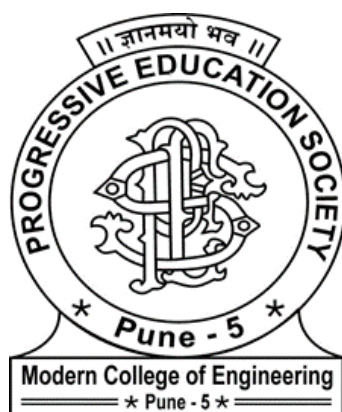# PROGRESSIVE EDUCATION SOCIETY'S
MODERN COLLEGE OF ENGINEERING
PUNE – 411005

A PROJECT REPORT ON
"ONLINE EXAMINATION WEBSITE"

BY

Name of Group Members:

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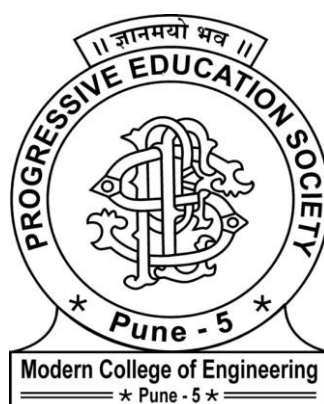
YASHADA FUNDE 25074

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VEDANT SWAMI 25077

Under The Guidance of

MRS. SWAPNA BHAVSAR

In partial fulfillment of S.E (Information Technology)
Savitribai Phule Pune University
PUNE 2022-23

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<u>Certificate</u>

This is to certify that, project entitled "**<u>ONLINE EXAMINATION WEBSITE</u>**", Submitted by **Vipul Chavan 25073, Yashada Funde 25074, Neelam More 25080, Vedant Swami 25077** is record of bonafide work carried out by them, under the guidance of **Mrs.Swapna Bhavsar**, in fulfillment of the requirement for the award of the S.E. of Bachelor of Engineering in **Information Technology,** Savitribai Phule Pune University.

Mrs. S. S. Bhavsar   **Dr. Mrs. S. D. Deshpande**

   GUIDE   **HOD (IT)**

Date:

Place: PUNE

ACKNOWLEDGEMENT

The completion of Project brings with and sense of satisfaction, but it is never completed without thanking the persons who are all responsible for its successful completion. First and foremost, we wish to express our deep sincere feelings of gratitude to our Institution, **PES Modern College of Engineering Pune**, for providing us an opportunity to do our education.

We would like to thank the **Management** and **Dr. Mrs K.R. Joshi, Principal, PES Modern College of Engineering** for providing the facilities and having permitted us to carry out the project work on **ONLINE EXAMINATION WEBSITE.**

We are thankful to **Dr. Mrs. S. D. Deshpande, Head of Department of Information Technology, PES Modern College of Engineering** for her constant support and motivation.

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ABSTRACT

ONLINE EXAMINATION SYSTEM is a web-based examination system where examinations are given online. Either through the internet or intranet using computer system. The main goal of this online examination system is to effectively evaluate the student thoroughly through a totally automated system that not only reduce the required time but also obtain fast and accurate results.

ONLINE EXAMINATION SYSTEM is an online test simulator is to take online examination, test in an efficient manner and no time wasting for manually checking of the test paper. The main objective of this web based online examination system is to efficiently evaluate the student thoroughly through a fully automated system that not only saves lot of time but also gives fast and accurate results. For students they give papers according to their convenience from any location by using internet and time and there is   no need of using extra thing like paper, pen etc.

Functional Specification:

1. Registering new Student

2. Getting the student and staff info and storing it to databases

3. Getting the type and number of question paper

4. Generating result after the exam

CONTENTS

CHAPTER 1

INTRODUCTION

Database is a collection of data and Management System is a set of programs to store and retrieve those data. Based on this one can define DBMS as a collection of inter-related data and set of programs to store & access those data in an easy and effective manner.

WHAT IS THE NEED OF DBMS?

Database systems are basically developed for large amount of data. When dealing with huge amount of data, there are two things that require optimization: Storage of data and retrieval of data.

Storage: According to the principles of database systems, the data is stored in such a way that it acquires lot less space as the redundant data (duplicate data) has been removed before storage. Let's take a layman example to understand this. In a banking system, suppose a customer is having two accounts, one is saving account and another is salary account. Let's say bank stores saving account data at one place (these places are called tables we will learn them later) and salary account data at another place, in that case if the customer information such as customer name, address etc. are stored at both places then this is just a wastage of storage (redundancy/ duplication of data), to organize the data in a better way the information should be stored at one place and both the accounts should be linked to that information somehow. The same thing we achieve in DBMS.

Fast Retrieval of data: Along with storing the data in an optimized and systematic manner, it is also important that we retrieve the data quickly when needed. Database systems ensure that the data is retrieved as quickly as possible.

The choice of a database product is often influenced by factors such as:

- the computing platform (i.e. hardware, operating system)

- the volume of data to be managed

- the number of transactions required per second

- existing applications or interfaces that an organization may have

- cost

- vendor support

Design and Modeling: The first task of a database designer is to produce a conceptual data model that reflects the structure of the information to be held in the database. A common approach to this is to develop an entity-relationship model, often with the aid of drawing tools. Another popular approach is the Unified Modeling Language. A successful data model will accurately reflect the possible state of the external world being modeled: for example, if people can have more than one phone number, it will allow this information to be captured.
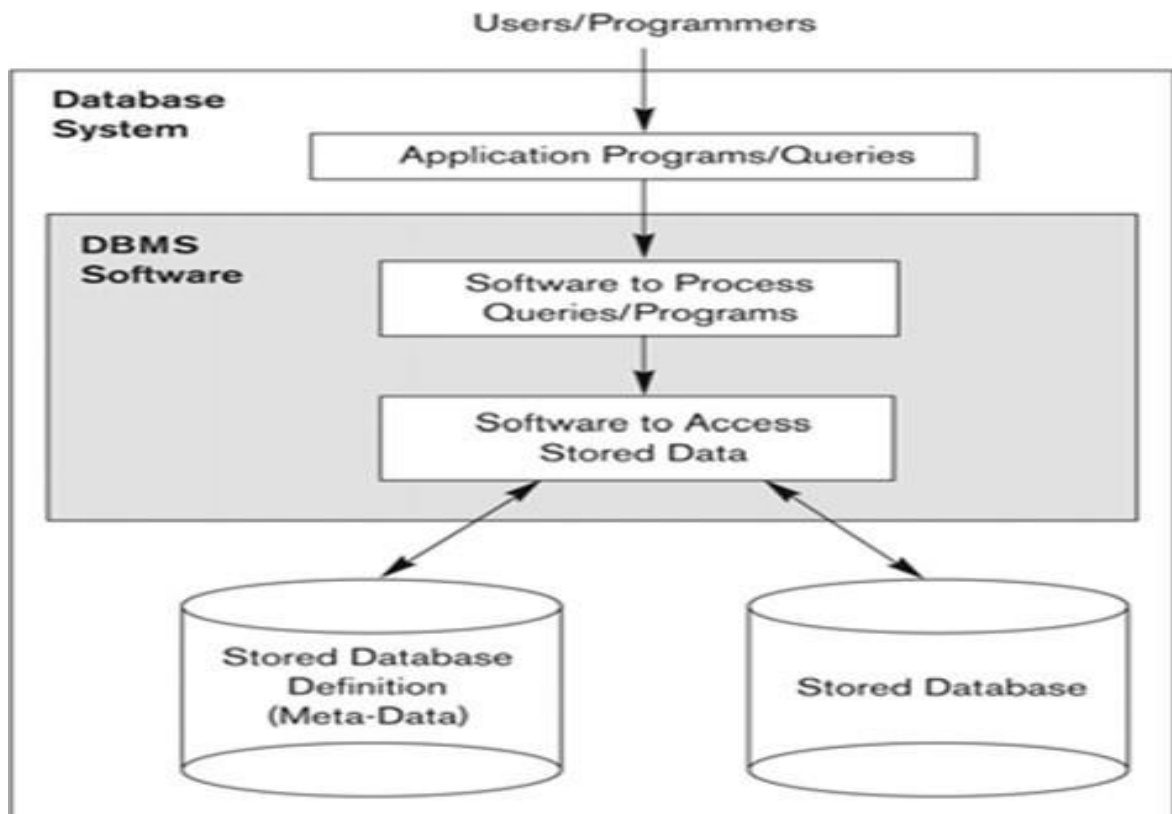
Figure 1.1: Simplified database system environment

Objectives:

The main objective of this project is to determine how an interactive inventory management system helps in the smooth functioning of a warehouse compared to traditional inventory management, by digitizing all the records and transacting everything on a computer rather than on paper. This project is a two-tier architecture application.

Problem Statement:

Existing systems for Warehouse Inventory Management are very inefficient and mostly involve a lot of manual work to be done by the manager of the system. With this project, we want to automate as many tasks as possible using the available technology and the internet.

Scope of the Report:

The essential framework of this report would be to elaborate the design of E.R-diagram, Schema Diagram and to display how the modules of the program work in order to achieve the automation.

CHAPTER 2

SYSTEM AND SOFTWARE REQUIREMENTS AND SPECIFICATIONS

The program works on Desktop PC and is executed using a PHP 5 interface which interacts with a MySQL database running on localhost.

FUNCTIONAL REQUIREMENTS:

A description of the facility or feature required. Functional requirements deal with what the system should do or provide for users. They include description of the required functions, outlines of associated reports or online queries, and details of data to be held in the system.

INTERFACE REQUIREMENTS:

- The system shall provide an option to add/delete quizzes with questions.
- The system shall provide an option to see and attend the quizzes.
- The system should give option for login for staffs and students.
- The system shall provide option to see scores.

NON-FUNCTIONAL REQUIREMENTS:

Non-functional requirements define the overall qualities or attributes of the resulting System.

Usability

Usability is the ease with which a user can learn to operate the online examination system and get results.

Security

Security requirements are included in a system to ensure:

- All questions and users are well secured
- SQL injection is prevented

RELIABILITY:

Reliability is the ability of a system to perform its required functions under stated conditions for a specific period of time. Constraints on the run-time behaviour of the system can be considered under two separate headings:

- Availability: is the system available for service when requested by end-users.
- Failure rate: how often does the system fail to deliver the service as expected by end-users.

SOFTWARE REQUIREMENTS:

Programming language	:	PHP, MYSQL
Operating system	:	ANY OS (Recommended**:** Windows8, Windows Vista, Windows XP)
Application required	:	Standalone desktop application
& Xampp Coding language	:	PHP, HTML, CSS, JavaScript

HARDWARE REQUIREMENTS:

CPU	:	Pentium IV 2.4
GHz or above Memory (Primary)	:	512 MB, 1 GB or above
Hard Disk	:	40 GB, 80GB, 160GB or above
Monitor	:	15 VGA colour

CHAPTER 3

ER DIAGRAM AND SCHEMA DIAGRAM

This chapter of the report describes the structure of the project, followed by Entity Relationship Diagram, Schema Diagram and the table structures.

ER DIAGRAM WITH RELATIONSHIPS AND CARDINALITY RATIO:

An entity relationship model, also called an entity-relationship (ER) diagram, is a graphical representation of entities and their relationships to each other, typically used in computing in regard to the organization of data within databases or information systems. An entity is a piece of data-an object or concept about which data is stored.

The cardinality or fundamental principle of one data aspect with respect to another is a critical feature. The relationship of one to the other must be precise and exact between each other in order to explain how each aspect links together. In simple words Cardinality is a way to define the relationship between two entities.

The following are the notations of the ER diagram:
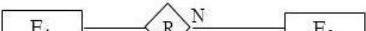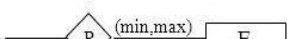
Symbol	Meaning
[rectangle]	ENTITY TYPE
[double rectangle]	WEAK ENTITY TYPE
[diamond]	RELATIONSHIP TYPE
[double diamond]	IDENTIFYING RELATIONSHIP TYPE
[oval]	ATTRIBUTE
[underlined oval]	KEY ATTRIBUTE
[double oval]	MULTIVALUED ATTRIBUTE
[composite ovals]	COMPOSITE ATTRIBUTE
[dashed oval]	DERIVED ATTRIBUTE
E_1 — R — E_2	TOTAL PARTICIPATION OF E_2 IN R
E_1 — R ^{N} — E_2	CARDINALITY RATIO 1:N FOR E_1:E_2 IN R
R $^{(min,max)}$ — E	STRUCTURAL CONSTRAINT (min, max) ON PARTICIPATION OF E IN R

Fig 3.1: Notations for ER Diagrams

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The ER diagram below shows the relationship between the many tables that exist in the database for the functioning of Online Examination System.
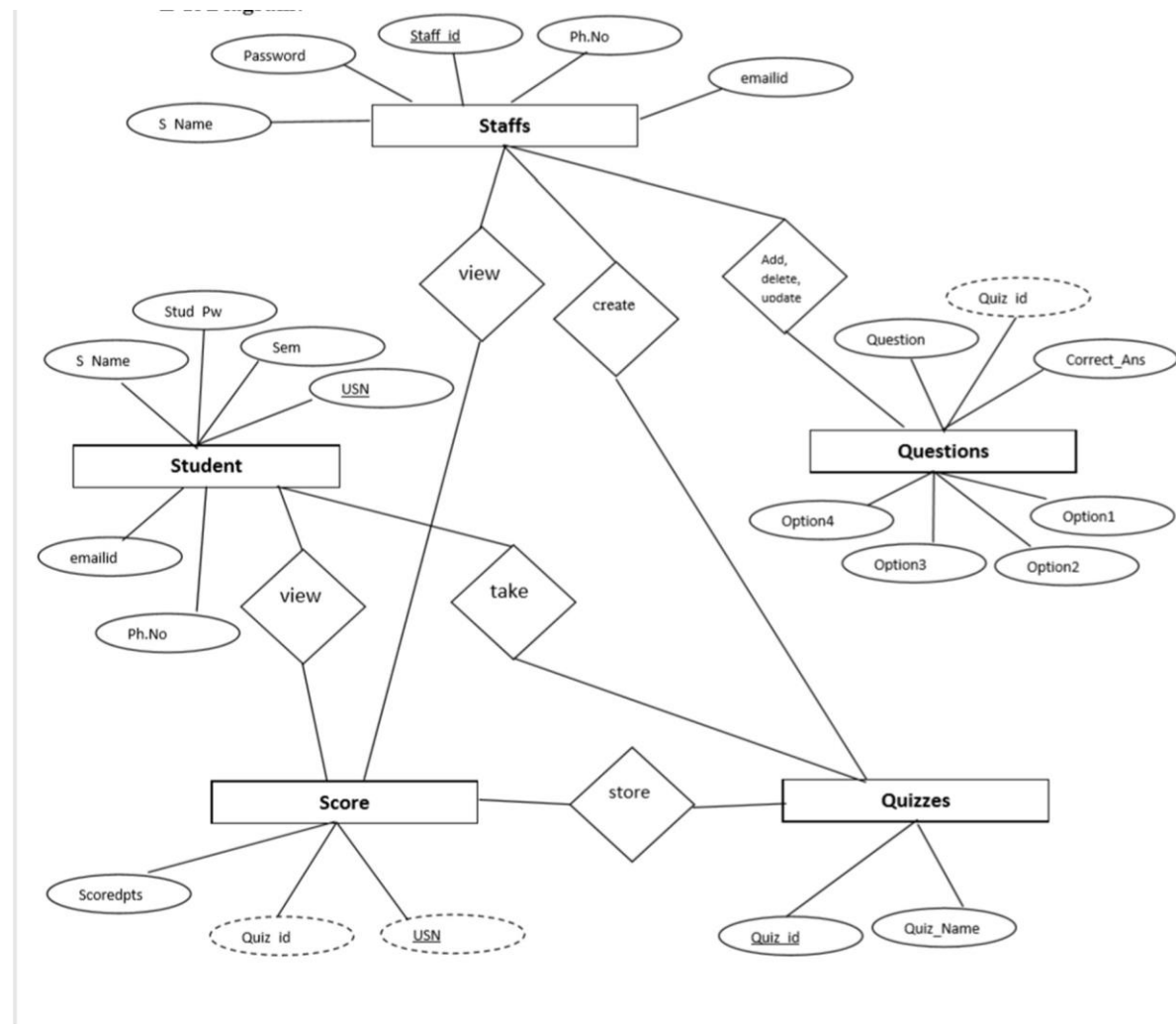

Fig 3.2: ER Diagram of Online Examination System

SCHEMA DIAGRAM:

In any data model it is important to distinguish between the description of the database and the database itself. The description of a database is called the database schema, which is specified during database design and is not expected to change frequently.

A displayed schema is called a schema diagram. A schema diagram displays only some aspects of a schema, such as the names of record types and data items, and some types of constraints.
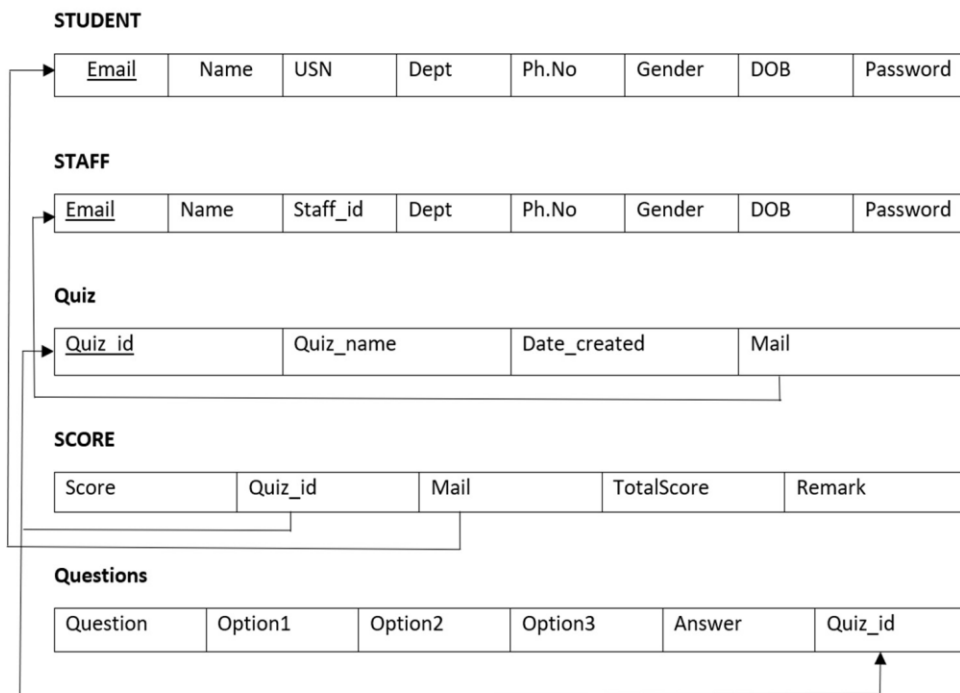
STUDENT

Email	Name	USN	Dept	Ph.No	Gender	DOB	Password

STAFF

Email	Name	Staff_id	Dept	Ph.No	Gender	DOB	Password

Quiz

Quiz_id	Quiz_name	Date_created	Mail

SCORE

Score	Quiz_id	Mail	TotalScore	Remark

Questions

Question	Option1	Option2	Option3	Answer	Quiz_id

Fig 3.3: Schema Diagram

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CHAPTER 4

IMPLEMENTATIONS

This chapter of the report describes the Functions, packages and modules used in the project:

LIBRARIES AND FRAMEWORKS:

PHP

PHP is Hypertext Pre-processor is a general-purpose programming language originally designed for web development.

HTML

Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.

CSS

Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. Functional Modules

JavaScript

JavaScript, often abbreviated as JS, is a high-level, interpreted scripting language that conforms to the ECMAScript specification. JavaScript has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions.

PHP Mailer

PHP Mailer is a code library to send emails safely and easily via PHP code from a web server. Sending emails directly by PHP code requires a high-level familiarity to SMTP standard protocol and related issues and vulnerabilities about Email injection for spamming. So, we used PHP Mailer

Functional Modules

The functional modules included in the project are listed below:

Insert Module:

This module provides the functionality of collecting the required data from the designed interface and transmitting it to the appropriate table present in the database designed for this project. If the provided data does not satisfy the given constraints, it must refrain from storing it into the database.

Update Module:

This module again has the functionality of collecting the data from the designed interface, but it updates the already existing tuple that matches the provided primary key of the tuple to be updated, by replacing the existing attribute values with the newly collected data. Again, if the newly provided data does not satisfy the given constraints, it must refrain from updating the corresponding tuple.

Delete Module:

The delete counterpart is loaded with the ability to delete a single or multiple records from the table. It searches for the tuple, in the query specified table, based on the provided value for an attribute. Admin can delete in the interface, based on which delete module searches for the record corresponding to that provided attribute value and deletes the record.

Retrieve Module:

The retrieve module has a basic functionality of accessing the entire specified table from the database and displays it.

Trigger Module:

Trigger in database is set of statements that are executed after an event occurs on the specified table. This is useful for logs wherein every change in database can be logged which helps keep a track of all changes/transactions on the database.

CHAPTER 5

MODULES IN ONLINE EXAMINATION SYSTEM

Online Examination System is that which enables the Students & Teachers to register for the system. Students are allowed to take the online test and see their progress. Also, it enables the Teachers to add, delete and update the test questions and also to keep track of the student progress.

- Student
- Staff
- Login
- Add/Remove quizzes and questions
- Score

Student:

Student has to log in to the system and can then view all the quizzes. Student can see the quiz list and attend the quizzes. After attending the quizzes students will get instant result and the same will be stored in the database.

Staff:

Staff also has to log in to the system first, then they can add/remove quizzes. They can see the progress and they can also update the existing quiz.

Login:

Login is must and should for both staff and student. So that all records will be safely saved to the database. If someone had forgot the password, one can reset that password.

Add/Remove quiz and question:

Staff can add, remove the quiz. And also they can add extra questions to an existing quiz.

Score:

Staff can see the scoreboard of the quiz which is added by him/her. And student can see the score of the quiz which he/she is attended.
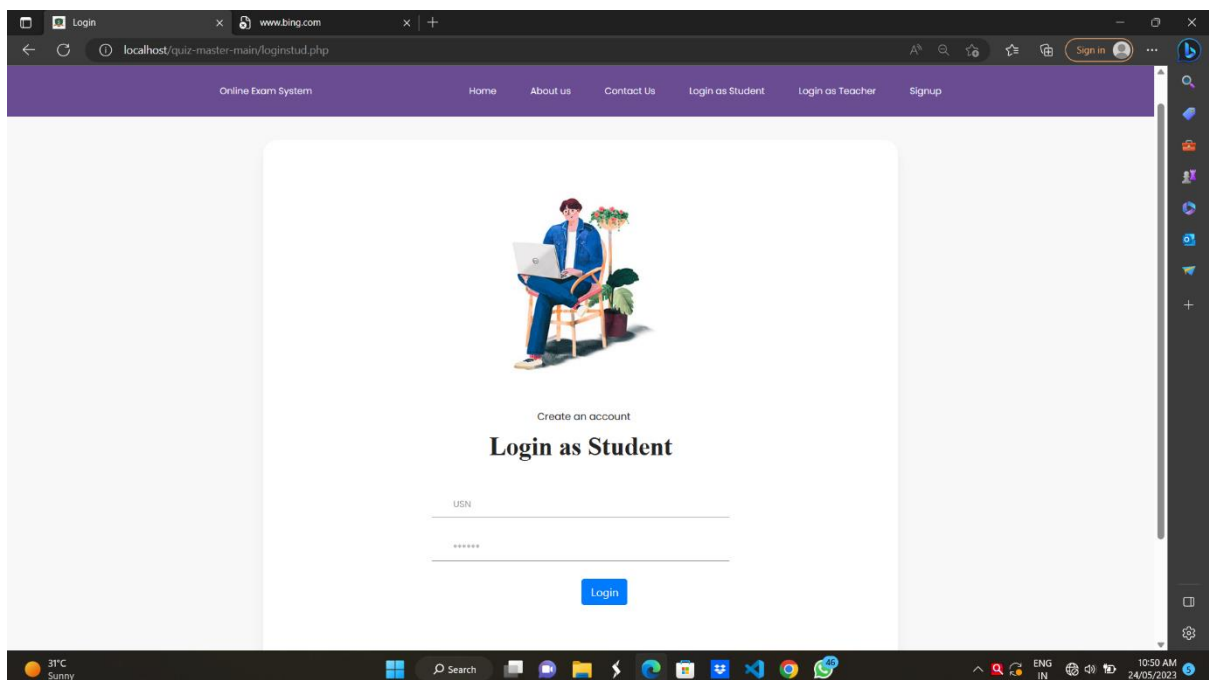
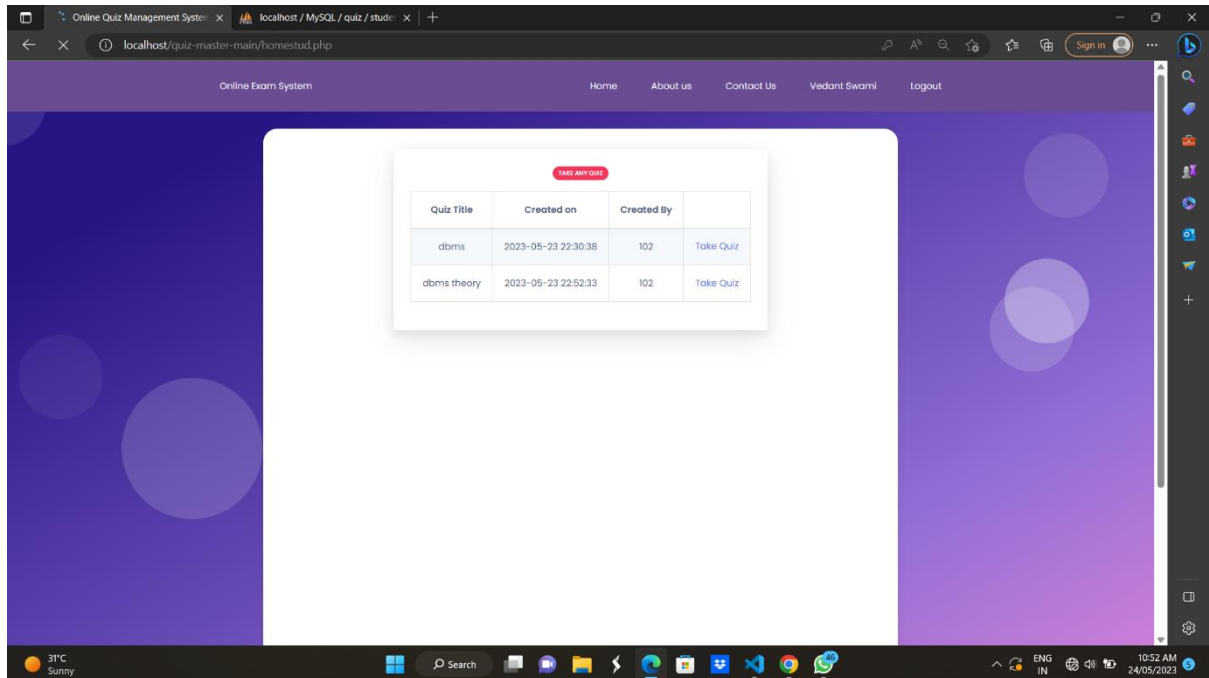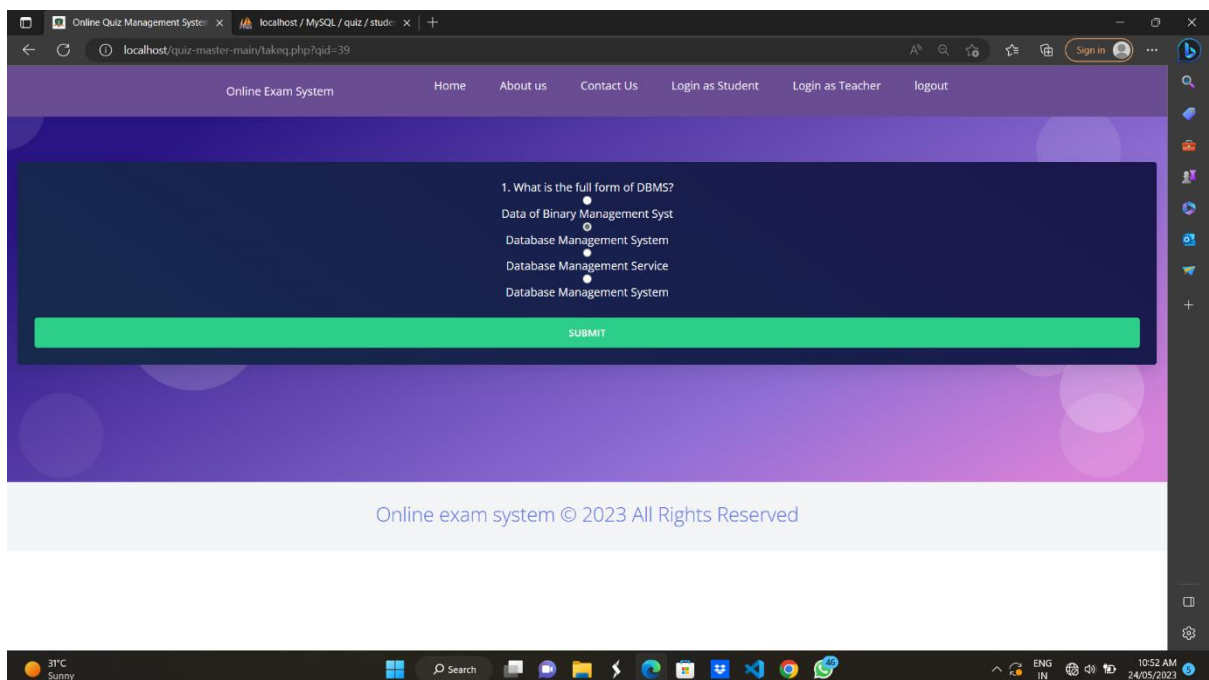# CHAPTER 5

SCREENSHOTS
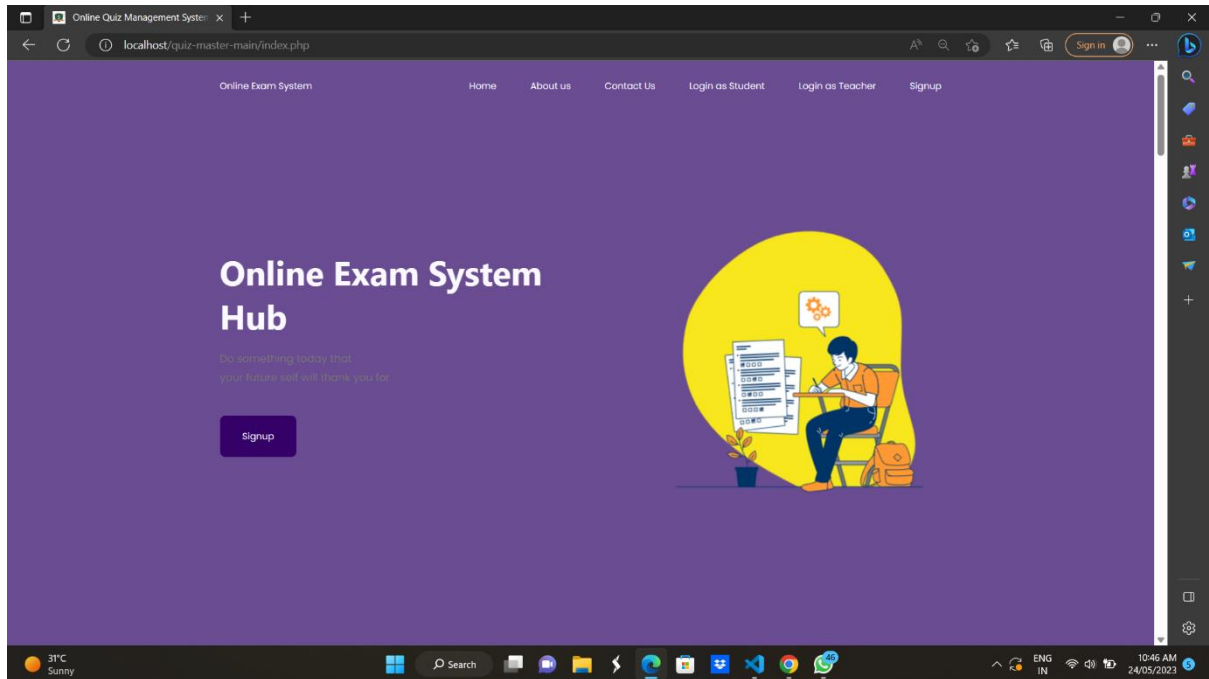
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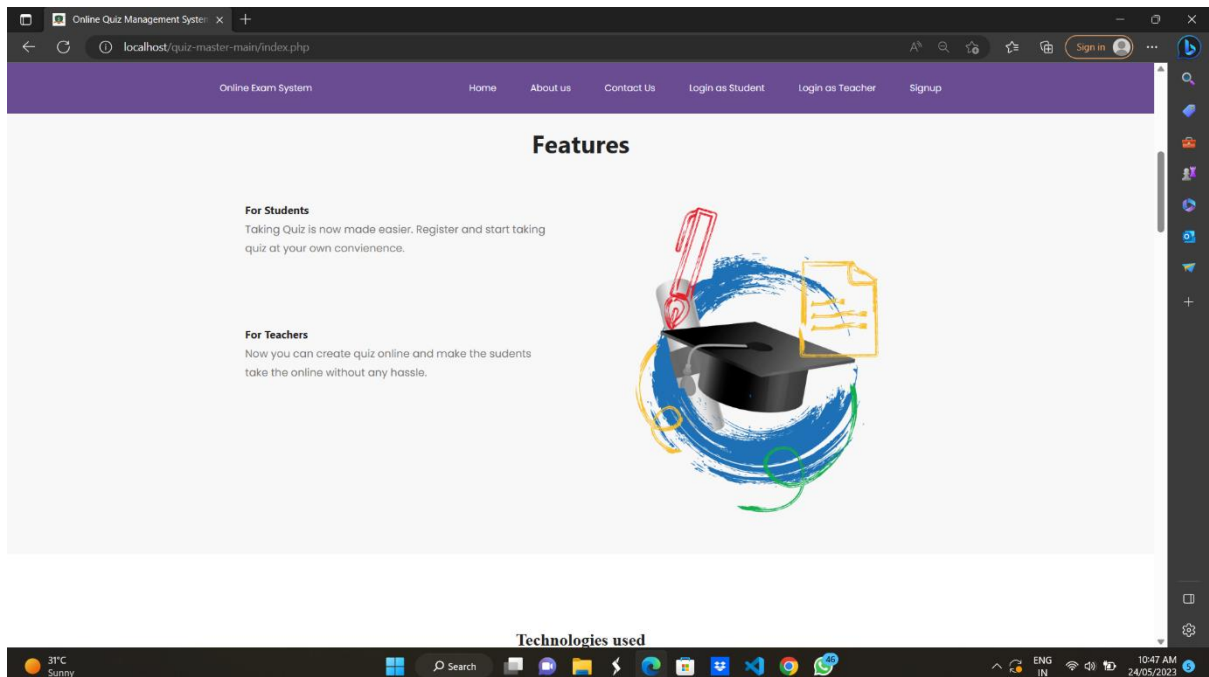
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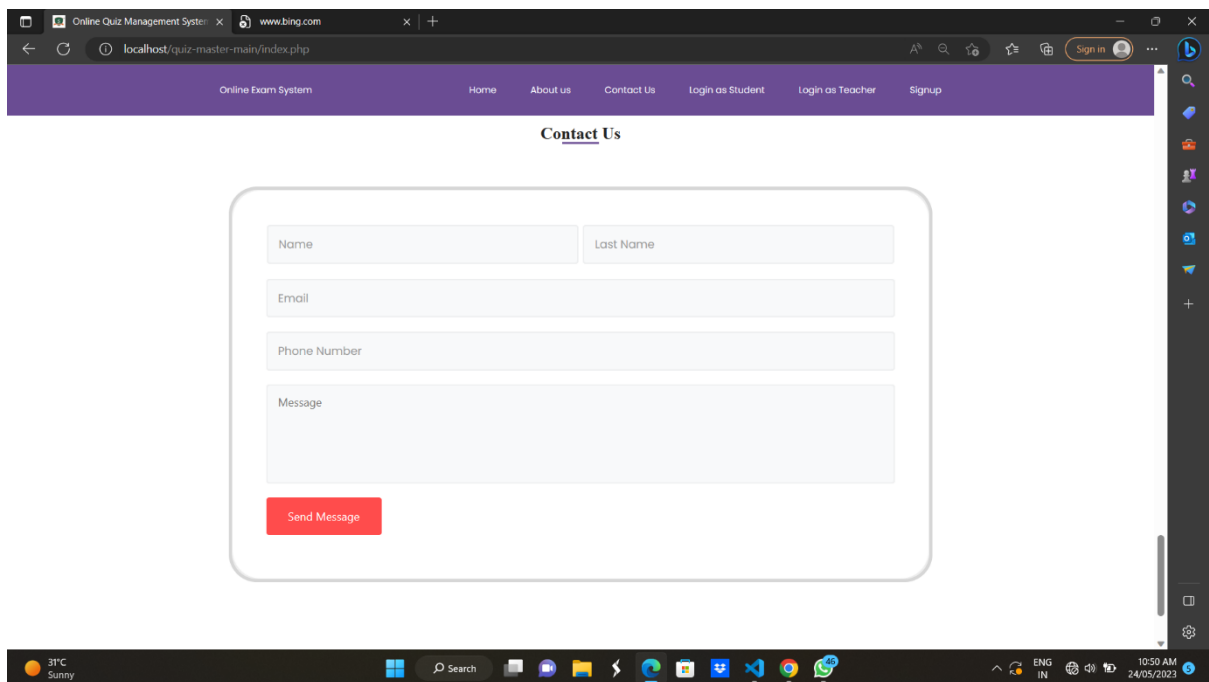
Contact Us

Student Login

Take Quiz

Questions
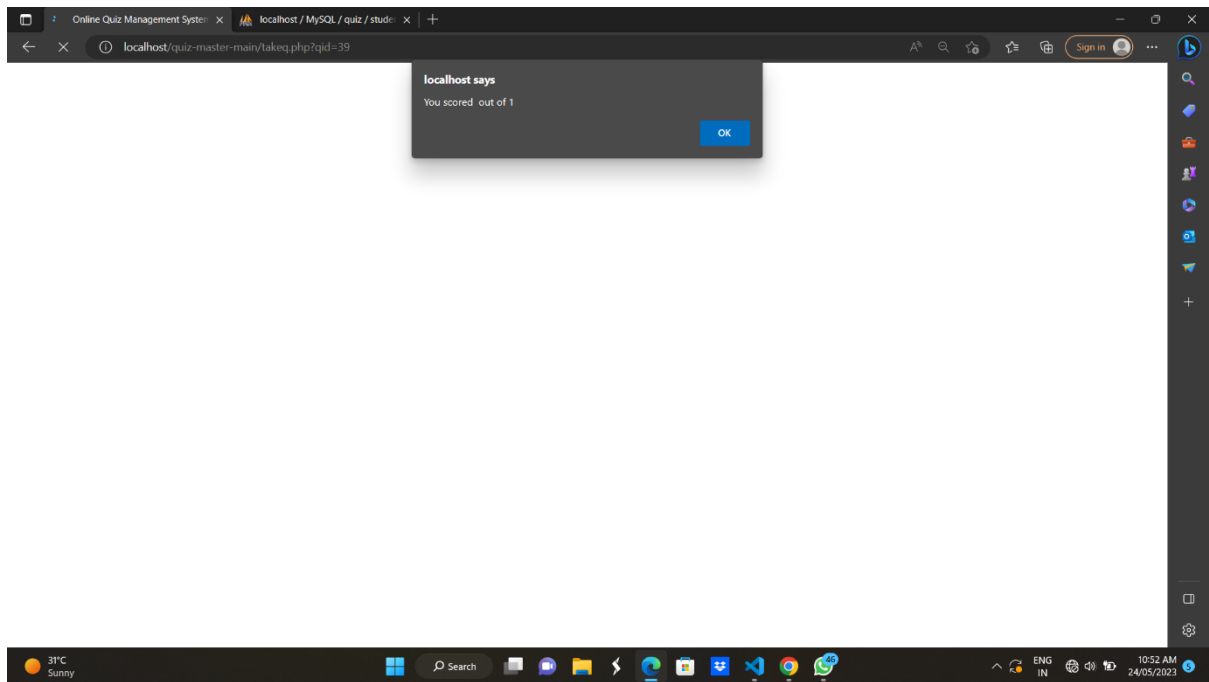
Score
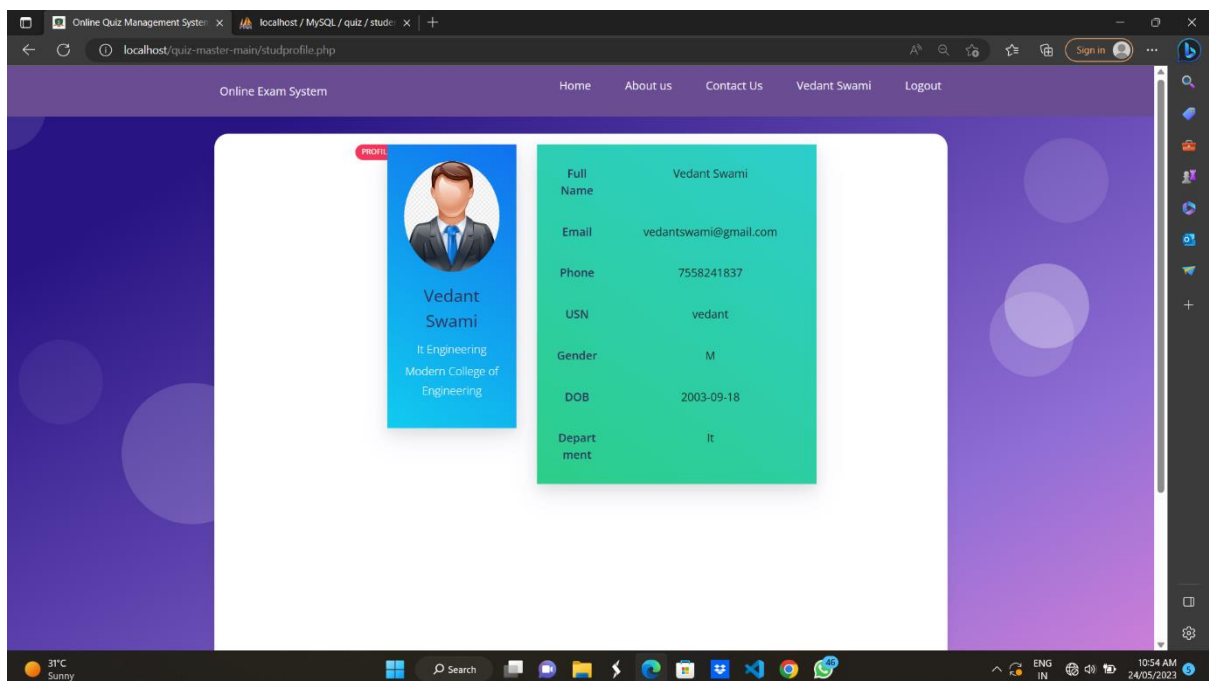
Student Profile
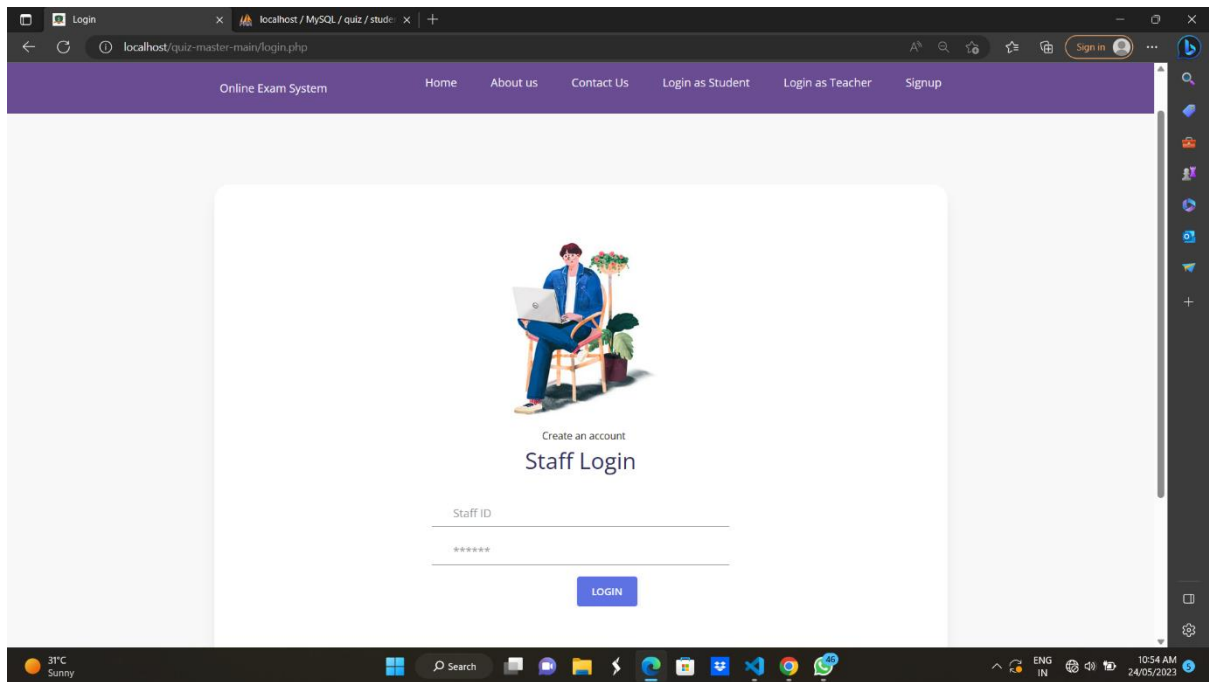
Staff Login
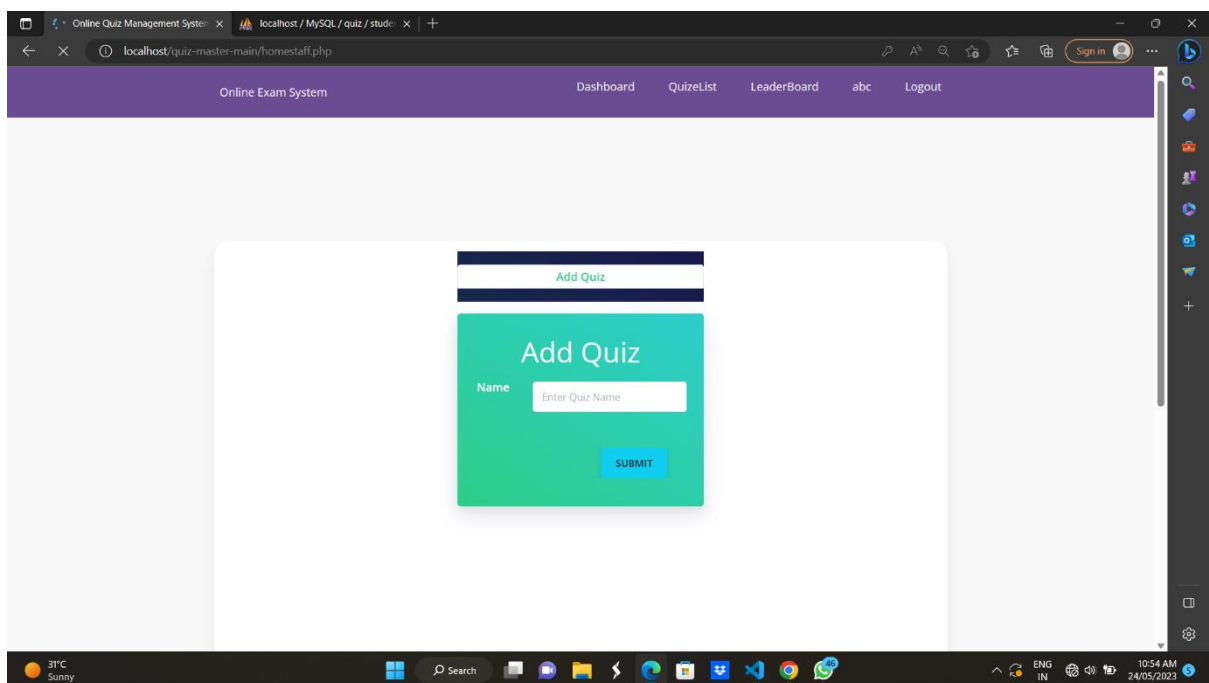
Add New Quiz

Add New Questions

Created Quiz
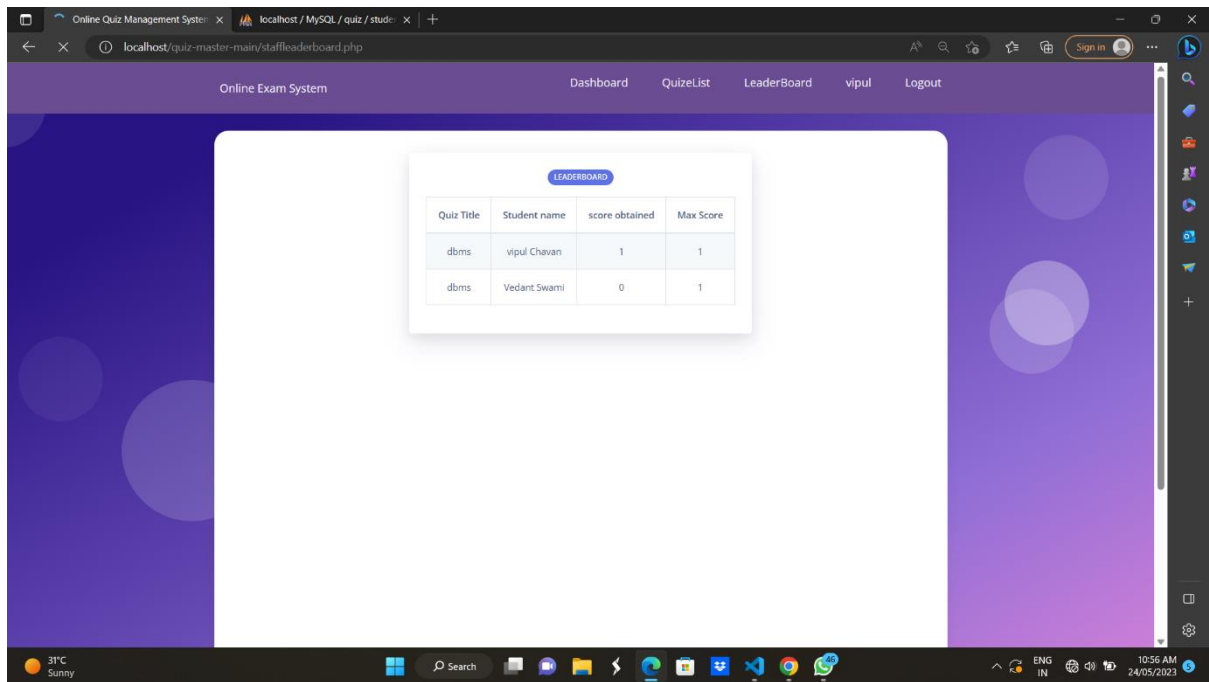
Leader Board
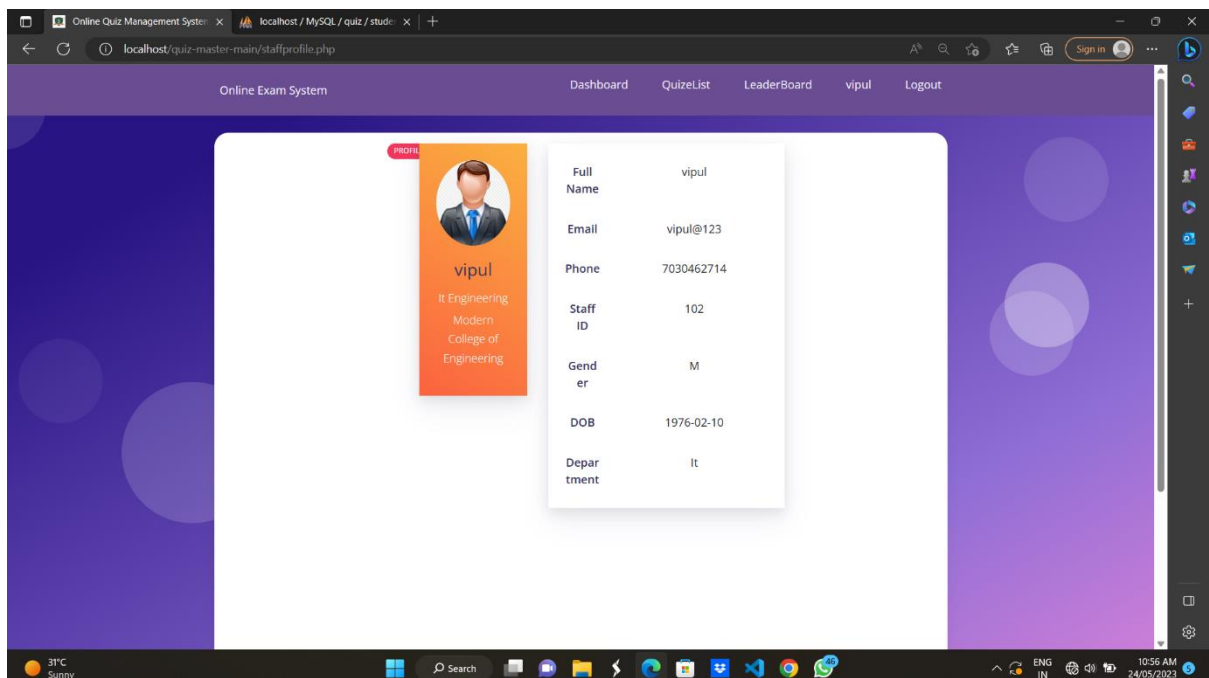
Staff Profile

CHAPTER 6

CONCLUSION

The online examination system provides better functionality for an examination to be more efficient and reduce manual paperwork in order to automate all possible tasks. For implementing this system, PHP, HTML, CSS, JavaScript and MySql are used.

The system comprises of following features:

- Management of quiz.
- Automated grading.
- Adding/deleting quizzes and questions.

SCOPE OF ENHANCEMENT

There are also few features which can be integrated with the system to make it more flexible.

Below list shows the future points to be considered:

- Implementing the timer for the quiz.
- Sending mails on sign up and when student takes the quiz.
- Supporting all type of questions including MCQ's.
- Including Programming Questions where user can compile or interpret on site only.

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