# CERTIFICATION

This Project titled, **ONLINE HOSTEL ALLOCATION AND MANAGEMENT SYSTEM (A CASE STUDY OF MOUNTAIN TOP UNIVERSITY),** prepared and submitted by **JOHN EMMANUEL JOSHUA** of matriculation number 15010301012 in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE (Computer Science)** is hereby accepted.

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## DEDICATION

To the Lord God Almighty who bestowed to me the knowledge and wisdom used in carrying out this project research, and to my parents and to who will ever desire to explore the field of technology and make the most of it.

# ACKNOWLEDEMENT

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# ABSTRACT

Hostel allocation has always been an essential part in the process of hostel management. Over the years, it has been noticed that the drastic intake of students into higher institute of learning has in many ways contributed to the tedious nature of the process. The whole process involving allocation, documentation, managing of reports and any more, however, has made it to be most often than not more cumbersome. In Mountain Top University, Ogun state (MTU), the present system been used for hostel allocation and management is the traditional (manual) system which makes it to be complex and can be time sensitive. This in turn has caused the accuracy level in managing of records and allocating students to hostels very low, run on low speed and since the present system involves lots of paper work, cause less efficient and effective as a whole and sure needs urgent attention.

This project aimed at providing solutions to stated problems was done by designing an online platform where all student allocation, management and other hostel management related matters can be done fast and easy with less human errors. The system was built by using HTML, CSS, PHP and MySQL as tools for its development. HTML and CSS playing a role for interface creation, PHP functioning as an object oriented programming language which basically validates forms and makes the system user friendly and MySQL as the server.

The Online Allocation and Management System created helps to manage students' allocation records in a safer and more secure way. The system provides a faster and more efficient way of allocating students to hostels, manage and adequately store records for future reference.

The Online Allocation and Management System is a very useful, convenient, and efficient. It is a safe way of keeping records compared to the manual method currently used. The system is thereby opened to thoughtful future improvements so as to adjust to future needs and increase its level of productivity, effectiveness and efficiency.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

In colleges, hostel management often includes administering all student activities. All of these are challenging and involve some work for top leadership. Hostel Allocation and management tasks and duties in contemporary day classrooms, due to the manual system technique of instruments they use, have always have been an issue in management. Hostel Allocation and Management System is well designed with an aim to specially to handle the problems of management set up of an institution.

Hostel Allocation and Management system can be used to assist in allocating student information, setting up hostel information, hostel application, and managing visitors. This system will help the staff to manage some of the activities of the hostel.

Hostels are sometimes mistaken for hotels since they both offer similar service in providing temporal accommodation for individuals, there is still quite a difference between these two establishments. While hotels are much more expensive in terms of costing and formal in its approach of offering services, hostels on the other hand are rather budget-oriented; rates are considerably lower, and many hostels allow the sharing of resources and other items like books, DVDs, computerized devices and many more as its users (students and other guests) tend to be less formal in their dealing. Also for those who prefer to socialize with their fellow guests, hostels usually have more common areas and opportunities to socialize. The dormitory aspect of hostels increases the social factor more compared to hotels.

## 1.2 Statement of the Problem

The increasing amount of students in higher schools throughout the universe has raised a lot of lodging concerns on the aspect of students and university management. There are a lot of drawbacks in keeping and maintaining a hostel especially with a manual system. Aside the fact a lot of paper work is involved with the present method been used, since most hostels are being run by only one hostel manager, the number of students in a room are sometimes not known by the officer. Searching for a vacant room for an applicant is very tedious especially knowing that the present method been used is done by going through all floors checking every room to tell if space

is available or not. Providing accurate information about the occupancy status of particular rooms at a particular time cannot be done by hostel administrators. These and many more form the statement of the problem that necessitated this research work.

### 1.3 Aim and Objectives of the Study

The project is designed to help in the management of hostel allocation in the university. The aim of this study is to design a computer-driven hostel allocation system for allocating hostel rooms to students.

The objective of the new system includes:

1. To make data collection, storage and referencing easier and reliable.
2. To make processing of allocation list faster.
3. To make the generating of reports on hostel occupancy more accurate and stress free.

### 1.4 Scope of the Study

The scope of this study is limited to Mountain Top University, Ogun state. The project work will however cover hostel allocation of students, hostel rooms' registration and generating of student reports regarding their residential status.

### 1.5 Significance of the Study

The new model intended for the management and allocation of hostels for software-driven students will include: promoting the prompt allocation of hostel rooms to students, reviewing the occupancy of hostels at a certain period for data management, enabling administrators to schedule for developing the standards of living of hostels, acquiring adequate information on students' statistics in the hostel, also helps in keeping the records of hostel staff working at a time.

### 1.6 Definition of Terms

**1**. **Hostel:** When staying away from home, a hostel is a home for students. It well ventilated rooms and is located often times within the premises of the institution.

**2**. **Management Information System:** This is a system that offers data necessary to efficiently manage organizations.

**3**. **Hostel Management System:** This is software that manages the operations of hostel employees and students, allows learners to apply for hostels online, and the scheme allocates rooms to hostel students and teachers.

**4**. **Data:** Historically, information referred to known facts capable of being recorded and stored on computerized devices. These are facts that consist of text, numbers, pictures and sounds.

**5**. **Databases:** A systematically organized computer information collection, structured to retrieve or manipulate it automatically.

**6**. **Computer program:** This is a collection of instructions or rules that directs the computer concerning tasks or the action to be performed to produce result.

**7. System:** This is a compilation or arrangement of components to form an embedded and single unit. It involves an organized arrangement according to some accepted principles or standards.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter provides a literature review on the factors that affect the successful implementation of an online hostel management system (HMS). This chapter's introduction starts with the conceptual review, theoretical review, review of associated literature, and the reviewed literature overview. Hostel management system (HMS) covers information, housing status, and data of all students, portals, and other employees. An internet HMS system helps to handle all hostel parts: rooms, etc.

## 2.1 Conceptual Review

### 2.1.1 System

According to James O Brien (2007), a system is a group of interrelated components working together towards a common goal by accepting input and producing output in an organized transformation process. The basic three components of a system include Input, processing and output.

### 2.1.2 Information System

Information system is any combination of information system and people's activities that support operations, management and decision making (Stair & Reynolds, 2009). The term information system is frequently used to the interaction between people, processes, data and technology.

### 2.1.3 Hostel

Hostel is an establishment which provides cheap lodging and food for travelers, a place of residence for students. It is also defined as a budget-oriented, shared-room dormitory accommodation that accepts individual travelers or groups for short-term stays, and that provides common areas and communal facilities. It also indicated that the property must provide short-term, shared (dormitory-style) accommodation to individual guests in order to be considered a hostel, although many hostels also provide personal accommodation. (Davies et al., 2008)

In university and school planning, the desire to provide learners with spaces that enable active interaction, comfort and convenience, and opportunities for socialization is paramount. They also claim that all of these demands and requirements need to be considered in conjunction with the

pragmatic environmental furnishing needs, development of efficient mechanical, electrical, plumbing and security specifications when planning for hostel structures.

### 2.1.4 Information System

An information system is any combination of information system and people's activities that support operations, management and decision making. The term information system is frequently used to the interaction between people, processes, data and technology (Stair & Reynolds, 2009).

### 2.1.5 Database Management System (*DBMS*)

Database Management System (DBMS) is a program (or a group of programs) that provide access to a database (Turban, Ephraim, & Wetherbe, 2000). The DBMS permits an organization to centralize data, manage them efficiently and provide access to the stored data by application program.

### 2.1.6 Hostel Management

Hostel management is a broad word that can be described in different ways. It's mainly about handling all aspects of the hostel; coordinating all of a hostel's components. This can range from allocating students to rooms, transferring rooms, creating and producing data for both students and hostels, evacuating rooms, to maintaining records. Hostel managers have a legal and moral duty to guarantee a high quality operating mode and to strive for better results. These executives are mainly accountable for entrusting policies, systems, processes to handle specific students ' allocation and vacation to hostels and rooms as well as handling accounts for students.

Therefore, many have claimed that it is evident that executives play a relevant and evident part in the quality of student care and security and that it is one of hostel management administrators ' top priorities. Hostel leadership plays a prominent role in applying creative techniques, thereby giving a positive impact on the experience of students and enabling a proper functioning of policy development and adherence for a productive and sustainable institution.

### 2.1.7 Hostel Allocation and Management System

Hostel Allocation and Management System, as mentioned above in the topic, is a software designed to efficiently assist and manage the different operations and activities. It is well understood, the institutions of education have been expanding rapidly across the previous years. It therefore leads to the shrinking of hostels in these institutions to accommodate students studying. And that's why there is the existence of the Hostel Allocation and Management System which really handles the issue of running the hostel and dodging the issue when manually doing it (Muhammed Shaheer, Vinod Raj, Prasobh, et al., 2009).

Manual management of hostel allocations is tedious as it includes work load and time consumption. But with this HMS model, we can comfortably regulate hostel information, room records, student documents, convenient and quick room allocation and hostel attendance. Thus, it is simple to avoid a lot of repetition that has reduced data redundancy (Deepika, Chitra, 2010). A hostel management system (HMS) has several key functional features that help the day-to-day operations of a hospital or nursing home to function smoothly, such as:

1. The creation and generating of students' and hostel information.
2. Provision of various room types to students.
3. Managing the allocation of rooms to the students.
4. Keeping and monitoring of visitors and guest register.
5. Managing the evacuation of rooms.

All these functions are to be performed by hostel management administrators.

## 2.2 Components of Online Hostel Allocation and Management System

These are subsystems of information technology that render Online Hostel Allocation System functional. They are consistent in design and the inability of one element may influence the functioning of the other element in the system. They comprise of software resources, information, people and processes used in contemporary company enterprises.

### 2.2.1 Data

Data can be simply put as all the raw and unprocessed facts about an object or something. Clearly, there can be no database system without information. The fundamental factor is based on the processing and data requirements of an organization. Data elements and relationships need to be precisely defined and the definitions need to be accurately recorded in the data dictionary.

### 2.2.2 People

These are needed for the implementation of all information systems according to (Bourgeois, 2014). They include end-users and experts in the information system End-users are individuals using an information system. Specialists in the reservation information system assist in the growth and implementation of information system. These include system analysts, programmers, software operators, and others. People, are probably the component that most influences the achievement or failure of information systems

### 2.2.3 Hardware

Hardware is used in data handling as personal physical instruments and equipment. In particular, it involves not only devices such as computers but also information media, i.e. all tangible items on which information is stored from paper plates to magnetic discs (Bourgeois, 2014).

Others include keyboards, mouse, printers, scanners etc.

### 2.2.4 Software

Software involves all sets of guidelines for handling data and consists of distinct kinds of programs that allow the equipment to perform distinct functions. Software is further classified into system software and application software. The system software is concerned with maintaining the computer system functioning while Application software is general purpose or written for a particular assignment such as stock control. It can be written using a programming language or more general purpose piece of software such as database (Rochester, 1996).

### 2.2.5 Procedures

These are a set of guidelines on how to combine the above components to process the data and produce the required output. They consist of the way to log in to the DBMS, making use of different forms and manipulations throughout the project.

### 2.2.6 Database

The word database is used as shorthand for database management system. The structured collection of associated data is generally a database. The organized information or database is the foundation for obtaining the desired information or making decisions by recognizing or processing the data further. In their daily lives, people use several databases. Dictionary, telephone directory, library catalog, etc., are examples of databases in which entries are arranged in alphabetical or classifying order (Gunjal, 2003).

An alternative idea in the construction of databases is defined as hypertext. Any item, whether it is a piece of text a photo, or a movie, can be connected to any other item in a Hypertext database. Hypertext databases are especially helpful for arranging large quantities of heterogeneous data, but are not intended for numerical analysis (Beal, 2018).

The design of the database may be external, domestic or functional. The internal stage indicates how each end-user type understands the organization of its corresponding relevant information in the database. The internal level deals with efficiency, scalability, cost and other operational issues.

## 2.3 Theoretical Review

### 2.3.1 Historical Development of Hostel

College Hostel Management Software developed by Initio has six modules, such as the library module, the transport module, the hostel module, the inventory / store module, the inquiry module and the monitoring module for travelers. It offers construction data, rooms, and students.

Microbes Hostel system is a further software system optimizing the leadership exercise of the hostel facility. It has many convincing characteristics such as strong booking management, software synchronizing, receiving and piggy bank management, point of sale, transaction statistical data and records.

Loventis reservation system is also another by Loventis system innovation (2005). It has functions such as PMS, channel director, reservation system, and wireless characteristics.

In addition, Indocon Micro Engineers has created hostel software solutions with unique qualities such as technology personalization, income management, embedded internet reservation system and interfaces for all tickets. According to (Stein, 2006), an institution or establishment without a software system that can make activities productive and simple to operate, the institution cannot be dynamic or influential in modern business. An online system lowers the volume of work and paperwork that the present manual system is facing. Clearly, in institution and associations, computerized system is required to make activities productive and enhance customer satisfaction. Notwithstanding technological innovation, institutions and groups are still using manual method to keep detailed records and other activities in the hostel. Although (Griffin, 2011) stated that several institutions have the capacity to work well using paper records with the manual scheme, it is still regarded great risk and inappropriate. The hostel management model will thus optimize the present system to lower these elevated hazards and inconsistencies.

## 2.4 Current System at Mountain Top University (MTU)

The current hostel allocation and management system at Mountain Top University, Ogun State, is done manually; during application, the students first of all go to the accountant office to verify payment of school fees, if done the student is cleared and given permit to proceed to next unit which is Student Affairs unit. At the Student's Affairs unit, to verification on payment of student dues is done then the student proceeds to hostel administration unit where room vacancy or availability is checked. If available the student is giving a bed-space, the student is then allotted to a room by the porter on duty and details concerning hostel is then documented. The allocation of rooms to students is done on the basis of first come first serve.

Mountain Top University, Ogun State, has a total number of hostels, 4 boys' hostels and 2 girls' hostels. The hostels are named as follows: boy's hostels are Daniel Hall 1, Daniel Hall 2, Daniel 3, and Daniel Hall 4. Girls Hostels; Elizabeth Hall 1 and Elizabeth Hall 2. The room capacity for girls' hostel is 6 per room and is based on bed-space, whereas for boys vary, some hostels are having capacity of 6, 4, and 2.

The method of storage of students data is done using hard-over notes and is done based on hostels i.e. each hostel has a hard cover notebook for its record keeping.

Some of the challenges faced by the college management and students include: limited hostel accommodation, inefficient storage method, slow retrieval of information increased students population each session.

## 2.5 Review of Other Related Works

The Nigerian university education institution was established with the intent of offering profoundly robust and qualitative education to undergraduates in terms of being able to operate effectively in any setting in which they may find themselves to become more profitable, self-fulfilling and self-actualizing (Saint, et al., 2004). This is why students in Nigeria are the biggest single stakeholders in the university / college system. Equally, student accommodation is amongst the most significant services to be supplied on a typical Nigerian campus. Living on campus in a student's residence has been acknowledged being one of the adventurous life experiences of a university student. Nigerian universities were created in the outset with the aim of offering all students on campus with comfortable hostel accommodation. There was no issue with accommodating students in university campuses until the early 1970s (Esenwa, 2003).

According to (O'Connor, 2000), systems have higher advantages and benefits than the manual system due to their processing mode, speed, no information occurrence and reliability. Asper (Griffin, 2011) and (O'Connor, 2000) are shown to be more reliable and adequate systems compared to human or manual systems. (Dutta, 1994) stated that the user has the ability in automatic systems to create 'fast, timely and informed choices' in this case.

The ecological footprint of hostel tourists in Ontorio and Quebec (Pulvis, 2008). This journal had been written by Pulvis C. and it discusses about hostels survey. This survey required detailed information on sample hostels. The survey was designed appropriately to collect the information about the hostel. A qualitative questionnaire was designed to get their opinion about the sample hostels. The collected information includes the occupants, the month that gets higher occupants, and the facilities of the sample hostels. After the survey, the manager will make the analysis about the sample hostels.

In order to satisfy users ' requirements, an effective management system is required to run any institution's activities and institutions like to maintain records, data and attendance (Feurstein, 2009).

According to (Deepika, Achitra, 2010), the automated system lowers data duplication in manual system instances and that's precisely what this proposed system is for. The software program aims to fix challenging mistakes and issues that may be difficult for humans to solve.

# CHAPTER THREE

# METHODOLOGY

## 3.0 Introduction

Methodology as a codified set of practices (sometimes accompanied by training materials, formal educational programs, worksheets and the diagramming tools) that may be repeatedly carried out to produce software (Karl, 2006).

This chapter gives an overview about what to address, how much the system will interact through the system with the students. This will offer good system analysis details, system requirements such as the requirement for hardware and software and their specifications. It will also cover the environment of the research design and the gathering of information. The methodology used is object-oriented methodology (OOP) for this research. Therefore, an object-oriented view has entered the picture for the growth of computer software. Object-oriented design needs the use of object-oriented methods during analysis and system execution.

## 3.1 System Analysis and Design

### 3.1.1 Existing System

The current system is manual-based and requires a great deal of time and effort. Allocating of hostels to students in the current system is done by manually checking for vacant or available spaces in a particular hostel and if available, paper forms are filled and processed traditionally (paper and pen format).

**Advantages of the Existing System**

1. Power supply does not affect the operation of the current system.
2. The current system can be used by both computer literates and non-computer literates.

**Disadvantages of the Existing System**

1. More strength of the human being
2. More manual labor force and strain required
3. Repetition the same operation.
4. Low safety.
5. Redundancy of data.
6. Difficulty in managing and updating information.

7. Lot of time is allocated to this process
8. It is hard to keep documents.
9. It can result in allocation process corruption as well as file or file damage loss.

Alternative Solution to the Problems Identified

The alternative solution to these problems is development of an online hostel management system; the hostel management system will eliminate the problems encountered in the manual system. If implemented, it will play a great role such as:

1. Increase efficiency in the processing of hostel operations.
2. Provide better means of information storage.
3. Make the processing more error free.
4. Increase speed for the process.
5. In general make processing of allocation of hostels more convenient and reliable.

### 3.1.2 Proposed System

The system suggested has a lot of benefits over the current system. It takes less operating costs and is very effective. The suggested system effectively addresses the allocation process and generally offers better alternatives to the issues facing the current system.

## 3.2 Feasibility Study

### 3.2.1 Economical Feasibility

The most commonly used technique for assessing the feasibility of a new system is economic analysis, widely known as cost benefit analysis. As regarding the execution and implementation of the proposed system, the software and all technologies needed to be used are easily accessible, and cost effective.

### 3.2.1 Technical Feasibility

In the suggested system, the technical feasibility works with the technologies used in the system. It deals with both the system's hardware and software, if they are or not of the modern technology. Service-client is the model that will be implemented in the development of this system. Server will maintain the database to save records. When the customer asks the information, the server processes the application and then presents the outcomes. PHP, HTML and MYSQL will be used in the implementation process, with PHP and HTML playing a part in the interface creation and PHP's function will basically be to validate forms that check them and support SQL embedding to query MySQL database. It is also used as a scripting language on the server side. These are

commonly known scripting language for HTML, PHP and MYSQL are very accessible and easy to use. Thus the project is technically feasible.

### 3.2.3 Operational Feasibility

The development has been designed to make it very simple to operate even for individuals with little computer understanding. The systems to be designed is user-friendly and does not necessary involve the activity to be carried out by highly trained or technical personnel. The project is therefore even operationally feasible.

## 3.3 Data Collection Method

The process by which data collected are systematically analyzed and interpreted by a researcher. The two data that are analyzed usually are:

1. The primary data
2. The secondary data

### 3.3.1 Primary Source of Data

This primarily centers on direct involvement with personnel or experts in the field of discipline in carrying out the research on. The major tool for the collection of the primary data for this researcher work is:

1. **Interview:** Use of oral interview questions to some students. The accuracy in using this method of obtaining data for processing is high because there are no assumed figures or data. The information gotten is trusted to be genuine. The awarding of oral questions to respondents was to get a leverage ground of the technical know-how of the impact of the use of the web especially in the institution which is chosen as the case study for this research. All this aimed towards arriving at a good conclusion.
2. **Direct observation:** Complementing the interview is personal observation of the routine carried out in allocating rooms to students.

### 3.3.2 Secondary Source of Data

The secondary source of data used for this research is the use of libraries which comprises of textbooks, past project works, the internet, and other related works. This method of data collection is to broaden the scope of the research and helped to look into several peoples work and what has been done so far in order to give different quota to the topic under review.

## 3.4 Requirement Analysis and Specification

### 3.4.1 Requirement Specification

Requirement analysis is the process of looking into software specifications which intends to communicate the customer needs to system developers. Therefore, this will be dealing with the resources to be used in building this system. They include;

**Hardware Interface configurations:**

Processor: Intel core 3 or higher versions

Processor speed: 1.4 GHz Onwards

System memory: 128 MB minimum (256 MB recommended)

RAM: 512 MB (Minimum)

Cache size: 512 KB

Hard disk: 80 GB

Monitor

Mouse

**Software requirements and configuration include:**

Technology Implemented: Apache Server

Language Used: PHP, HTML, CSS

Database: My SQL 5.5

Software: XAMPP Web Browser: Google chrome or Internet Explorer 8

Operating System: Windows 7 or higher versions.

## 3.5 System Design

### 3.5.1 Software Development Life Cycle

In developing the proposed system for this project, waterfall model will be adopted and used for the development of the system. In this model, the iterative process begins with a simple implementation of a small set of software requirements and iteratively enhances the evolving versions until the entire system is implemented and ready for deployment. An iterative life cycle model does not attempt to begin with a full requirements specification. Instead, development begins with only part of the software specified and implemented, which is then reviewed to identify additional requirements. This process is then repeated and at the end of each iteration model, a

new version of the software is produced. It comprises five stages; feasibility study, analysis, system design, implementation, system testing and maintenance. The model is linear and each stage must be complete before the next one starts with every stage performing and having its mode of operation. Figure 3.1 shows the waterfall development life cycle used for developing the system.

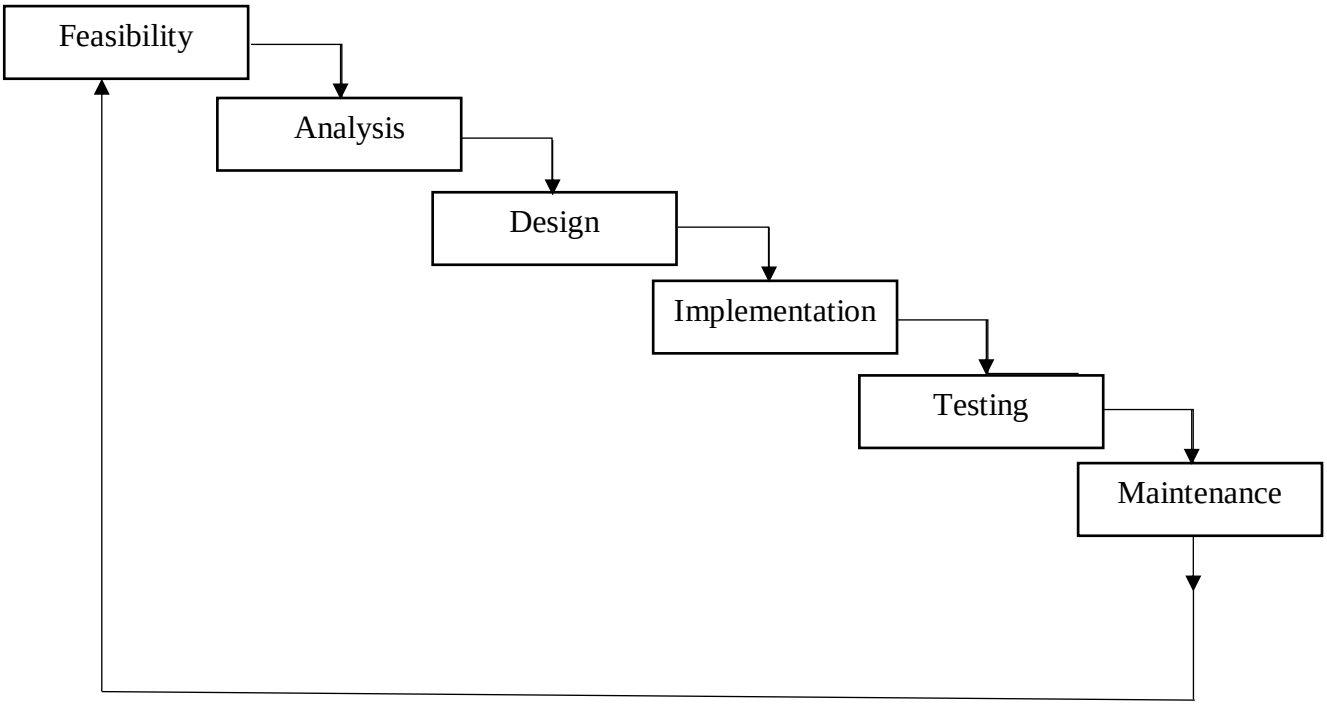


Figure 3.1 Waterfall Development Life Cycle

### 3.5.2 Input Design

All information gathered manually from Mountain Top University, Ogun State hostel are input information for this study project in designing the proposed system and the information will be designed into the input table as shown below;

1. Login table
2. Student Info
3. Room and Hostel Allocation

Table 3.1 Login table

| S/N | Field Name | Data Type | Field Size |
|---|---|---|---|
| 1. | Username | Varchar | 25 |
| 2. | Password | Varchar | 25 |

Table 3.2 Student Info table

| S.N | Field Name | Data Type | Field Size |
|---|---|---|---|
| 1. | Matric Number | Varchar | 12 |
| 2. | First Name | Varchar | 25 |
| 3. | Middle name | Varchar | 25 |
| 4. | Last Name | Varchar | 25 |
| 5. | Sex | Varchar | 10 |
| 9 | Course of Study | Varchar | 20 |

Table 3.3 Room table

| S/N | Field Name | Data Type | Field Size |
|---|---|---|---|
| 1. | Id | Integer | 06 |
| 2 | Room Id | Varchar | 06 |
| 3 | Matriculation No. | Varchar | 12 |
| 4 | Hostel Name | Varchar | 20 |

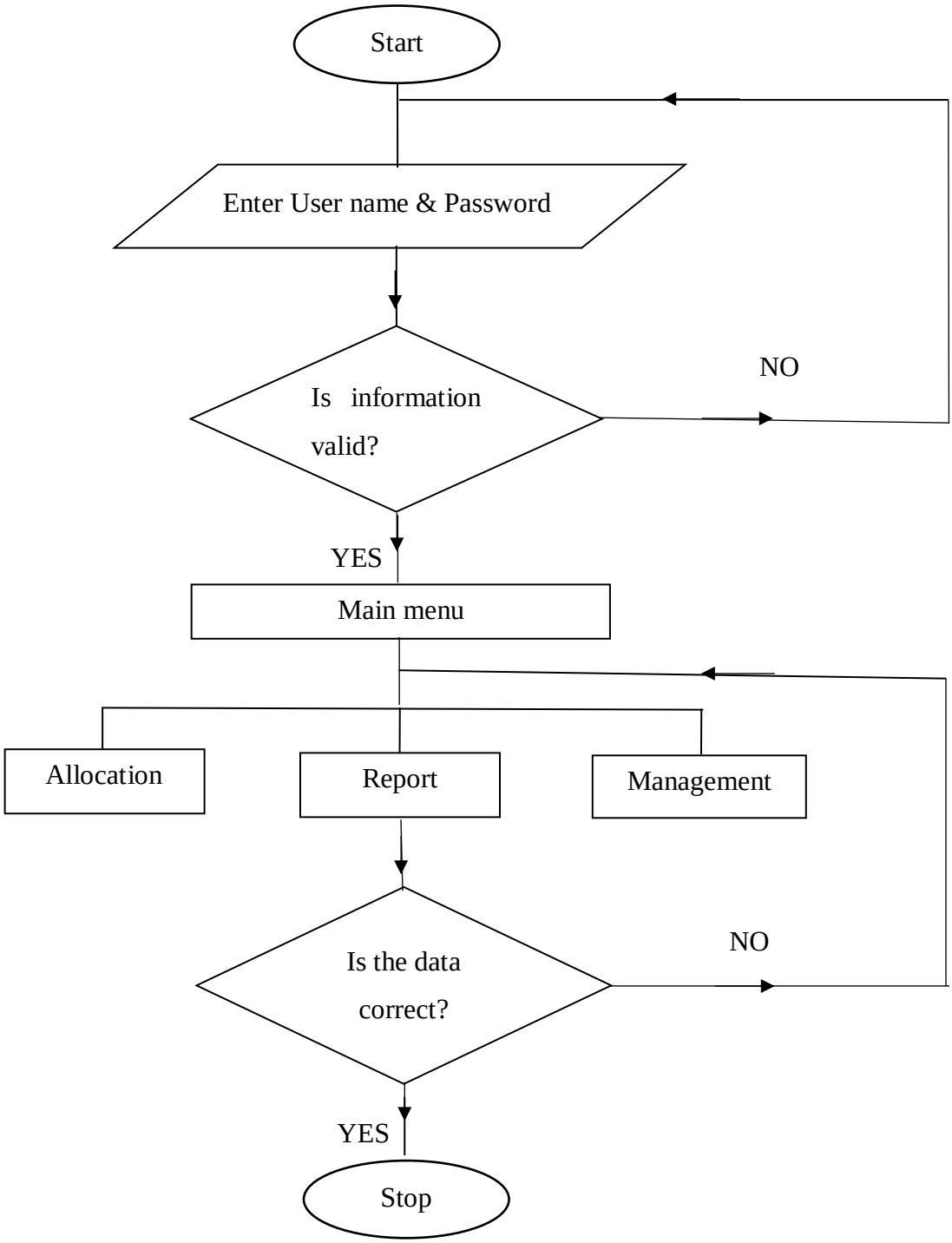


Figure 3.2 Flowchart of the proposed system

In Figure 3.2, the diagram represented is the flowchart of the proposed system and it gives a clearer break down of the core activities performed in the system and basically shows how all functions performed interact and relate with another.

## 3.7 Use Case Diagrams

The use case diagram gives a description of the mode of communication and interaction between the user, the system and the relationship between the users involved.

### 3.7.1 Administrator Use Case Diagram

The administrator is responsible for all configuration items. He/she is in charge of constantly updating and modifying system details. Figure 3.3 shows the functions of the admin.

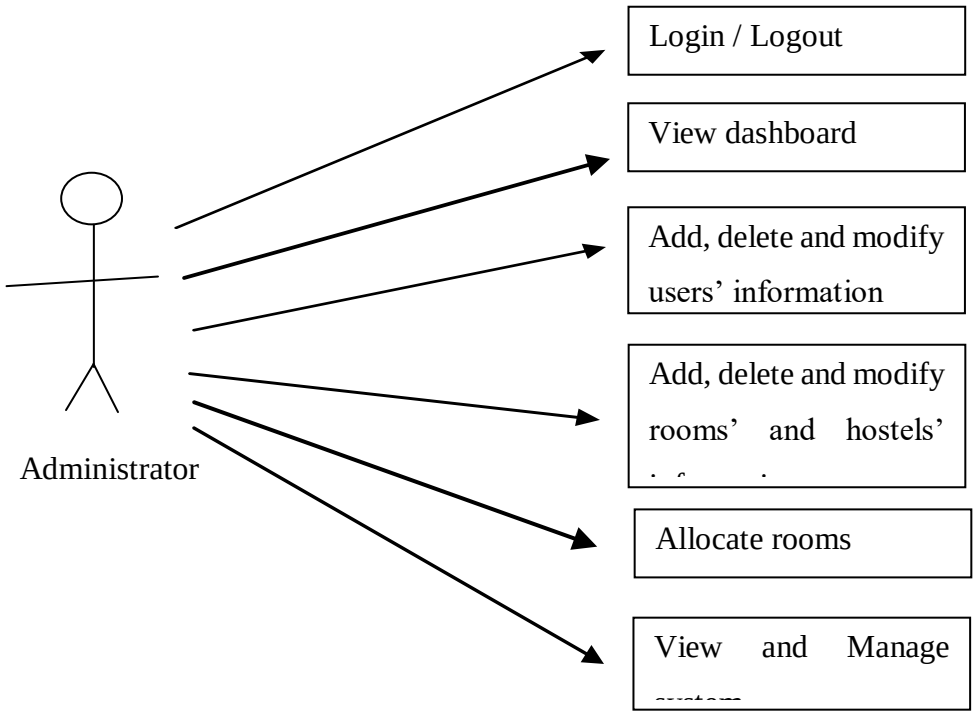


Figure 3.3 Administrator use case diagram

### 3.7.2 User (Registered user) Use Case Diagram

A person who accesses the system from the user point of view. This is where he registers or login, views profile, provide update if needed, view hostel and rooms.

Figure 3.4 gives a clearly picture of the activities performed by the end user.

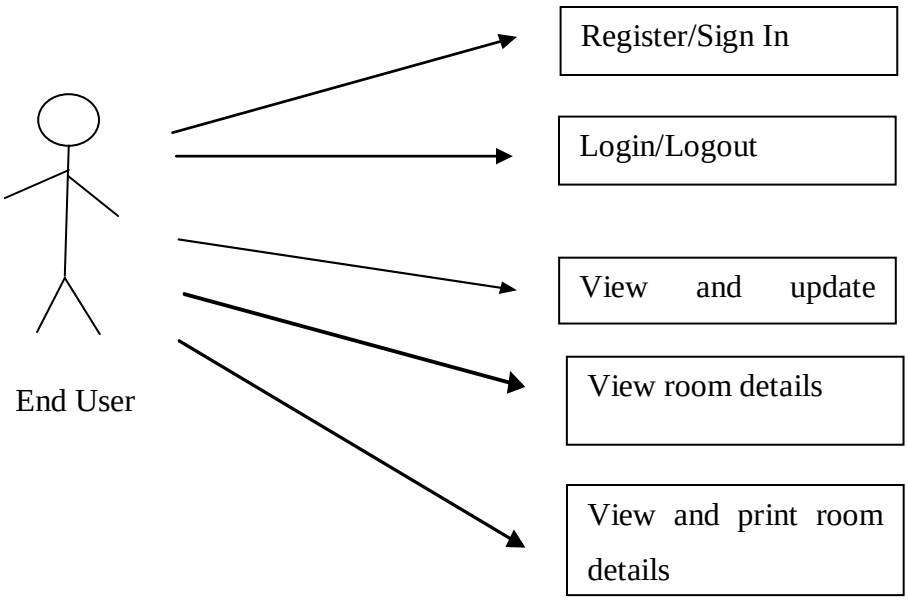


Figure 3.4 End user use case diagram

### 3.8 Design Tools for the Project

The technologies/tools that will be used for this work are as follows:

**HTML:** Hypertext Mark-up Language is a web design application that works with codes on it. It is the oldest application for designing websites. The HTML editor is similar to creating documents in Microsoft word. A website is ass whole bunch of interconnected computers talking to one another. The computers on the web are typically connected by phone lines, digital satellites signals cables and other types of data-transfer mechanisms. The codes written are viewed in the World Wide Web browser. The HTML carries on it images, music, text etc.

**PHP:** PHP is a powerful tool for making dynamic and interactive web pages; PHP is widely used, free, and efficient competitors such as Microsoft's ASP. PHP is an HTML-embedded scripting language, much of its syntax is borrowed from C, Java and Perl with a couple of unique PHP specific features thrown in. the goal of the language is to allow web developers to write dynamically generated pages quickly. PHP is used to establish the database connection, it is also used to make some queries on this project.

**MySQL:** MySQL is a relational database management system. It stores data in separate tables rather than putting all the data in one big store room. This adds speed flexibility. The MySQL database server is very fast, reliable, cheaper and easy to use and learn. MySQL today offers a rich and useful set of functions. Its connectivity, speed and security make it highly suited for accessing databases on the internet, it also supports clustering technology. On this project MySQL is used for creating the database.

**XAMPP SERVER:** This is a local server that hosts a website that is designed for a test run. It is not accessible through the internet; it is only on the system on which it is installed that it functions. It is functional on only windows operating system.

**JAVASCRIPT:** is a web tool that adds interactive functions to HTML pages, which are otherwise static, since HTML is a display language, not a programming language.

On the client, JavaScript is maintained as source code embedded into an HTML page. On the server, it is compiled into byte code (intermediate language), similar to java programs.

**CSS (Cascading Style Sheet):** style sheets have been used for document designs for years. They are the technical specifications for layout, whether print or online. Print designers use style sheets to ensure that their designs are printed exactly to specifications.

# CHAPTER FOUR

# RESULT AND RESULT DISCUSSION

## 4.0 Introduction

This system design is to be divided into two sections or portion. The administrator's section and student's section.

## 4.1 Administrator

The following are the roles that can be performed by the administrator.

1. The Administrator can allot different students to the different hostels.
2. He can vacate the students for the hostels.
3. He can edit the details of the students - change their rooms, edit and delete the student records.

## 4.2 Data Flow Diagrams (DFD)

### 4.2.1 Allocation Process

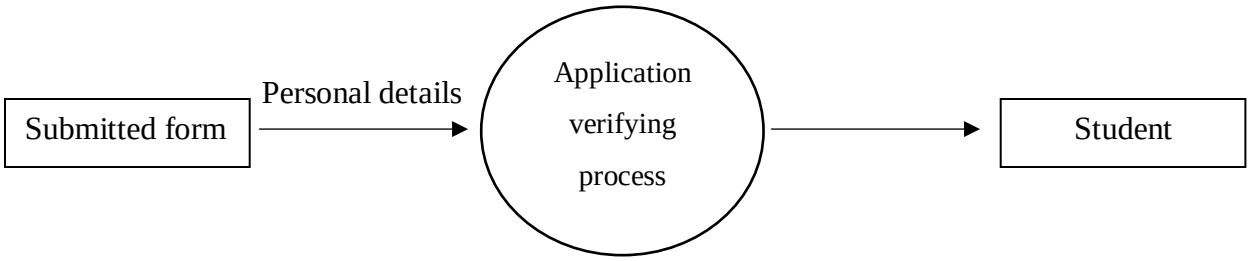


Figure 4.1 DFD for Allotment Process

### 4.2.2 Student Module

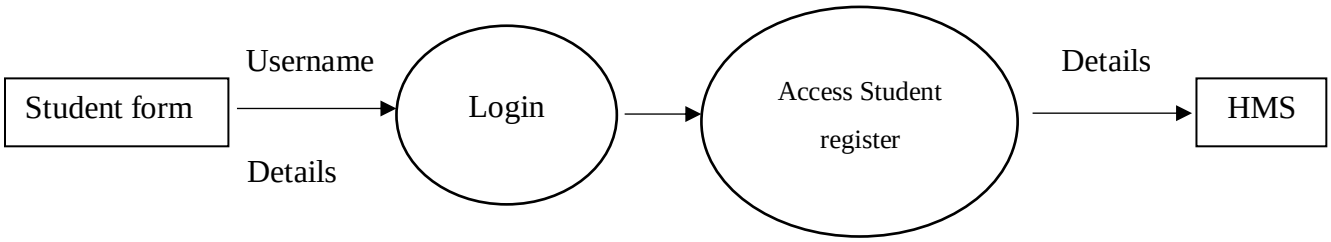


Figure 4.2 DFD for Student Module

### 4.2.3 Student Registration

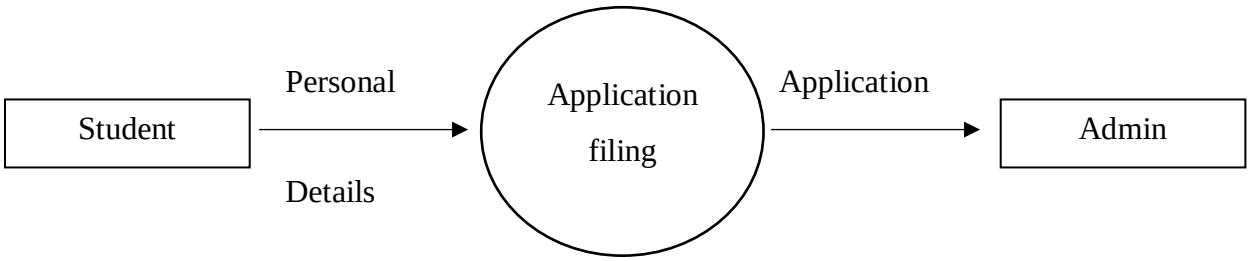


Figure 4.3 DFD for Student Registration

### 4.3.4 Admin Module

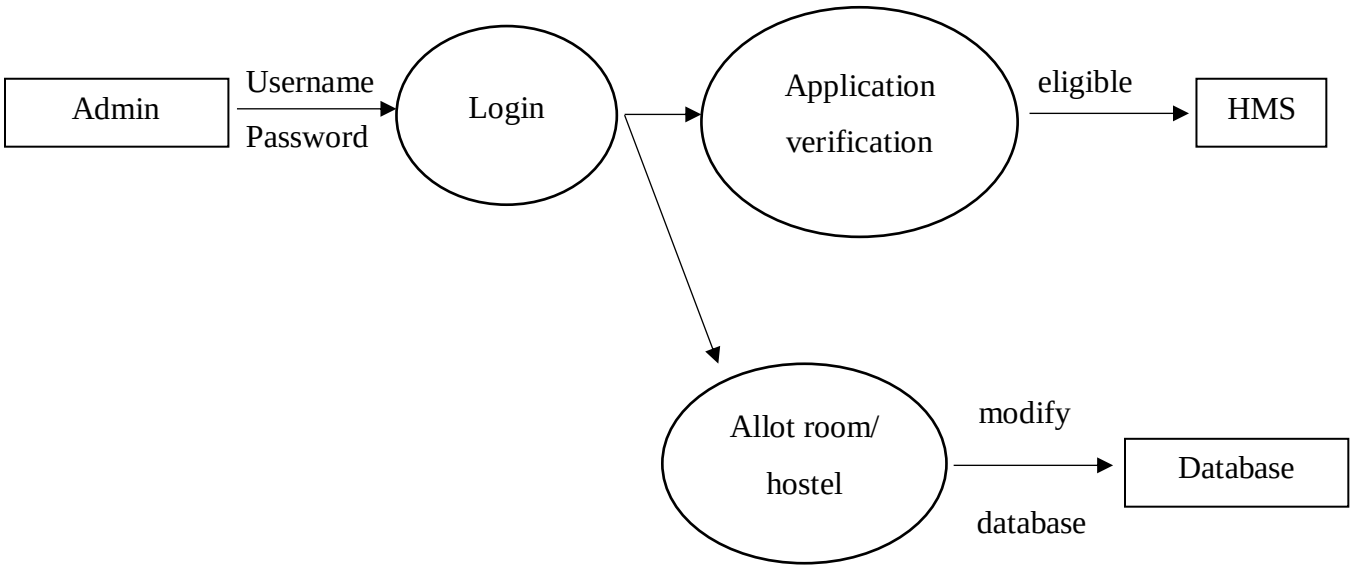


Figure 4.4 DFD for Admin Module

## 4.3 Hostel Allocation and Management System Software

The hostel management system software comprises many sub sections with different functions assigned to each. With all the sections and functions put together as a single unit, it operation help to fulfil the aim and objectives of the Hostel Management System.

### 4.3.1 The Home Page

This is the first page that opens to a user as the user logs on to the website. The page gives the highlight of the website. It answers the anticipation of the user as to what is contained in the website. It further gives the user the opportunity to browse and navigate through the site. Below is the screenshot of the home page. Figure 4.5 shows the homepage of the designed system.

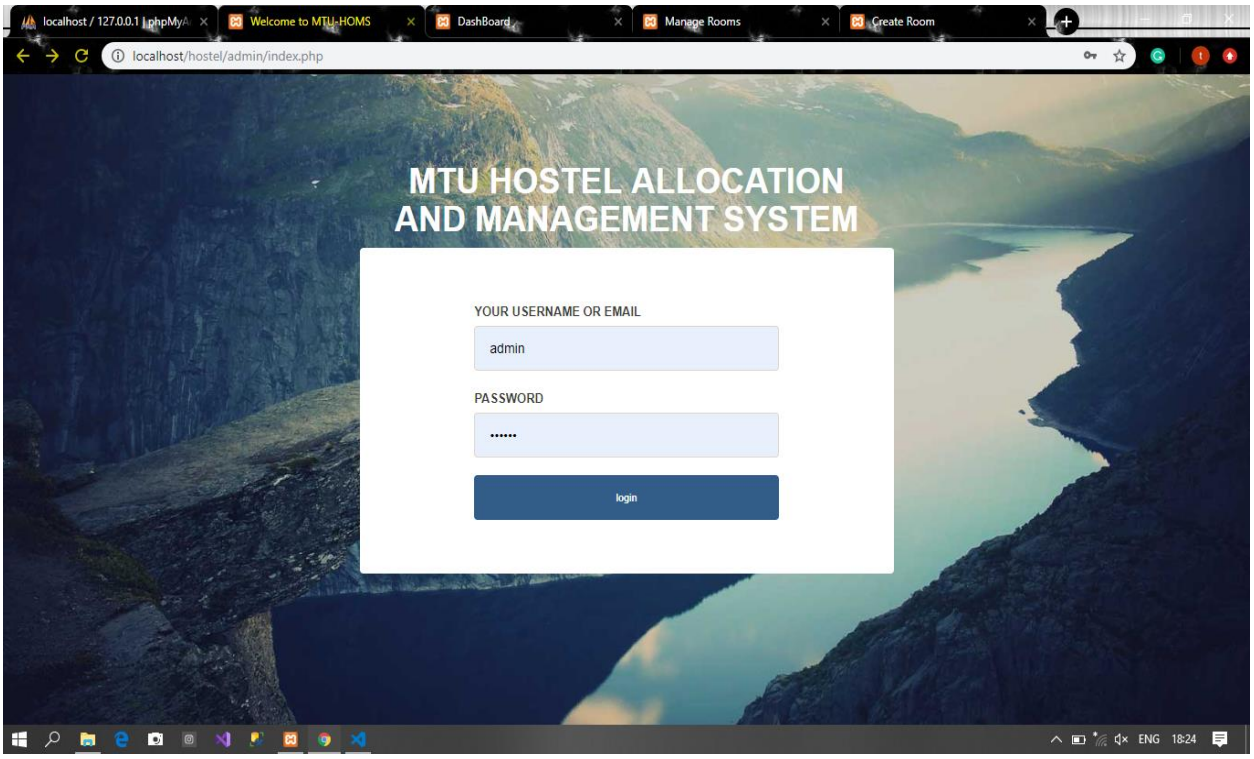


Figure 4.5 Homepage of Online Hostel Allocation System.

### 4.4.2 Login

This page consists of the administrator and user (student) login. In order to have access to the platform or site, one must have a valid username and password. Ideally, at first users (students) are given a general username and password as login details to access the site then registration is done by users (students). This is also where each user enter details he/she wants to be using as username and password. Figure 4.6 shows the login page of the designed system

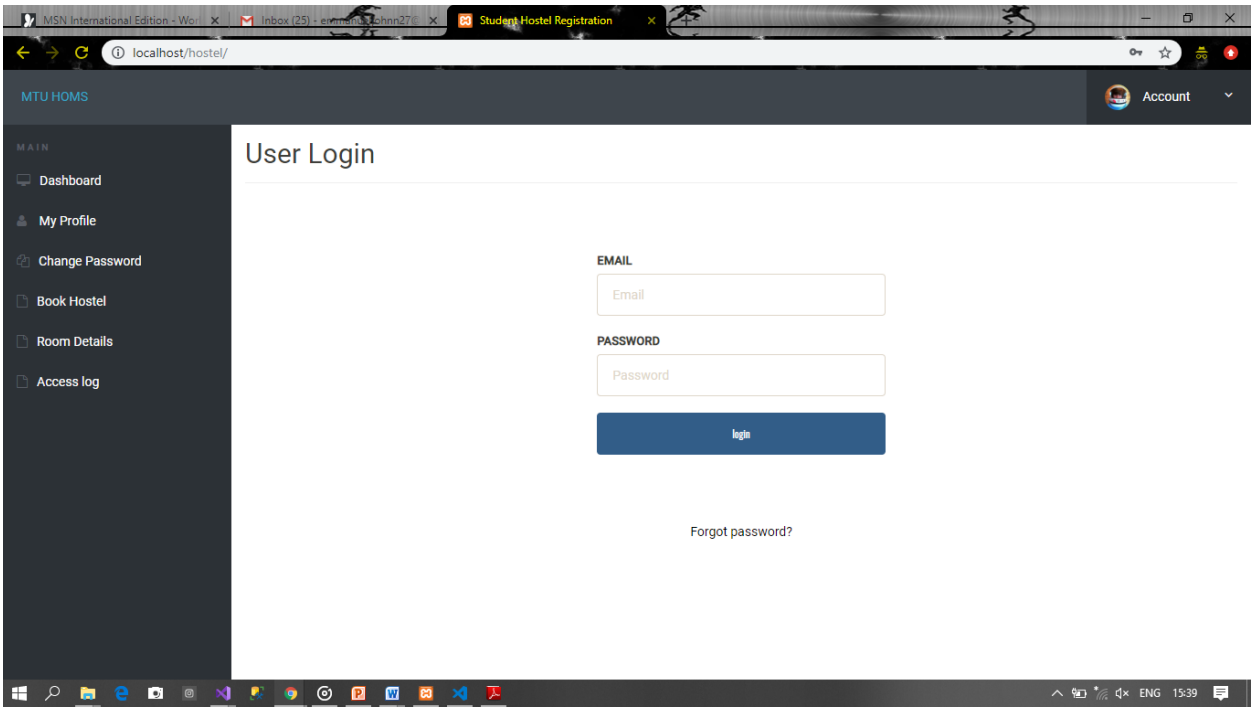


Figure 4.6 Login Panel

### 4.3.3 Student Registration Panel

In this page, students input their personal details for registration and decide what they what as their username and password. Without registration on the site, students will not be recognized or considered as valid and hence access to be platform will not be possible. Students can also visit this panel at any time if necessary details need to be updated.

Figure 4.7 shows the Student Registration Panel of designed system.

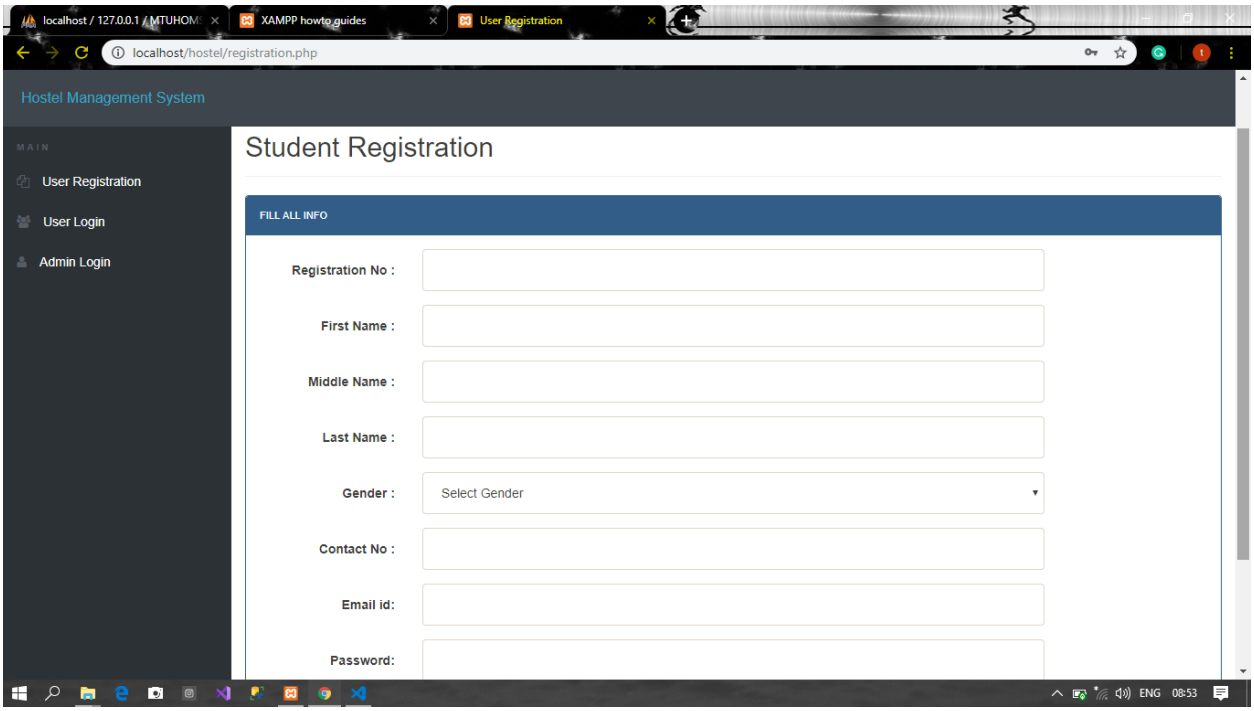


Figure 4.7 Student Registration Page

### 4.3.4 The User’s Login Page

The user’s login page is the page where users of the system can login and have access to their dashboard. The login page has two user login, the student login and the admin login, the admin login is where the admin can have access to his own dashboard (page), the students will login with their matric number to gain access to the application page. Below is the user's login page. Figure 4.8 shows the user login page of the system.

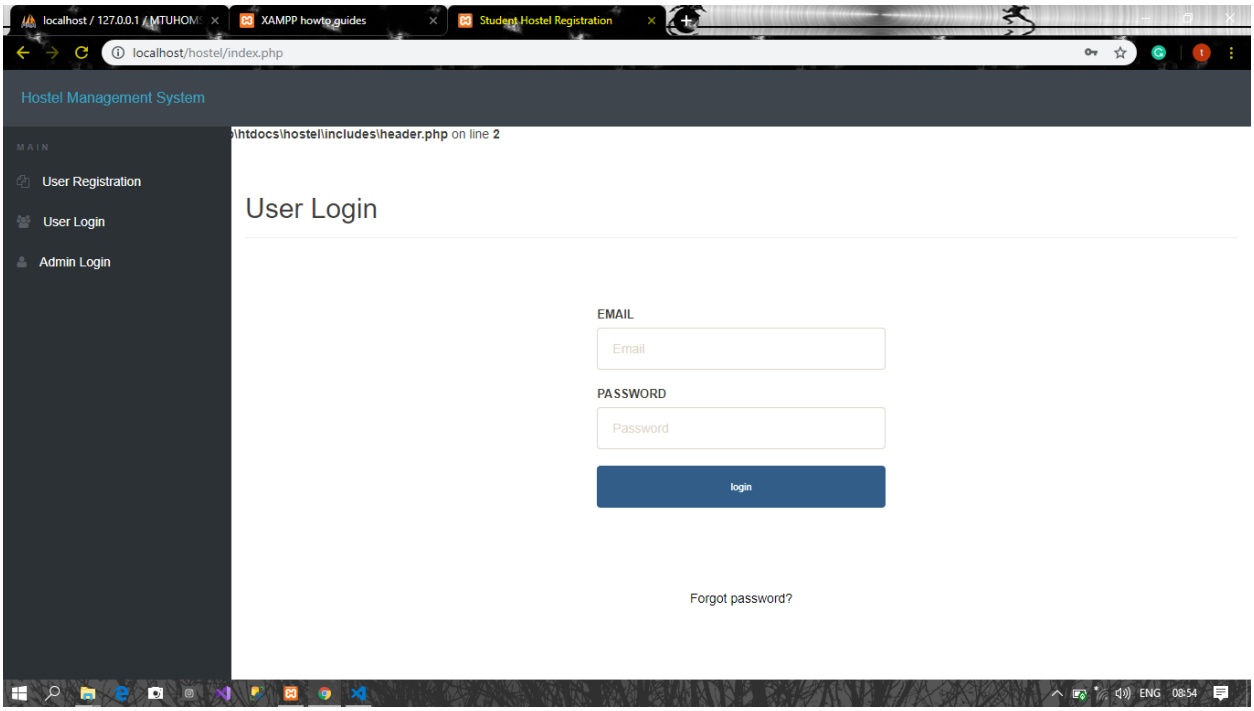


Figure 4.8 The User's Login Page

### 4.3.5 Forgot and Change Password Module

On this page, students who forget their password and wish to retrieve it can easily do so by supplying the system with their email address and contact number. By doing this, using the details provided the system checks from the database the name that matches with details provided and retrieves the password. It also displays the password to user on the screen for further use and if the user till wishes to change the password, then logging in with the details to dashboard is the next step to do where the old password and a new password will be provided. Below is the page where students can change their password. With every change of password it affects the data on the database thereby doing a write off every time a password is changed.

Figure 4.9 shows the module for forgot password and Figure 4.10 shows the change password module respectively of the system.

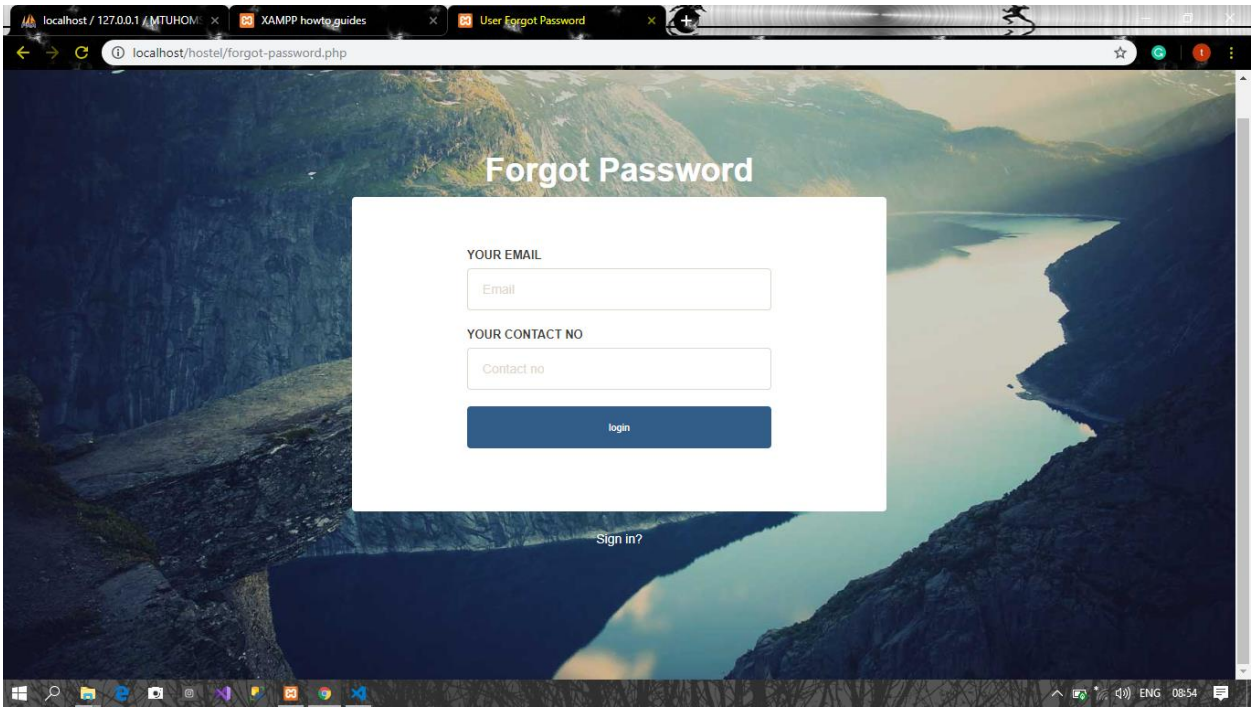


Figure 4.9 Forgot Password Module

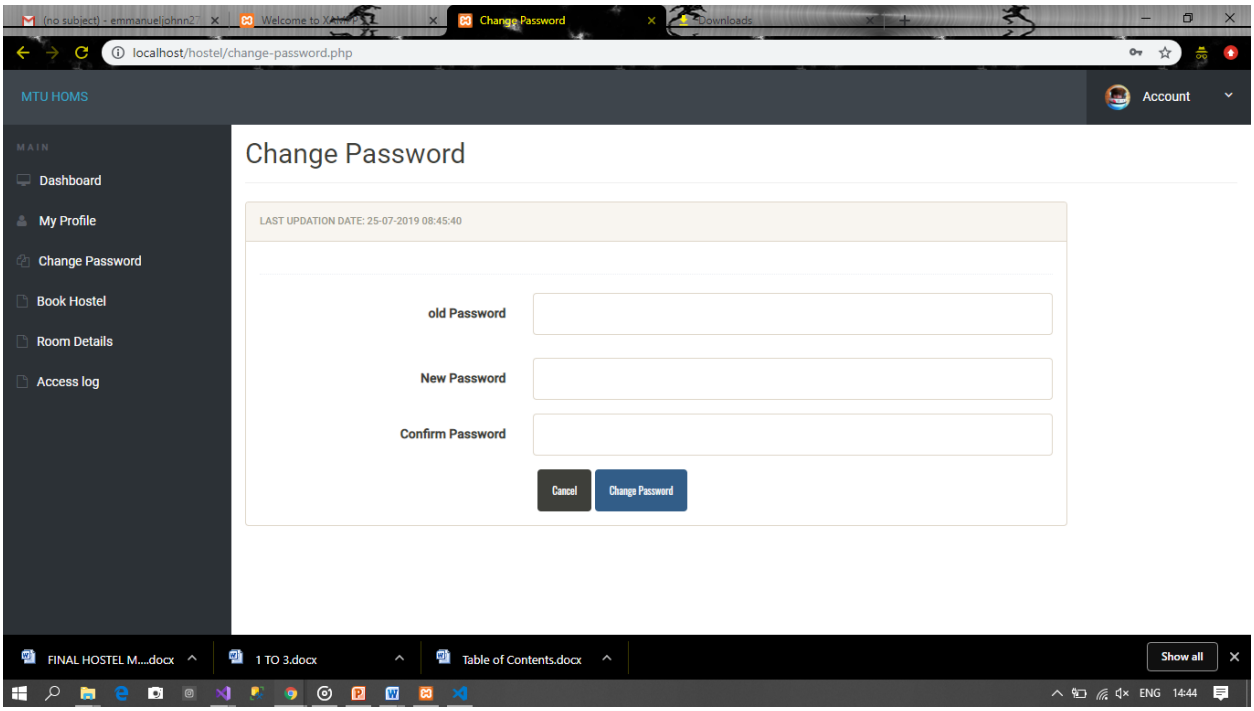


Figure 4.10 Change of password

### 4.4 Administrator Panel

This is page for the administrator. He has the ability to control who and what goes into the system. He can add, remove and update information in this system. In this panel is used to register a student, view fees, view rooms, view mess bills, allot students to blocks and rooms, view courses of students and assign them to special or specific rooms. He can also add new students to the system. Figure 4.11 gives a view of the admin panel for the system.

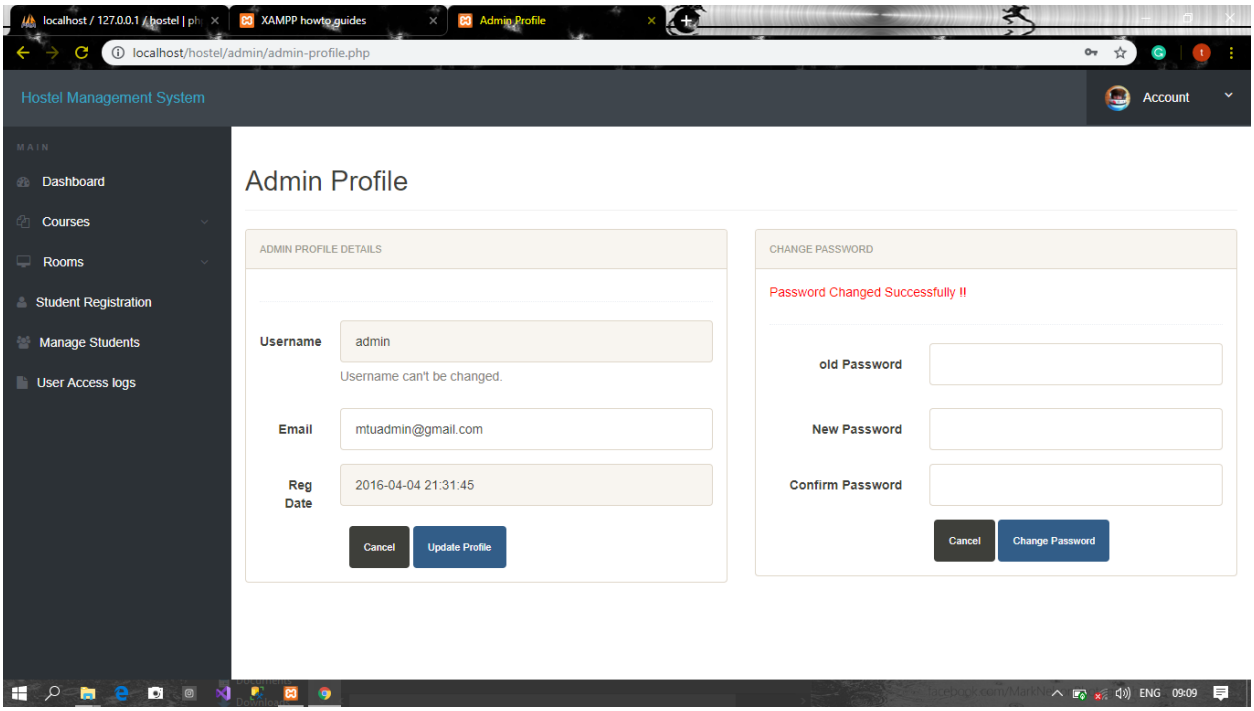


Figure 4.11 Administrator Panel

### 4.4.1 Room Registration

This section deals with allot of rooms to a student. A student details would be already on the system so it would be at student details section on this page. In Figure 4.12, the room registration page can be seen.

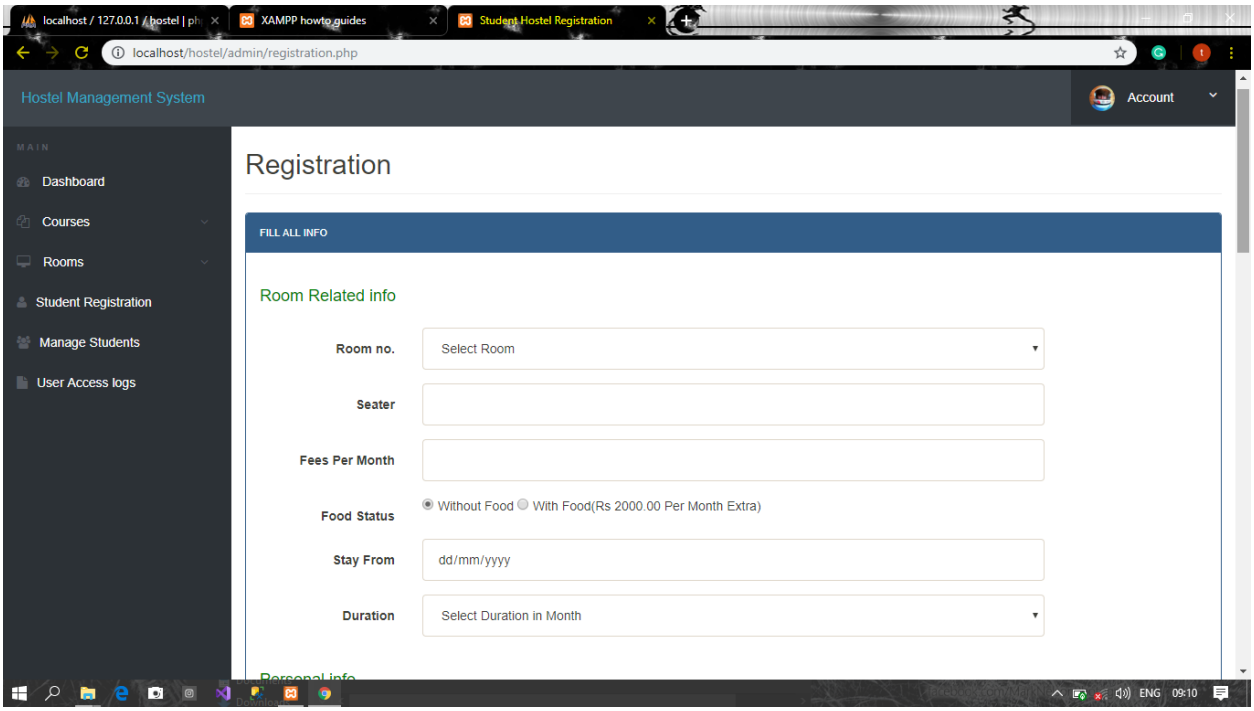


Figure 4.12 Room Registration page

### 4.4.2 Add Rooms Panel

These sections help the administrator to select the block in which the available room is and to add rooms to it. It allows him to create blocks of the actual hostel to save on the database.

This also allows him to view blocks created in the database and know the status of the block if active, available or not.  In Figure 4.13, we can see the page where rooms are added.

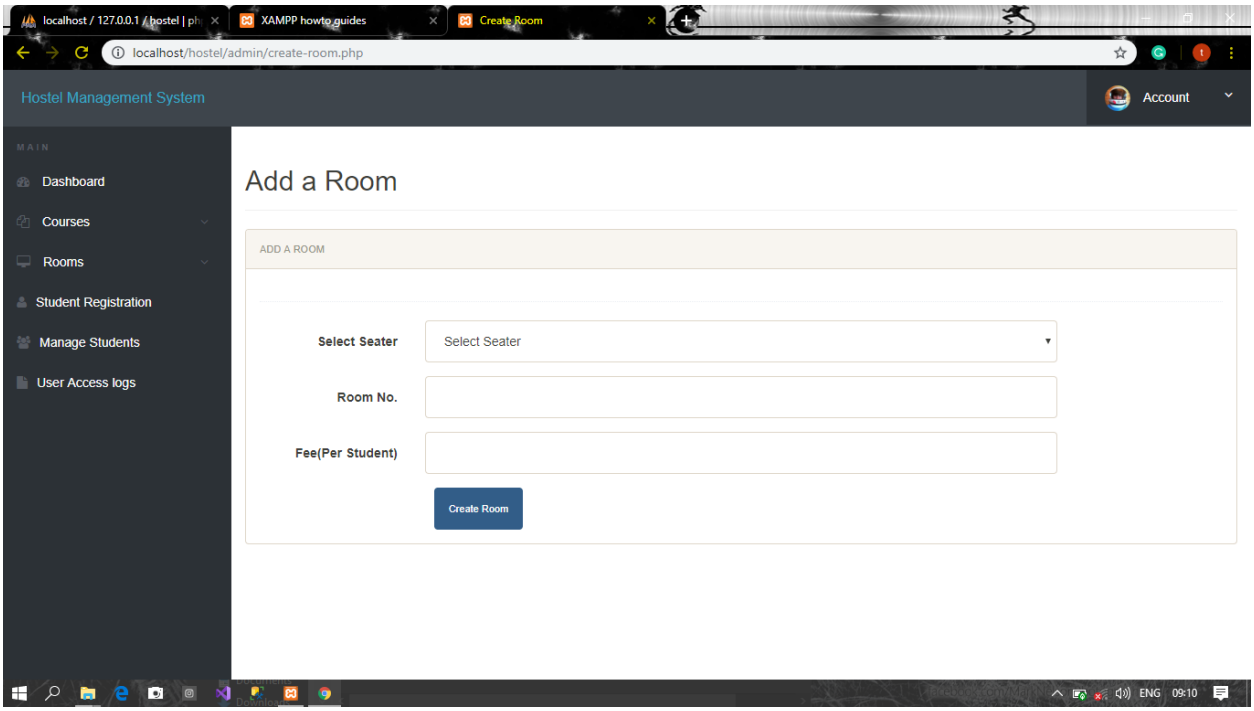


Figure 4.13 Add Rooms

# CHAPTER FIVE

# SUMMARY AND CONCLUSION

## 5.1 Summary

This project work titled "Design and Implementation of Hostel Allocation and Management System" developed, is based on the requirement specification of the users and the analysis of the existing system. Identification of the drawbacks of the existing system leads to the designing of the computerized system that will be compatible with the existing system, the proposed system is more user friendly and more GUI oriented.

This research project was able to build a hostel management system for Mountain Top University, Ogun state, to manage the processes involved in hostel application, allocation and management. Having a robust database, it stores every information as related to hostels. It also allow for updating of such information as it is one of the activities of file processing and the characteristics of a database. So also the online application of hostels by students is made possible.

The system developed ensures that:

1. Rooms and hostels are allocated in a computerized format.
2. Human errors will be minimized.
3. Safety of student's records and information is highly maintained.
4. The admin officers in charge of allocation will be able to use it without difficulty.

Chapter one of this project covers the introduction of the project with sections such as: statement of the problem, aims and objectives, background of study, scope and limitations etc. Chapter two discusses the literature review, related work on hostel management system are discussed. Chapter three of this project discusses the methodology adopted for this project, the method of data collection, system analysis and the table specification. Chapter four discusses the implementation and the results of this project and finally, the chapter five ends this project with the summary, conclusion and recommendations.

## 5.4 Conclusion

In conclusion, the hostel management system developed in PHP provides a platform for students of Mountain Top University, Ogun state, to carryout hostel application online and to also enable the Staffs manage the hostel applications. The proposed system is faster and efficient compared to the existing system and can perform the following task:

1. Online hostel application
2. Online students and staff information management
3. Online hostel application approval based on first come first serve
4. Viewing hostel application status online

## 5.6 Recommendation

The researcher wishes to recommend that:

1. Other researchers should work on areas such as the implementation of the mess records for damages.
2. There is need for the system upgrade as user's requirements change. User requirements may change slightly with time, therefore, it is of great help for the system to be flexible enough.
3. However much system access is protected by a username and a password, the entire computer system should be protected from unauthorized people to avoid misuse and damage of the system components.
4. Backups should be done frequently to avoid data loss in case of hardware or software malfunction.

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Peter K.O (2010). Hostelling International Selling Hotel Room

# APPENDIX

<?php

```
session_start();
include('includes/config.php');
include('includes/checklogin.php');
check_login();

?>
<!doctype html>
<html lang="en" class="no-js">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1, minimum-scale=1, maximum-scale=1">
    <meta name="description" content="">
    <meta name="author" content="">
    <meta name="theme-color" content="#3e454c">

    <title>DashBoard</title>
    <link rel="stylesheet" href="css/font-awesome.min.css">
    <link rel="stylesheet" href="css/bootstrap.min.css">
    <link rel="stylesheet" href="css/dataTables.bootstrap.min.css">
    <link rel="stylesheet" href="css/bootstrap-social.css">
    <link rel="stylesheet" href="css/bootstrap-select.css">
    <link rel="stylesheet" href="css/fileinput.min.css">
    <link rel="stylesheet" href="css/awesome-bootstrap-checkbox.css">
    <link rel="stylesheet" href="css/style.css">

<!doctype html>
<html lang="en" class="no-js">
<head>
```

```
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1, minimum-scale=1, maximum-scale=1">
    <meta name="description" content="">
    <meta name="author" content="">
    <meta name="theme-color" content="#3e454c">
    <title>User Registration</title>
    <link rel="stylesheet" href="css/font-awesome.min.css">
    <link rel="stylesheet" href="css/bootstrap.min.css">
    <link rel="stylesheet" href="css/dataTables.bootstrap.min.css">>
    <link rel="stylesheet" href="css/bootstrap-social.css">
    <link rel="stylesheet" href="css/bootstrap-select.css">
    <link rel="stylesheet" href="css/fileinput.min.css">
    <link rel="stylesheet" href="css/awesome-bootstrap-checkbox.css">
    <link rel="stylesheet" href="css/style.css">
<script type="text/javascript" src="js/jquery-1.11.3-jquery.min.js"></script>
<script type="text/javascript" src="js/validation.min.js"></script>
<script type="text/javascript" src="http://code.jquery.com/jquery.min.js"></script>
<script type="text/javascript">
function valid()
{
if(document.registration.password.value!= document.registration.cpassword.value)
{
alert("Password and Re-Type Password Field do not match  !!");
document.registration.cpassword.focus();
return false;
}
return true;
}
</script>
```

```
</head>
<body>
   <?php include('includes/header.php');?>
   <div class="ts-main-content">
      <?php include('includes/sidebar.php');?>
      <div class="content-wrapper">
         <div class="container-fluid">

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

                  <h2 class="page-title">Student Registration </h2>

                  <div class="row">
                     <div class="col-md-12">
                        <div class="panel panel-primary">
                           <div class="panel-heading">Fill all Info</div>
                           <div class="panel-body">
        <form method="post" action="" name="registration" class="form-horizontal" onSubmit="return valid();">



<div class="form-group">
<label class="col-sm-2 control-label">Matriculation No : </label>
<div class="col-sm-8">
<input type="text" name="regno" id="regno"  class="form-control" required="required" >
</div>
</div>

<div class="form-group">
```

```
<label class="col-sm-2 control-label">First Name : </label>
<div class="col-sm-8">
<input type="text" name="fname" id="fname"  class="form-control" required="required" >
</div>
</div>

<div class="form-group">
<label class="col-sm-2 control-label">Middle Name : </label>
<div class="col-sm-8">
<input type="text" name="mname" id="mname"  class="form-control">
</div>
</div>

<div class="form-group">
<label class="col-sm-2 control-label">Last Name : </label>
<div class="col-sm-8">
<input type="text" name="lname" id="lname"  class="form-control" required="required">
</div>
</div>

<div class="form-group">
<label class="col-sm-2 control-label">Gender : </label>
<div class="col-sm-8">
<select name="gender" class="form-control" required="required">
<option value="">Select Gender</option>
<option value="male">Male</option>
<option value="female">Female</option>
</select>
</div>
</div>
```

```
<div class="form-group">
<label class="col-sm-2 control-label">Contact No : </label>
<div class="col-sm-8">
<input type="text" name="contact" id="contact"  class="form-control" required="required">
</div>
</div>

<div class="form-group">
<label class="col-sm-2 control-label">Email id: </label>
<div class="col-sm-8">
<input type="email" name="email" id="email" class="form-control" onBlur="checkAvailability()" required="required">
<span id="user-availability-status" style="font-size:12px;"></span>
</div>
</div>

<div class="form-group">
<label class="col-sm-2 control-label">Password: </label>
<div class="col-sm-8">
<input type="password" name="password" id="password" class="form-control" required="required">
</div>
</div>

<div class="form-group">
<label class="col-sm-2 control-label">Confirm Password : </label>
<div class="col-sm-8">
<input type="password" name="cpassword" id="cpassword" class="form-control" required="required">
</div>
</div>
```

```
<div class="col-sm-6 col-sm-offset-4">
<button class="btn btn-default" type="submit">Cancel</button>
<input type="submit" name="submit" Value="Register" class="btn btn-primary">
</div>
</form>

                        </div>
                        </div>
                      </div>
                    </div>
                  </div>
                    </div>
                  </div>
                </div>
              </div>
            </div>
        </div>
    <script src="js/jquery.min.js"></script>
    <script src="js/bootstrap-select.min.js"></script>
    <script src="js/bootstrap.min.js"></script>
    <script src="js/jquery.dataTables.min.js"></script>
    <script src="js/dataTables.bootstrap.min.js"></script>
    <script src="js/Chart.min.js"></script>
    <script src="js/fileinput.js"></script>
    <script src="js/chartData.js"></script>
    <script src="js/main.js"></script>
</body>
    <script>
```

```
function checkAvailability() {

$("#loaderIcon").show();
jQuery.ajax({
url: "check_availability.php",
data:'emailid='+$("#email").val(),
type: "POST",
success:function(data){
$("#user-availability-status").html(data);
$("#loaderIcon").hide();
},
error:function ()
{
event.preventDefault();
alert('error');
}
});
}
</script>

</html>
```