

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

The first step when coding any application is the preliminary investigation. Whether coding a software application, careful design and planning will help to finish in a shorter of time with fewer errors.

Generally in the course of study, several methods were used in order for successful data collection to be carried out, aimed for the project to be exposed to ease and flexibility in maintenance approach. Data collection is the process of how information is gathered and measuring it on variables of interest in an established systematic fashion that enables one to answer stated questions, test and evaluate outcomes. The purpose of data is to obtain information to keep on records, to make decision about important issues, to pass information on to others. In the course of this project, various method of data collection was used to gather necessary facts and information needed to design and implement this project. These methods of data collection used in the preliminary survey include:

3.0.1 DIRECT INTERVIEW

This method was adopted so as to gather data by interrogating and recording down response given by the respondent in question. Moshood Abiola Polytechnic, Computer Engineering Department was used as a case study while we approached the manager with series of questions asking of the manual procedure, the merit of operation and also the problems associated while running the manual invention.

3.0.2 EXPERIMENTAL METHOD

It is usually taken to be the most scientific of all methods and also it's a method of choice. This was done by attracting patients to interact with the system. The result of this method will be analyzed to make easy and robust in comparing the result of the existing system.

3.0.3 INTERNET CONSULTATION

After establishing the direct interview method of data collections, we also consult the internet in getting any related samples to ease and add more features to the proposed project thereby acquiring related data downloading e-book guide for coding.

3.0.4 GROUP DISCUSSION

In order to ensure optimum reliability and maintainable design of Supervisor posting system. We established a group discussion among friends aimed at getting useful guides and suggestions because the best way to define consumer's data is to talk them up since we are the consumers.

3.1 DESIGN APPROACH

The application has to do with developing of a web application which is an internet platform. This project application consist of different pages which are linked together to establish a connection between these pages. The pages were developed using php (Hypertext preprocessor) which was formerly called "Personal Home Page" and other scripting language like JavaScript, JQuery and a Cascading Style Sheet known as CSS. The database that was used as the data store is named as "**eclassroom**" which was created using MYSQL. The design of this e-classroom for Mapoly Computer engineering department includes the following input to the system, the process and the output from the system.

3.1.1 INPUT TO THE SYSTEM: the input to this system includes the following

- 1 Input of data of the application user
- 2 Input of data of the new staff
- 3 Input of data of the student

3.1.1.1 INPUT OF DATA OF THE APPLICATION USER

This input consists of the data like the application user's name which is the unique identifier of the application user, application password, fullname, sex, and a valid telephone that are stored to the database of the system.

3.1.1.2 INPUT OF DATA OF THE NEW STAFF

This input of data of newly admitted staff. The data include "Title, First Name, Last Name, Telephone, Email, and password. The system is designed to generate a unique identification number after a new staff is created or added to the database. The Staff ID is the identifier is referring to any registered staff.

3.1.1.3 INPUT OF DATA OF THE STUDENTS

This input of data of newly admitted student ranged from picture upload, personal information, which include data like "Picture, surname, other names, phone number, email, date of birth, gender, state of origin, local government, Matric number, programme, department, year of study, bank name, account number, account name, bank sort code, organization name, placement address, state of placement, and local government of placement. The system is designed to generate a unique identification number after a new student is created or added to the database. The Student ID is the identifier is referring to any registered student.

3.1.2 PROCESS OF THE SYSTEM

- Accepting student's details and saving them into a database
- Accepting applications data and using it to sort the existing database
- Accepting the staff data and saving them into the database.

3.1.3 OUTPUT OF THE SYSTEM

Output from the system includes the following:

- A registered student would have the ability to use the e-classroom system.

- A registered staff would be privilege to conduct online teaching, view the performance of the students, access their assignment scores and others.
- A registered administrator will also have the right to control and manage the activities of the e-classroom system

Design can be regarded as building the model of a system; model is a diagrammatic representation of a new or existing systems. The purpose of system design is to provide detailed information about the new system to be built. System design begins with the analysis of the system model and then transforming them into three following levels of system design details which are:

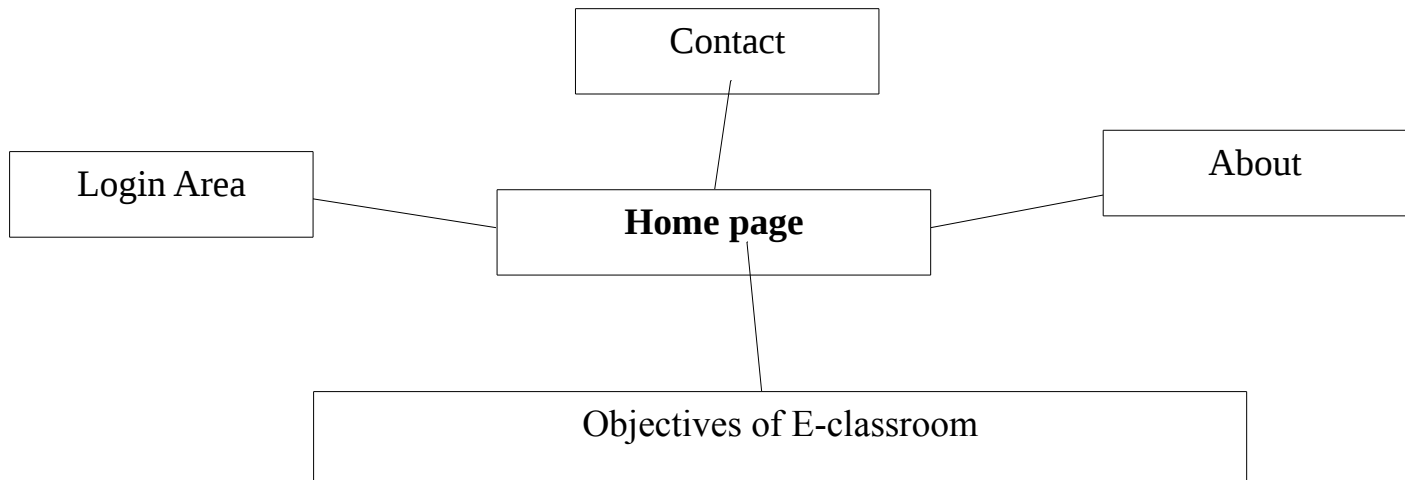
- Database design
- User interface design
- Program design

There is only one (1) major phase which links to other pages in this design, they are:

3.1.4 Welcome Page Or Home Page

The welcome page or homepage is a page that gives a brief introduction of SIWES, its exposure to students. It also consists of a quick link to other pages like gallery, Login area, About

Figure 3.1 below illustrates this



3.2 SYSTEM FLOW CHART

CHAPTER FOUR

4.0 IMPLEMENTATION

This chapter discussed the implementation and testing of the designed system for the purpose of verification and validation of the various program or function modules. The system was implemented using a web development programming language which is PHP (hypertext Preprocessor). The website is also connected to a database named “**eclassroom**” which was also created using MYSQL server.

4.1 SYSTEM SPECIFICATION

The system specification is categories into two which are as follows:

- 1 Hardware Specification
- 2 Software Specification

4.1.1 HARDWARE SPECIFICATION

The minimum hardware specifications for the development of this system are:

- | | | |
|------|-------------------|---------------------------|
| I. | System: | IBM Compatible PC's |
| II. | Processor: | 787 MHZ or Higher Pentium |
| III. | RAM | 32 MB upward |
| IV. | Screen Resolution | 800 x 600 256 colors |
| V. | Hard disk: | Storage of 10GB |

4.1.2 SOFTWARE SPECIFICATIONS:

The minimum software specifications for this system are:

- | | | |
|------|-----------------------|--|
| I. | Operating System (OS) | Windows 9x/NT/XP/2000, Solaris, Linux |
| II. | Browsers: | Netscape 4.6/IE 3.0, Firefox or
Compatible |
| III. | Database: | MYSQL |
| IV. | Web server | XAMMP |
| V. | Anti-Virus | Reliable and licensed antivirus software
like Avast |

4.2 TESTING

After implementation and sometimes during design, the application must be subjected to testing varieties which are:

- 1 **Alfa Test:** This means self or in-house test of designed application for any syntactic bugs or exceptions. It is done by the programmers during the design completion.
- 2 **Beta test:** this application will be released to the store used as a case study for testing to see the suitability of usage.
- 3 **Audit test:** this test is likewise to be chosen in preference to beta test depending on the organization's choice concordance with the programmer. It is achieved while the program designer establishes schedule training to the organization used as case study.

4.3 IMPLEMENTATION SCREENSHOT

The screen shot are the communicating part of the system, it describe how the user interact with the system and how the software communicate within itself. The following screenshot are the web pages that will interact with the application users whenever it is launched.

4.3.1 Home page

The home page forms the abstract of the entire website and also it is the first page that a user perceives when entering the website URL at the browser address area. The entire website depends on how the homepage is designed which forms the platform for viewing other web pages. The homepage is shown below:



WELCOME TO E-CLASSROOM

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—STUDENT LOGIN

Matric no

11/11/2016

Password

10/10/2014

LOGIN

[forgot password ?](#) | [register](#)

CONTACT



Figure 4.3.1 Welcome Page



Fig. 4.3.4 lecturer registration page

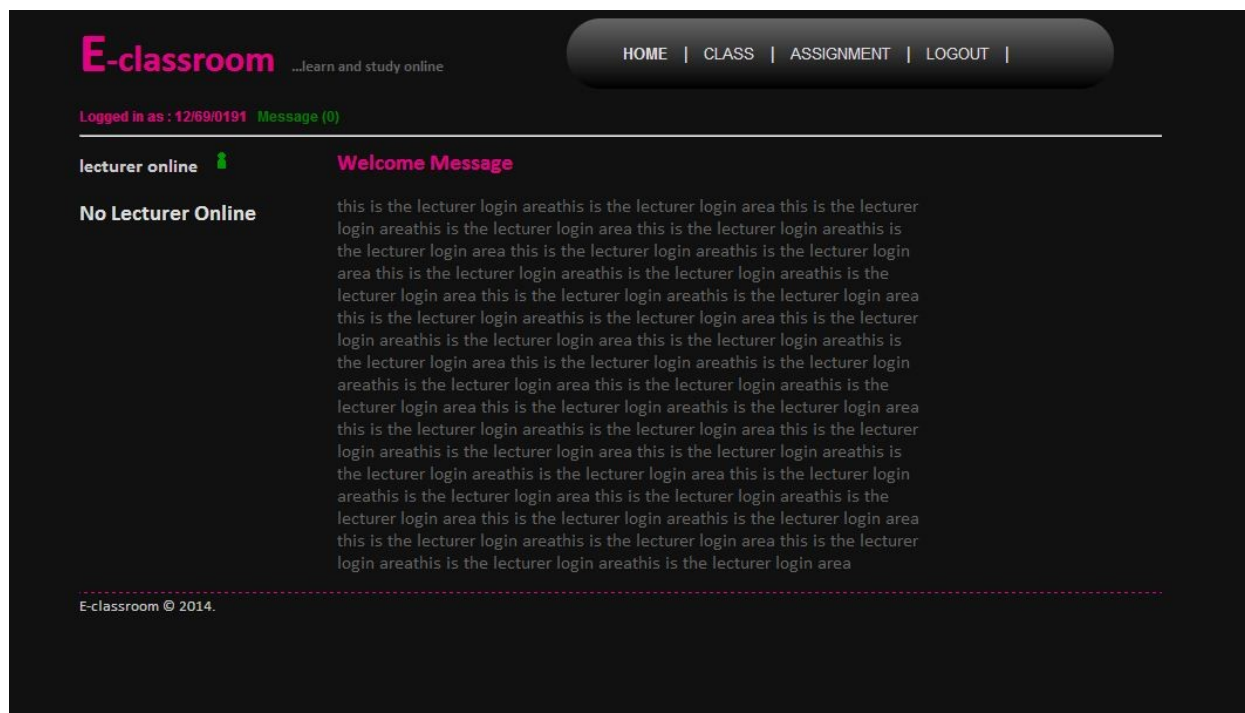



Fig. 4.3.5 lecturer login area

Logged in as : 12/69/0191 [Message \(0\)](#)

student online 
No Student Online

Lectures (4)

introduction to java

course: com 225 | [view lecture](#) | [ask question \(0\)](#) on 22-11-14 09:21 pm

computing devices

course: com 101 | [view lecture](#) | [ask question \(2\)](#) on 20-11-14 11:14 pm

Question Asked

by abiodun solomon (12/69/0191) on 22-11-14 01:57 pm

please what is computing devices

by abiodun solomon (12/69/0191) on 22-11-14 01:56 pm

examples of computing devices

introduction to programming

course: com 101 | [view lecture](#) | [ask question \(2\)](#) on 20-11-14 11:12 pm

Question Asked

by omotolani (13/111/0015) on 22-11-14 07:27 pm

what are uses of programming language to humanity and how can programming language be useful for computer

by abiodun solomon (12/69/0191) on 22-11-14 03:58 pm

what are the differences between programming language and human language

introduction to computing

course: com 101 | [view lecture](#) | [ask question \(0\)](#) on 20-11-14 11:09 pm


Fig. 4.3.6 lecturer area

E-classroom

...learn and study online

HOME | CLASS | ASSIGNMENT | LOGOUT |

Logged in as : 12/69/0191 Message (0)

student online 
No Student Online

Assignment (4)

introduction to programming

course: com 101 | [attempt assignment](#) posted on 22-11-14 09:09 pm

1. list ten programming language

computing devices

course: com 101 | [attempt assignment](#) posted on 21-11-14 01:12 pm

1. list and explain computing devices

Answer

tablet pc, laptop, switch, hub

computing devices

course: com 101 | [attempt assignment](#) posted on

1. sdfsdff

E-classroom © 2014.

Fig. 4.3.6 student area assignment page

E-classroom

...Learn and study online

HOME | LECTURES | ASSIGNMENT | LOGOUT |

Logged in as : mr. seun bangboye

student online

No Student Online

Add Lectures

course

topic

description

handout (optional)

Choose File

No file chosen

post topic

Lectures (4)

introduction to java

course: com 225 | on 22-11-14 09:21 pm

computing devices

course: com 101 | on 20-11-14 11:14 pm

» Question Asked by Student

submitted by abiodun solomon (12/69/0191) on 22-11-14 01:56 pm

examples of computing devices

submitted by abiodun solomon (12/69/0191) on 22-11-14 01:57 pm

please what is computing devices

Fig. 4.3.7 lecturer adding lectures

E-classroom ...learn and study online

HOME | LECTURES | ASSIGNMENT | LOGOUT

Logged in as : mr. seun bamgboye

student online

No Student Online

Add Assignment

course ==> select course ▼

topic ==> select topic ▼

question

post assignment

Assignment (3)

Topic: introduction to programming
course: com 101 | posted on 22-11-14 09:09 pm
Question: list ten programming language

Topic: computing devices
course: com 101 | posted on 21-11-14 01:12 pm
Question: list and explain computing devices

Answers
submitted by omotolani (13/111/0015) on 22-11-14 08:52 pm
tablet pc, laptop, switch, hub

Topic: computing devices
course: com 101 | posted on
Question: sdfsdff

E-classroom © 2014.

Fig. 4.3.8 lecturer giving assignment

4.4 DATABASE DESIGN

Database is an integrated collection of data. Database files are the key source of information into the system in which the files are properly designed and planned for collection, accumulation, editing and retrieving the required information.

The system stores information that is relevant for processing in the MYSQL server database. The database contains **TWO (2)** tables in which each table corresponds to one type of information. Each of pieces of the information in the table is called field or columns. The table contains records, which is a set of fields. All records in a table have the same set of fields with different information. There are primary key field that

uniquely a record in a table.

The database that was created to work hand in hand with the website is called “ECLASSROOM” and it has **TWO (2)** tables which are:

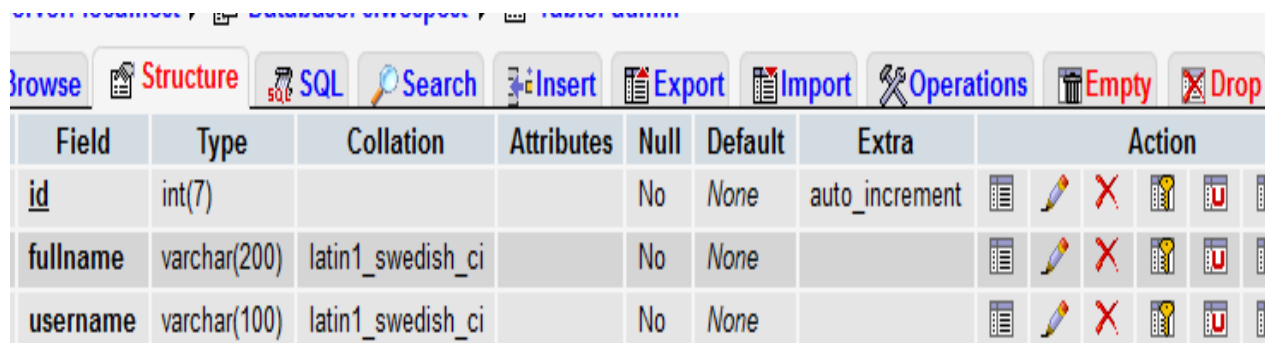
1. Admin
2. Logincredentials

The following tables above have been designed as per requirement. The table presented here are for illustrative purposes only.

4.4.1 Table Description

1. **Admin Table:** This would be used to capture administrator details such as full names, username, password, gender and phone number.
2. **Logincredentials Table:** This table is created for the purpose of capturing student details such as surname, other names, Matric number, username, password, photograph location, and telephone number.

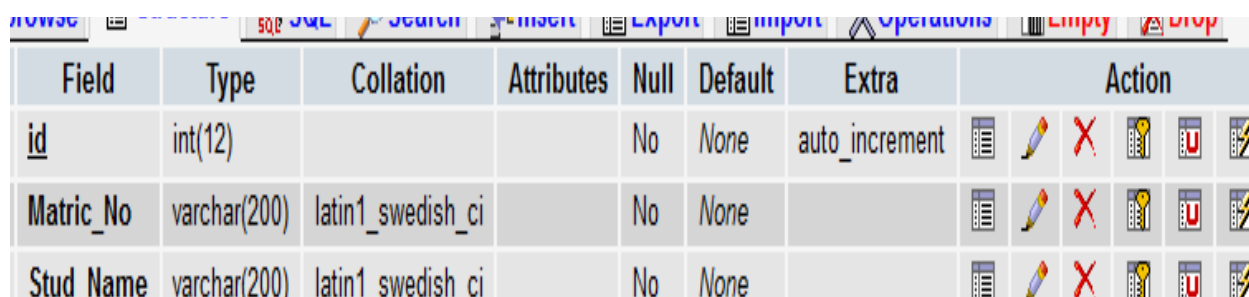
4.5 DATABASE DIAGRAM



The screenshot shows the 'Structure' tab of a database management tool. The table 'Admin' is selected. The table structure is as follows:

Field	Type	Collation	Attributes	Null	Default	Extra	Action
<u>id</u>	int(7)			No	None	auto_increment	[Icons: View, Edit, Delete, Add, Update, Refresh]
fullname	varchar(200)	latin1_swedish_ci		No	None		[Icons: View, Edit, Delete, Add, Update, Refresh]
username	varchar(100)	latin1_swedish_ci		No	None		[Icons: View, Edit, Delete, Add, Update, Refresh]

Figure 4.19 Admin Table



The screenshot shows the 'Structure' tab of a database management tool. The table 'Logincredentials' is selected. The table structure is as follows:

Field	Type	Collation	Attributes	Null	Default	Extra	Action
<u>id</u>	int(12)			No	None	auto_increment	[Icons: View, Edit, Delete, Add, Update, Refresh]
Matric_No	varchar(200)	latin1_swedish_ci		No	None		[Icons: View, Edit, Delete, Add, Update, Refresh]
Stud Name	varchar(200)	latin1_swedish_ci		No	None		[Icons: View, Edit, Delete, Add, Update, Refresh]

Figure 4.20 Logincredentials Table

Server: localhost ▶ Database: eclassroom ▶ Table: assignment_answer

[Browse](#)
[Structure](#)
[SQL](#)
[Search](#)
[Insert](#)
[Export](#)
[Import](#)
[Operations](#)
[Empty](#)
[Drop](#)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
<input type="checkbox"/>	id	int(11)			No	None	auto_increment	
<input type="checkbox"/>	matric_no	varchar(20)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	assignID	int(11)			No	None		
<input type="checkbox"/>	answer	text	latin1_swedish_ci		No	None		
<input type="checkbox"/>	datetime	varchar(50)	latin1_swedish_ci		No	None		

Check All / Uncheck All
 With selected:

[Print view](#)
[Relation view](#)
[Propose table structure](#)

Add 1 field(s)
 ☒ At End of Table
 ☐ At Beginning of Table
 ☐ After id
 [Go](#)

+ Details...

Figure 4.21 Assignment Answer

Server: localhost ▶ Database: eclassroom ▶ Table: lectures

[Browse](#)
[Structure](#)
[SQL](#)
[Search](#)
[Insert](#)
[Export](#)
[Import](#)
[Operations](#)
[Empty](#)
[Drop](#)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
<input type="checkbox"/>	id	int(11)			No	None	auto_increment	
<input type="checkbox"/>	course	varchar(100)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	topic	varchar(100)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	description	text	latin1_swedish_ci		No	None		
<input type="checkbox"/>	handout	varchar(200)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	lecturer	varchar(50)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	datetime	varchar(50)	latin1_swedish_ci		No	None		

Check All / Uncheck All
 With selected:

[Print view](#)
[Relation view](#)
[Propose table structure](#)

Add 1 field(s)
 ☒ At End of Table
 ☐ At Beginning of Table
 ☐ After id
 [Go](#)

+ Details...

Figure 4.22 Lectures registration table