tests were carried out on the various parts of the system and necessary corrections were implemented on the resulting errors.

**INTEGRATION TESTING**

Integration testing is a logical extension of unit testing. In its simplest form, the units that have already been tested are combined into a component and the interface between them is tested. In a realistic scenario, many units are combined into the components which are in turn aggregated into larger parts of the system. The idea is to test combination of pieces and eventually expand the process to test the modules with those of other groups. The integration test result for the system in this research was satisfactory.

**4.11 IMPLEMENTATION PLANS**

This involves the plans put in place for utilization of the system.

**System Deployment:**

This encompasses all the processes involved in something operating properly in its environment. The system is deployed by installation, running testing and user training.

**User Training:**

Training of the end users has a key role to play for a successful system implementation. The end-users (students and lecturers) are trained on how to use this application on their devices. They are involved at this point to get them acquainted with the system. Their assistance in parallel testing will help them prepare for when the system goes live. End users are good at using the system in more of a “real world” situation and can judge when process flows are not working. Everyone involved with using the system is included in the training, this then makes them feel more confident about using the system, thereby motivating them to embrace change.

**CHAPTER FIVE**

**SUMMARY, CONCLUSION AND RECOMMENDATION**

**5.1 SUMMARY**

The invention of computers and the internet has made data collection, data processing and data management easier and more efficient, as many organizations and individuals are finding themselves processing and managing their data electronically. The internet has been a tool to make data/information resources globally accessible.

This research project is focused on the design and implementation of an online assignment submission management system for the Department of Computer Science, in the Faculty of Science, Adekunle Ajasin University, Akungba-Akoko for both students and staff. The proposed system is an online system developed in order to enhance the manual task of submitting and reviewing assignments by both students and lecturers respectively.

A couple of literature reviews were made from different developers and authors of related works. Thorough requirement analysis was conducted at the initial stage to really define the problems and how the system is required to solve the problems. Also, at every stage, the system was tested and reviewed to ascertain that it still meets the requirements.

Finally, the system was implemented using a programming language that the researcher considered appropriate and is best suited for the system based on scholarly opinions. Proper system documentation was conducted thereafter.

**5.2 CONCLUSION**

This research project yields a mobile system that provides an easier and more effective means of submitting and reviewing assignments.

Having carried out detailed and comprehensive research on online assignment submission and management, thereby laying down the problems concerning the efficiency, accuracy, timeliness and usability of the existing system, the use of the proposed system has come to eradicate those challenges associated with the existing system. With the new system in place, students and staff can be assured of efficient and timely submission and review of assignments.

**5.3 RECOMMENDATIONS**

This study has been able to emphasize the need to implement and deploy an online assignment submission management system. The researcher, being optimistic about the rationale behind this study, hereby recommends that the proposed system should be fully adopted in the department of Computer Science at the university.

The software developed for the implementation of this research can be used in any department or institution, thereby, it is suggested that any person(s) wishing to modify or extend this project should find a way to generalize the system and make it more secure and also provide a seamless and stress-free experience for the users.

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Towards electronically assisted peer assessment: a case study. Abhir Bhalerao & Ashley Ward(2011)

Paperless assignments: Moving forward or marking time? Sandra Barker , School of Management, University of South Australia(2008)

**Database Connection:**

$host = "host = localhost";

$cred = "user = “” password = “”";

$db\_name = "dbname = assignment";

$port = "port = 5432";

$admin\_conn = mdb\_connect("$host $port $db\_name $cred");

**Admin Login Authentication:**

if(isset($\_POST['ID']) && !empty($\_POST['ID'])){

$id = htmlspecialchars($\_POST['ID']); }

if(isset($\_POST['password']) && !empty($\_POST['password'])){

$password = htmlspecialchars($\_POST['password']); }

$query = ("SELECT \* FROM admin\_data WHERE admin\_id = '$id' AND admin\_password = '$password'")

or die("Wrong Username or Password").pg\_result\_error();

$result=pg\_query($query);

$row=pg\_fetch\_array($result);

function need(){

global $row, $result, $query, $id, $password;

if ($row['admin\_id'] == $id && $row['admin\_password'] == $password) {

echo "<br><br><br>

<div class = 'container'><center>

<h3 class = '' style = font-family:Helvetica Arial Sans-Serif; font-size:30px; margin-left:40%;'>Login Successful.... Welcome Admin </h3>

</center> </div><br><br><br><br><br>"; }

else { header("location: admin\_fail.php"); }}

need();

**Student Page:**

<?php include 'header.php'; ?></br> </br></br></br>

<center> <form action="" method="post" enctype="multipart/form-data" class="form"> <legend>CSC 429 Assignment</legend>

<fieldset>

<div class="form-group">

<label for="file">Filename:</label>

<input type="file" name="file[]" multiple></input><br><br>

<input class="btn btn-primary" type="submit" value="Submit" name="submit">

</div>

</fieldset></form></center>

</body>

</html>

<?php

$path = "/../uploads/";

$path = $path . basename($\_FILES['file']['name'][0]);

if ($\_FILES['file']['size'] <= 10000000) {

if(move\_uploaded\_file($\_FILES['file']['tmp\_name'] , $path)){

echo "The file was uploaded successfully";}}

else{ echo "<h3><strong>File is too large</strong></h3>"; }

function my\_zip() {

$zip = new ZipArchive();

$day = date("d\_m\_Y");

$name = "../uploads/411/CSC 411 Assignments\_$day.zip";

$zip->open ("$name", ZipArchive::CREATE);

$filer = $\_FILES['file'];

for ( $i = 0; $i < count($filer['name']); $i++) {

$tmp = $filer['tmp\_name'][$i];

$files = $filer['name'][$i];

move\_uploaded\_file($tmp, $files);

$addedFile = $zip->addFile($files);

if ($addedFile) { echo "<br><br><center>File upload was successful</center>"; }

else { echo "<br><br><center> File was not uploaded successfully </center>"; }}

$zip->close(); }

if (isset($\_FILES['file']) === true) {

my\_zip();}

include 'footer.php';

?>

<?php

include "config/connect.php";

$fullname=$\_POST['fullname'];

if(isset($\_POST['submit'])){

$email = $\_POST['email'];

$password= $\_POST['password'];

$result=$conn->query("SELECT \* FROM students WHERE email='$email' ");

$row=$result->fetch\_array(MYSQLI\_BOTH);

if(password\_verify($password,$row['password'])){

session\_start();

$\_SESSION['image'] = $row['image'];

$\_SESSION['fullname'] = $row['fullname'];

$\_SESSION['email'] = $row['email'];

$\_SESSION['gender'] = $row['gender'];

$\_SESSION['phone\_number'] = $row['phone\_number'];

$\_SESSION['address'] = $row['address'];

header("location:dashboard.php");

}else{

header("location:index.php?invalid=please enter valid informtion");

}

if(empty($\_POST['email']) || empty($\_POST['password'])){

header("location: index.php?Empty=Please fill the fields ");

}

}

?>

**VIEW ASSIGNMENT**

d<?php

include "config/connect.php";

include "header.php";

?>

<div id="wrapper">

<?php include "sidebar.php" ?>

<div id="content-wrapper">

<div class="content">

<div class="container-fluid">

<div class="row">

<div class="col-md-12">

<div class="header text-center" style="padding:25px; margin-bottom: 20px;">

<h2>Problem List</h2>

</div>

<table class="table">

<thead class="thead-light">

<tr>

<th scope="col">Problem-Name</th>

<th scope="col">Description</th>

<th scope="col">Sample\_Input</th>

<th scope="col">Sample\_Output</th>

<th scope="col">Action</th>

</tr>

</thead>

<tbody>

<?php include "view\_problems\_handler.php"; ?>

</tbody>

</table>

</div>

</div>

</div>

</div>

</div>

</div>

<!-- Modal -->

<div class="modal fade" id="delete" tabindex="-1" role="dialog" aria-labelledby="myModalLabel" aria-hidden="true">

<div class="modal-dialog" role="document">

<div class="modal-content">

<div class="modal-header">

<h5 class="modal-title" id="myModalLabel" style="text-align: center;">Delete Confirmation</h5>

<button type="button" class="close" data-dismiss="modal" aria-label="Close">

<span aria-hidden="true">&times;</span>

</button>

</div>

<div class="modal-body">

<p class="text-center">Are You Sure You Want To Delete?</p>

<input type="hidden" name="delete\_id" id="del\_id" value="" >

</div>

<div class="modal-footer">

<button type="button" class="btn btn-secondary" data-dismiss="modal">Cancel</button>

<a class="btn btn-danger btn-ok">Delete</a>

</div>

</div>

</div>

</div>

<?php include "footer.php"; ?>

SUBMIT ASSIGNMENT

<?php

include "config/connect.php";

include "header.php";

include "add\_assignment\_handler.php";

?>

<div id="wrapper">

<?php include "sidebar.php" ?>

<div id="content-wrapper">

<div class="content" >

<div class="container-fluid">

<div class="row">

<div class="col-md-12">

<div class="header text-center" style="padding:25px; margin-bottom: 20px;">

<h2>Add Assignment</h2>

</div>

<form action="#" method="POST" enctype = "multipart/form-data">

<?php

if(isset($\_SESSION['success'])){ ?>

<div style="margin-bottom:10px; display:inline-block; margin-left: 33%; color:#f7f7f7; background: #222; padding:10px 20px;" class="text-center">Problem Post Successfully <a href="view\_assignments.php">View Problems</a> </div>

<?php } ?>

<div class="form-group col-md-7">

<label >Problem Name</label>

<input type="text" name="problem\_name" class="form-control" placeholder="problem name">

</div>

<div class="form-group col-md-7">

<label for="in">Description</label>

<textarea class="form-control" name="description" placeholder="Description" rows="10" cols="50"></textarea><br><br>

</div>

<div class="form-group col-md-7">

<label for="in">Sample Input</label>

<textarea class="form-control" name="sample\_input" placeholder="Sample input" rows="10" cols="50"></textarea><br><br>

</div>

<div class="form-group col-md-7">

<label for="in">Sample Output</label>

<textarea class="form-control" name="sample\_output" placeholder="Sample Output" rows="10" cols="50"></textarea><br>

</div>

<div class="text-left">

<button type="submit" name="submit" class=" btn btn-primary text-left" style="margin-bottom:25px; padding: 7px 14px;">Submit</button>

</div>

</form>

</div>

</div>

</div>

</div>

</div>

</div>

<?php include "footer.php"; ?>

**LECTURERS PAGE**

g

<?php

include 'config/connect.php';

?>

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <title>LogIn Portal</title>

    <link rel="stylesheet" href="css/style.css">

    <link href="//maxcdn.bootstrapcdn.com/bootstrap/4.1.1/css/bootstrap.min.css" rel="stylesheet" id="bootstrap-css">

</head>

<body class="student-portal">

    <section class="login-block" >

            <div class="container">

                <h2 class="text-center heading">Lecturer's Portal</h2>

                <div class="row">

                        <div class= "col-md-4 login-sec" style="left:35% ;">

                    <h2 class="text-center">Login Now</h2>

                    <form class="" action="login\_handler.php" method="post" enctype="multipart/form-data">

                     <?php if(@$\_GET['Empty']==true){ ?>

<div class="alert alert-danger text-center" > <?php echo $\_GET['Empty'] ?></div>

<?php } ?>

<?php if(@$\_GET['invalid']==true){ ?>

<div class="alert alert-danger text-center" ><?php echo $\_GET['invalid'] ?> </div>

<?php } ?>

                        <div class="form-group">

                            <input type="text" class="form-control" name="email" placeholder="User Email" value="">

                        </div>

                        <div class="form-group">

                            <input type="password" class="form-control" name="password" placeholder="Password" value="">

                        </div>

                        <div class="form-check">

                        <div class="row">

                            <div class="submit"><button name="submit" type="submit" class="btn btn-login float-right">Submit</button></div>

                            <div><p style="color: #f7f7f7; font-weight: 400; margin:10px 20px;">Forgot Password? <span><a href="http://localhost/ProjectCompiler/teacher/forgotpass.php">Click Here</a></span></p></div>

                        </div>

</div>

                        <div>

<p style="color: #f7f7f7; font-weight: 400; margin-top:25px;">Didn't Register? <a href="http://localhost/ProjectCompiler/teacher/register/register.php"> Sign Up Here</a></p>

                        </div>

                    </form>

                </div>

                </div>

            </div>

        </section>

        <script src="//maxcdn.bootstrapcdn.com/bootstrap/4.1.1/js/bootstrap.min.js"></script>

        <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>

    </body>

    </html>

**ADD COURSE PAGE**

<?php

include "config/connect.php";

include "header.php";

include "add\_course\_handler.php";

?>

<div id="wrapper">

<?php include "sidebar.php" ?>

<div id="content-wrapper">

<div class="content">

<div class="container-fluid">

<div class="row">

<div class="col-md-12">

<div class="header text-center" style="padding:25px; margin-bottom: 20px;">

<h2>Add Course</h2>

</div>

<form action="#" method="POST" enctype = "multipart/form-data">

<?php

if(isset($\_SESSION['success'])){ ?>

<div style="margin-bottom:10px; display:inline-block; margin-left: 33%; color:#f7f7f7; background: #222; padding:10px 20px;" class="text-center">Course Added <a href="view\_course.php">View Course List</a> </div>

<?php } ?>

<div class="form-row">

<div class="form-group col-md-6">

<label >Course Name</label>

<input type="text" name="course\_name" class="form-control" placeholder="course\_name">

</div>

<div class="form-group col-md-6">

<label >Course Code</label>

<input type="text" name="course\_code" class="form-control" placeholder="course\_code">

<!-- <?php if(in\_array("email already in used <br>",$error\_array)){

echo '<p style="color:red;">Email already in used </p>';

} ?> -->

</div>

</div>

<div class="form-row">

<div class="form-group col-md-6">

<label >Department</label>

<select name="department" class="form-control">

<option selected>Choose</option>

<option>CSE</option>

<option>EEE</option>

<option>BBA</option>

<option>MATHMETICS</option>

<option>PHYSICS</option>

<option>CHEMISTRY</option>

<option>HISTORY</option>

<option>OTHERS</option>

</select>

</div>

</div>

<div class="text-center">

<button type="submit" name="submit" class=" btn btn-primary text-left" style="margin-top: 25px; padding: 7px 14px;">Submit</button>

</div>

</form>

</div>

</div>

</div>

</div>

</div>

</div>

<?php include "footer.php"; ?>

**VIEW SUBMITTED ASSIGNMENTS PAGE**

h<?php

include "config/connect.php";

include "header.php";

?>

<div id="wrapper">

<?php include "sidebar.php" ?>

<div id="content-wrapper">

<div class="content">

<div class="container-fluid">

<div class="row">

<div class="col-md-12">

<div class="header text-center" style="padding:25px; margin-bottom: 20px;">

<h2>Problem List</h2>

</div>

<table class="table">

<thead class="thead-light">

<tr>

<th scope="col">Problem-Name</th>

<th scope="col">Description</th>

<th scope="col">Sample\_Input</th>

<th scope="col">Sample\_Output</th>

<th scope="col">Action</th>

</tr>

</thead>

<tbody>

<?php include "view\_problems\_handler.php"; ?>

</tbody>

</table>

</div>

</div>

</div>

</div>

</div>

</div>

<!-- Modal -->

<div class="modal fade" id="delete" tabindex="-1" role="dialog" aria-labelledby="myModalLabel" aria-hidden="true">

<div class="modal-dialog" role="document">

<div class="modal-content">

<div class="modal-header">

<h5 class="modal-title" id="myModalLabel" style="text-align: center;">Delete Confirmation</h5>

<button type="button" class="close" data-dismiss="modal" aria-label="Close">

<span aria-hidden="true">&times;</span>

</button>

</div>

<div class="modal-body">

<p class="text-center">Are You Sure You Want To Delete?</p>

<input type="hidden" name="delete\_id" id="del\_id" value="" >

</div>

<div class="modal-footer">

<button type="button" class="btn btn-secondary" data-dismiss="modal">Cancel</button>

<a class="btn btn-danger btn-ok">Delete</a>

</div>

</div>

</div>

</div>

<?php include "footer.php"; ?>