

**LMS- A WEB BASED PLATFORM FOR TEACHER AND STUDENT
COMMUNICATION**

BY

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

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DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

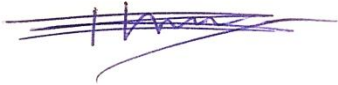
09th SEPTEMBER 2021

APPROVAL

This Project titled “**LMS- a web based platform for teachers and students communication**” submitted by “Md. Hasan Mahmud”, ID No: 133-15-2950 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 09-09-2021.

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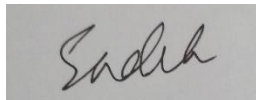
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DECLARATION

I hereby declare that this project has been done by us under the supervision of **Ms. Nazmun Nessa Moon, Assistant Professor, Department of CSE** Daffodil International University. In addition, I declare that neither this project nor any portion of this project work has been presented elsewhere for the granting of any degree or certificate.

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ABSTRACT

This report presents the design and embodiment of a communicative web platform for teachers and students. It can be classified as a web-based educational platform for teaching and learning. It uses a very efficient way, which allows the students to interact with the teachers inside or outside the class. The data are stored properly; the platform allows a user to recover information in a systematic manner. By using the system, an instructor can design his course more modular and organized. So, I built the system in such a manner, where the teacher will not only be able to communicate with the student but also will evaluate their in-class learning via an “In-class Quiz”. The aim of this project is, instructors and students will be able to communicate more efficiently and effectively. This project also opens some chances for combined learning that will help both the teachers and the students to create an efficient learning environment.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

“LMS” is a web-based online educational system which that can be used for teaching and learning. The main purpose of developing this system was to create a communicative classroom. The system has been designed in a way that will encourage the association of all the students in a class. The user interface design framework has been designed to make the system user-friendly therefore instructors and students will find ease in operation.

1.2 Motivation

Communicative teaching and classrooms are important for effective learning as it tends to go beyond the way of traditional teaching and learning by improving student-teacher communication. For effective learning, I need communication between teachers and students. My dream is to build a system that will help both students and teachers to interact easily. My system will help you to understand the loophole of the current systems and make them more communicative. My system will help the reticent and silent student to participate more in class.

Throughout this chapter, I'll explain the reasons for my decision to adopt this approach. Here I also discuss why I have chosen the educational field apart from all other fields to work it.

1.3 Objectives

“LMS” system consists of three user modules:

1. Teacher

There are six distinct tasks in the Teacher module and they are as follows:

- Create class
- Ask question to the students
- Take quiz (or pop-quiz)
- Set timer for the quiz
- See leadership board for quiz result & a student’s performance.
- Upload Lectures

2. Student

There are four tasks that are being done by the Student module and they are as follows:

- Join class
- Ask question
- Give quiz (or pop-quiz)
- See result

3. Admin

There are two important tasks are being carried out by the Admin module and they are as follows:

- Issue a list of all users
- Observing the entire system

1.4 Expected Outcome

I want to focus on five main goals for my project. They are as follows:

i. Create a communicative classroom: Because of the prevalence of social media, a lot of students struggle interacting in front of the class or person. Some student feels shy asking question to the instructor. Some of them are introverts. Which eventually disrupts their learning process? By using this system students will be able to communicate on a digital platform inside or outside class.

ii. In-class Quiz: By using the system instructor will be able to take quizzes very easily in class which will increase the efficiency of learning.

iii. Instructors' Lecture: This system provides the privilege of uploading lectures by the instructors where an instructor can attach video or document files as well.

iv. Simple User Interface: The system has been built in such a way that it is straightforward to use, and the user interface is simple and uncomplicated.

v. Class performance: The Instructor face a hard time evaluating the class and quiz performance of every individual student. In this system, he will be able to see all the results of quizzes and pop quizzes on a leader board which will help him to grade.

1.5 Report Layout

Chapter 1: Introduction

Motivation, objectives, and the expected outcome of the project have been discussed in this chapter. The report layout has been mentioned in the last part of this chapter.

Chapter 2: Background

The background circumstances of my project have been discussed here. Related work, comparing with other websites, the scope of the problem and challenges of the project are explained here.

Chapter 3: Requirement Specification

This chapter discusses about the requirements. Topics covered in this chapter include business process modeling, requirement gathering and analysis, the project's use case model with description, the logical relational database model, and design requirements.

Chapter 4: Design Specification

This chapter consists of all the designs of the project in one place. These are Front-end design, back-end design, Interaction design, and UX, and the implementation requirements.

Chapter 5: Implementation and Testing

Implementation of a database, front-end designs and interactions, testing implementation, test results, and reports are the contents of this chapter.

Chapter 6: Conclusion and Future Scope

It is the last chapter where the conclusion and future scope of the project has been discussed.

CHAPTER 2

BACKGROUND

2.1 Introduction

In this chapter, I discuss the types of educational websites that currently exist. I also focus on the loopholes that the current system entails and a proper justification will be provided as to why my method is the best one for the current situation.

2.2 Related Work

There are many educational websites that are currently used in many educational institutions. Although they have some features which can help the student to have an online platform for class but none of them persuade in-class communication systems. The following are the most prevalent systems now available on the market:

1. Manual System

In the manual system, the instructor has to carry all the quiz paper to take a quiz. After that, he has to evaluate all the papers and store their marks manually. At the end of the semester, he has to merge all the quizzes marks manually to get a student's performance. Instructors are able to interact with very few students during class and office hours. A student is unaware of announcements if he misses any class.

2. Web based System

This system student will be able to get announcements even if he misses any class. The instructor can upload an assignment and assign a task. Students can also ask something to their instructor. But all these functions work outside the class. Google Forms + Flubaroo, Poll Maker's Quiz Maker, Vocabtest, ClassMarker.com, Google Classroom, Engrade, Piazza, etc are related to my project.

2.3 Comparative Studies

Considering all aspects, my proposed solution is the most communicative and efficient one. This system will increase communication in class and efficiency in teaching. When it comes to obstacles and user-friendliness, this system has been designed in such a way that there will be none. As a result, this chapter provides an overview of the present systems in educational institutions, as well as the motivation for the development of a web-based educational system

My proposed solution is to use a web-based system. This system provides an online platform where a teacher will be able to take an in-class quiz and pop quiz. This system is modeled like that where a teacher doesn't need to calculate quiz marks for calculating the average. It will automatically calculate and show the average. Asking question is much easier in my system.

The manual system could have inefficiency as the manual system requires a lot of time and unlimited paperwork. The student who misses class has to face an obstacle in catching up. Furthermore, it is not possible for a teacher to interact with all the students in this system.

In web-based system, though the students don't face problem getting an important announcement and asking a question to the instructor yet communication in class still remain low in this system

2.4 Scope of the problem

I encountered many problems in carrying out this project. But I overcame these difficulties where I need to know the community center reservation process. So I collected information about community centers in Bangladesh. The choice of the database is also a crucial decision. I chose MySQL to use as a database. The visual studio

as editor, I used in my project several programming languages for development which are necessary PHP, JAVASCRIPT, LARAVEL (PHP Framework). I have to use markup language to design this website. Like HTML, CSS. I used a function from the JAVASCRIPT library like jQuery to design this website. I chose this programming language because it is easy to use for developers. Since this site is based on ease of use, I hope that many people will use this type of site, which will reduce its complexity.

2.5 Challenges

Here is some challenges which I have faced are mentioned below:

- MySQL database was a new tool for me. As I have to use this database in my project, so I needed to learn a lot about this database.
- To create a beautiful design and unique features.
- To develop a user-friendly interface.
- Handling three parts, teacher, student, and admin in one website.
- Ensuring data security.
- Blocking unauthorized users from reading, writing, and deleting data from the database.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Processing Model

The Business Process Model is a flowing diagram or model which is a very important tool to build a project or system. The Business Process Model is a mapping concept which defines us actual flow of data. In this process, we can create a structural view of a process or system. Every developer needs to create a business process model before starting a project or system.

The Business process model represents the total system of my system. From the diagram, we can understand the interaction among the students, the teachers, and the system administration.

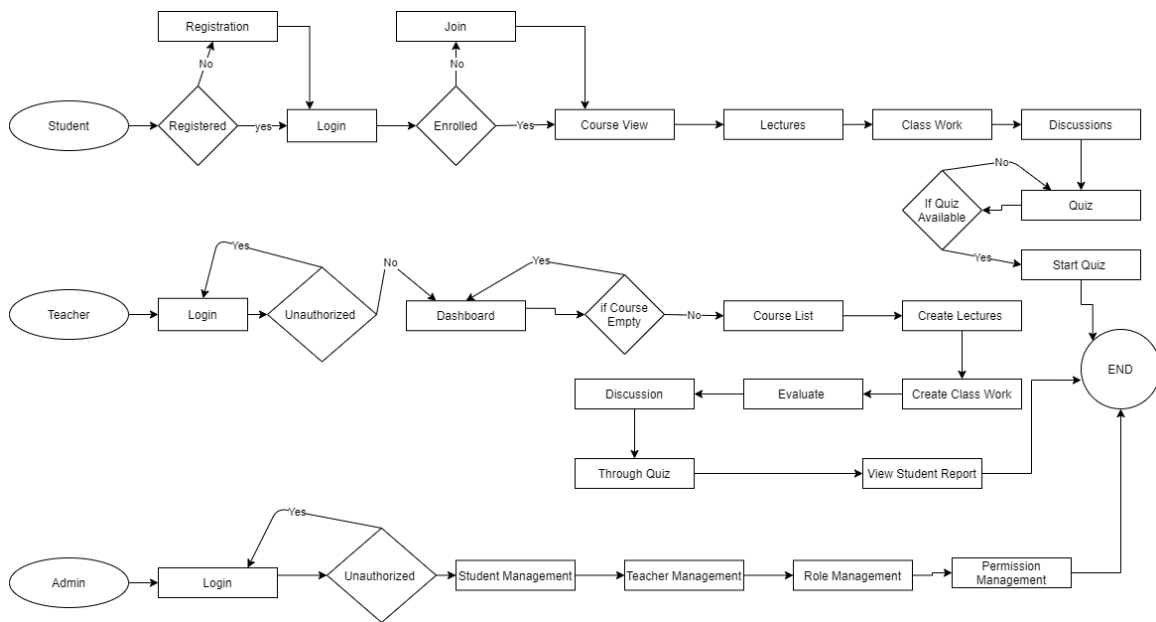


Figure 3.1: Business Process Model for LMS

3.2 Requirement Collection & Analysis

We need to collect specifying the requirements for the initial work of any developing project. I need requirements to draw a graphical view of the project. It is difficult to implement a project without a graphical view. I had a hard time collecting the requirements. It was a big challenge for me because I only had to collect information about the requirements, although it was more difficult when I saw that the requirements are not available everywhere. For this reason, it is possible to obtain incorrect information. I must therefore collect information from appropriate sources. And I have to be very careful about collecting requirements. For my project called Community Center Management System. Before starting to develop my project, I gathered all the requirements. I have collected information from many sources. I have researched community center websites and websites that provide information about community centers located in Bangladesh. I need to collect information to physically visit a community center. I need to collect the manager's contact number and contact them to get more specific and accurate information about customers and the owner's requirements. He was familiar with the reservation process and the services offered by a community center. Collect the needs, I analyzed them. After the analysis, many method models were prepared to represent the system. To succeed in a project, we need to collect the requirements, then we need to analyze the collected requirements and specify the project method.

3.3 Use Case Modeling and Description

Use case diagram is a type of UML behavior diagram. The use case diagram is used for the analysis of any system. These diagrams show us how to detect the different types of roles in a system and interact with the systems, helping us to realize the usefulness of the systems. At some point, the goals in this diagram help us identify roles and how to work with those roles. The use case diagram is very important for the development of any project. The use case diagram is a top view of the system. Internal and external factors can be identified by this scheme.

For this project, I created three use case diagrams. Here the first use case diagram for student users, the second is for teachers and the third is for admin users where figure 3.2 shows us the use case model for the user (student), figure 3.3 shows us the use case model for the teacher user, and Figure 3.4 shows us Use case model for User of Admin.

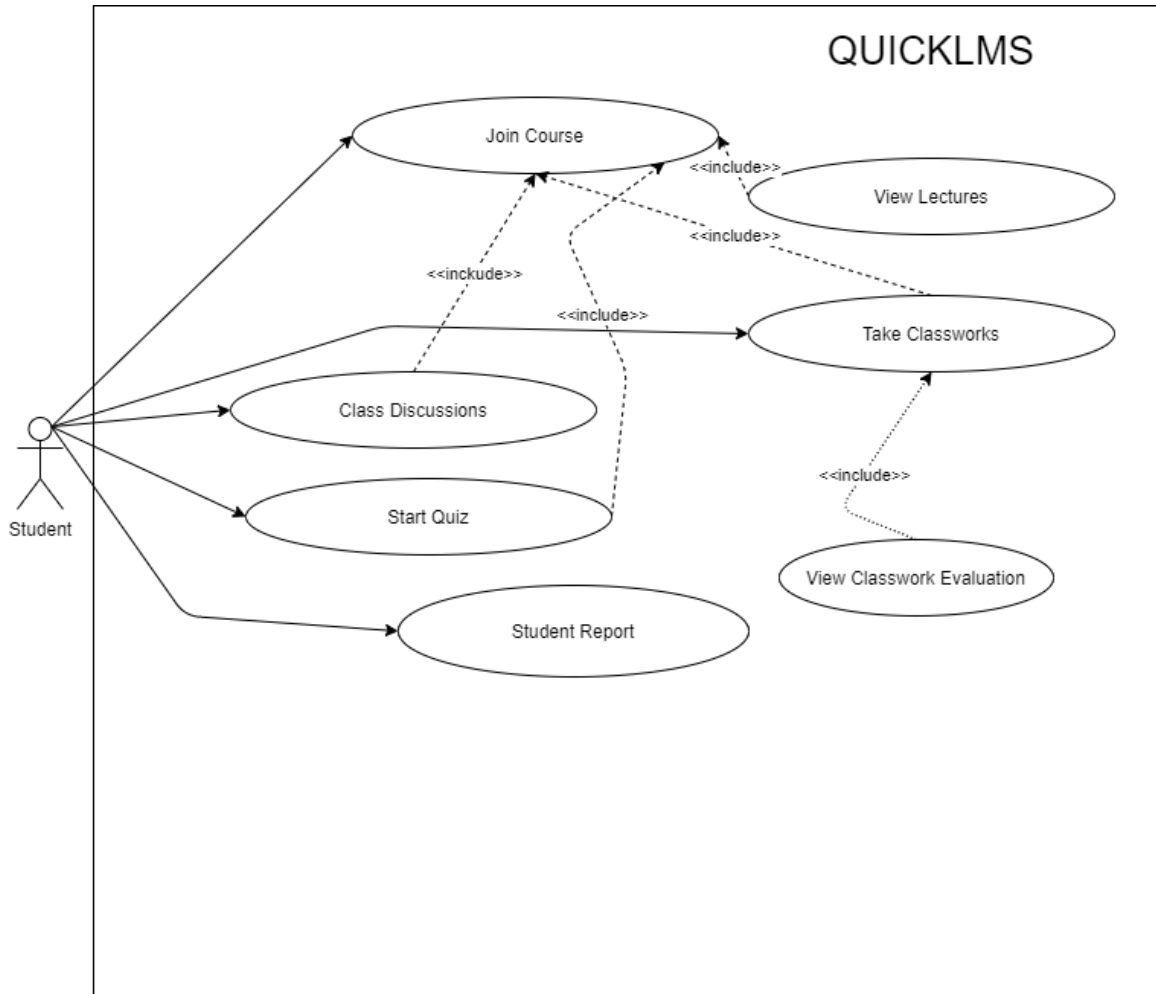


Figure 3.2: Use Case Model for Users (Student)

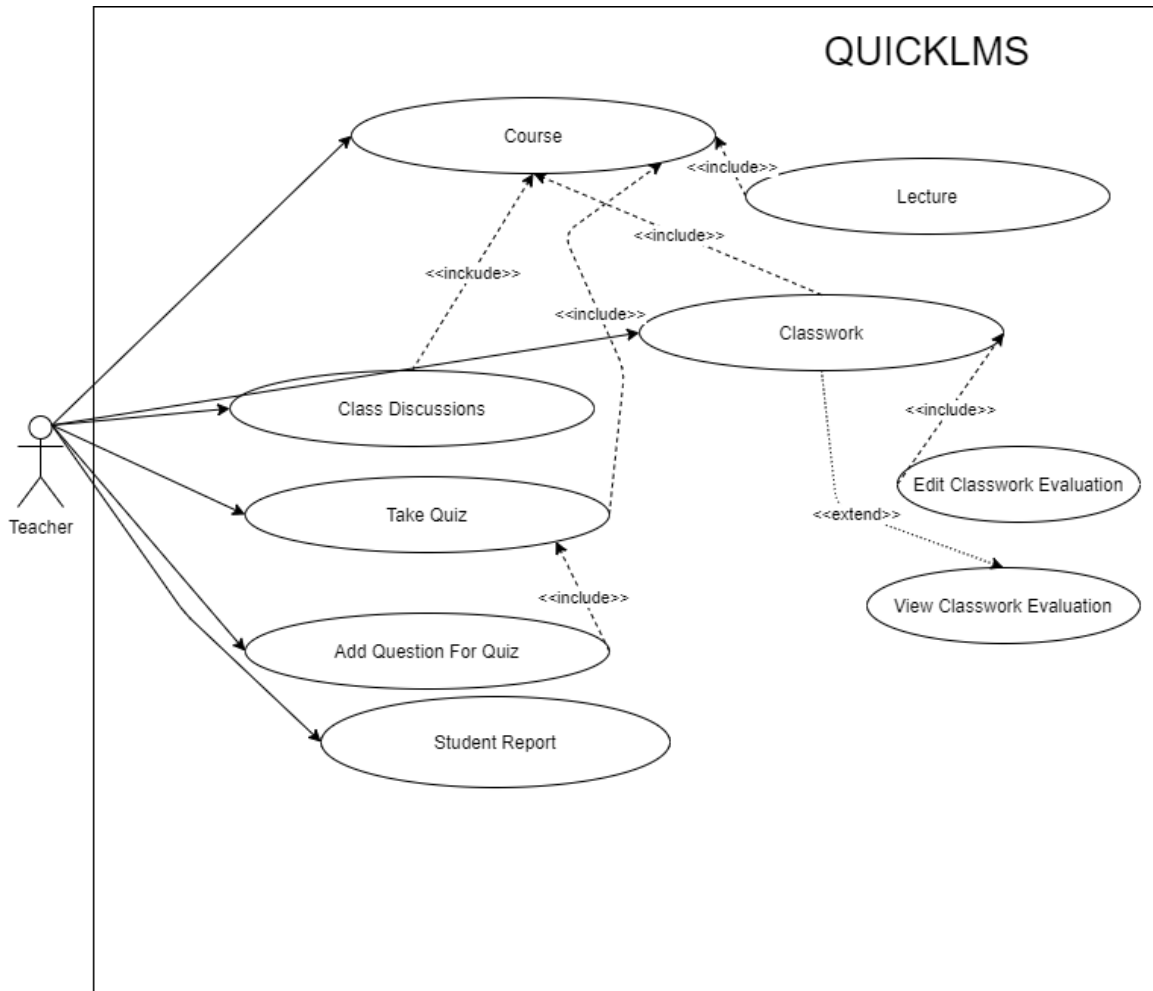


Figure 3.3: Use Case Model for Teacher

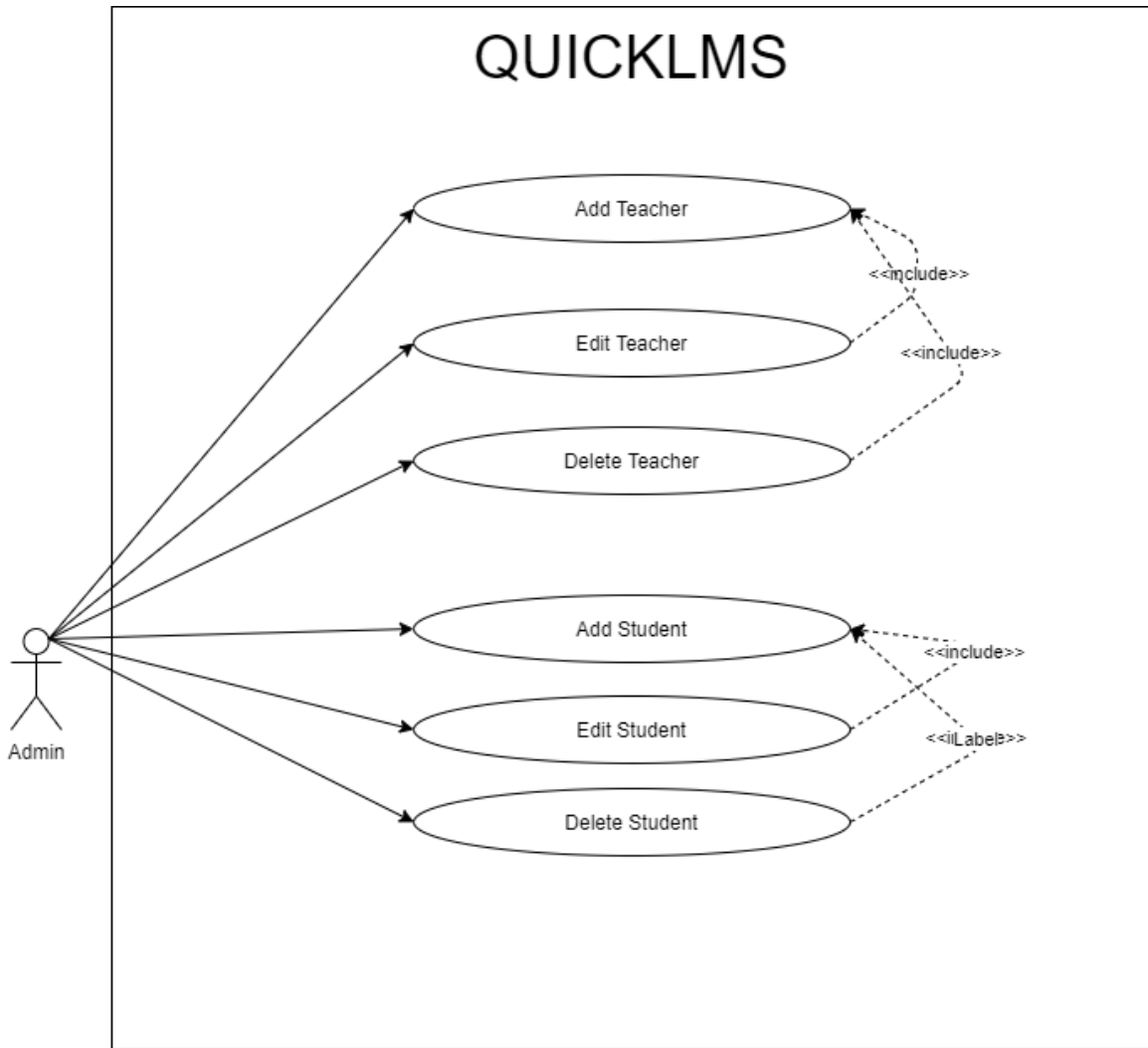


Figure 3.4: Use Case Model for Admin

In this diagram figure 3.4, I try to show the many functions for Admin which is implemented in my project. From this diagram, we can see the activities of admin. Admin can view and edit or delete students and teacher credentials if necessary. Admin has many other options which we can see from the use case model in figure 3.3.

3.4 Logical Data Model

In the business sector, we need to report from the Logical Data Model we can report the database elements. The entities and the relationships shared by them are the main elements of ER models.

The Entity-Relationship Diagram (ERD) is a logical data model. ER diagram of my project is shown in figure 3.5.

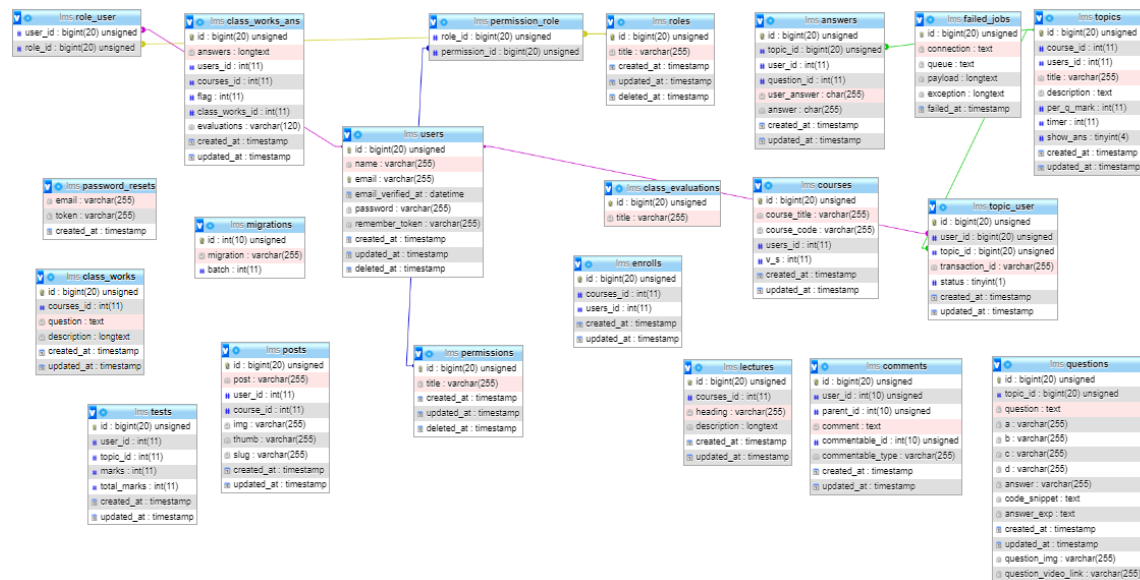


Figure 3.5: Database design of the system

3.5 Design Requirements

We need a user-friendly front-end that makes it easy to moderate the site. This means that it's important that the back end of the system be both well-balanced and flexible enough to adapt to any structural changes within the front end. For my system, I've used the following tools:

1. Front End:

- HTML5
- Bootstrap
- AJAX
- JQuery
- JavaScript
- CSS3

2. Back End:

- PHP 8.0
- MySQL

3. Framework:

- Laravel 8

In general, a framework is a real or conceptual structure that serves as a support or a guide for the construction of anything that extends the structure into something beneficial.

Computer systems typically use frameworks to indicate what kind of applications may or should be developed and how they would interact. There are also some software frameworks that include real programs, describe programming interfaces, or give programming tools for using the frameworks themselves. There are a variety of frameworks, including those for a collection of functions inside a system and how they interact, the layers of an operating system, the layers of an application subsystem, how communication should be standardized at some level of a network, and so on. This type of framework is more extensive than a protocol and more rigid than a structure.

4. Software:

- XAMPP Control Panel v3.2.1
- PHPstrom

5. Operating System:

- Win-7, Win-8 or Win-10 or higher version
- Linux or any other higher version.

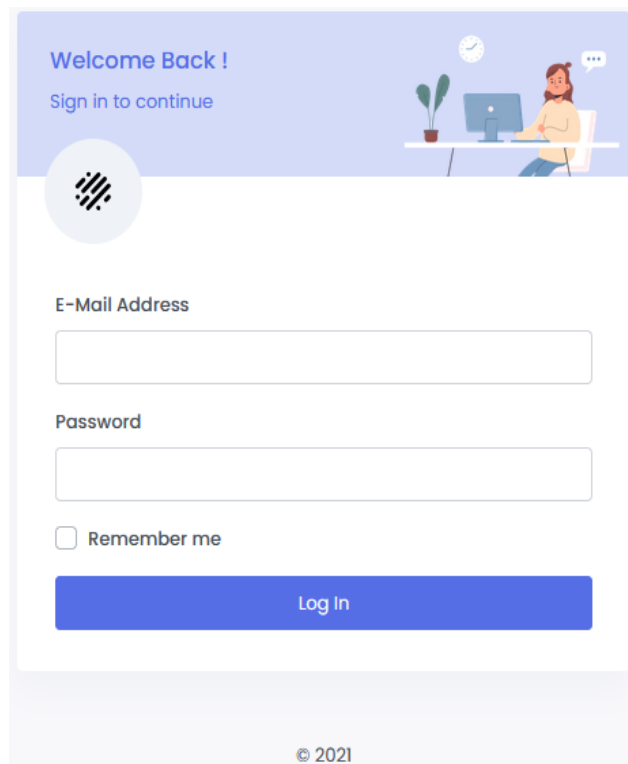
CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-End Design

In any application, front-end design is very significant because the user interacts with the application by this system. I've tried to make it user-friendly and easily understandable by the user of the system.

To make the user interface, we have used HTML (mark-up-language). My application has many pages; we needed to design every single page. Let's see some pages with their design and code.



The image shows a login form with a light blue header. The header contains the text "Welcome Back !" and "Sign in to continue" on the left, and an illustration of a person sitting at a desk with a computer on the right. Below the header is a circular logo with a grid pattern. The form has two input fields: "E-Mail Address" and "Password". Below the "Password" field is a checkbox labeled "Remember me". At the bottom of the form is a blue button labeled "Log In". The footer of the form contains the text "© 2021".

Figure 4.1 log in Home Page

The figure 4.1 shows the log in section where an admin, a teacher and a student can sign in with their respective log in ID and Email.

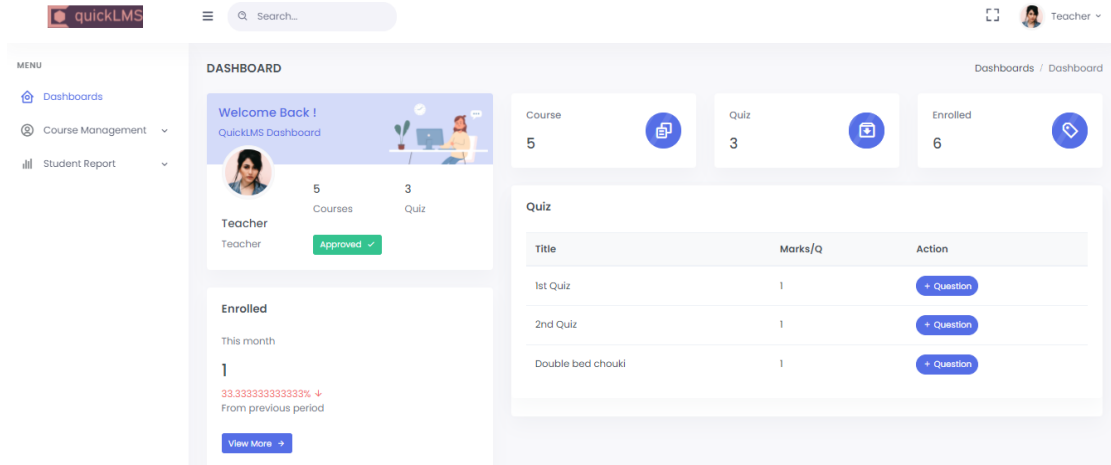


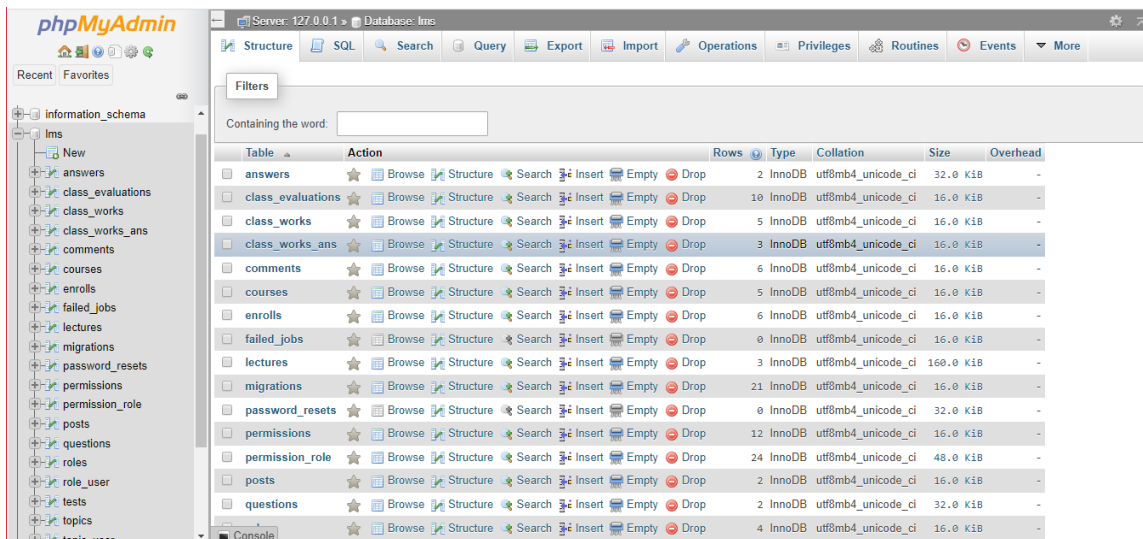
Figure 4.2: Home Page of the System LMS

From figure 4.2, we observe a very communicative homepage from a teacher's point of view. The homepage consists of 'Classes' and 'Add' tabs in the side navigation bar. The home page will also display all the classes created by a teacher.

4.2 Back-End Design

This Back-End Part has been performed for all logical parts of this project. Database connection, using database, database maintaining, etc. all these database-related codes are done in the back-end part. In my project, I have used PHP (Laravel framework) as the programming language for the back-end coding.

For maintaining the back-end part, I have used the MySQL database for this project. MySQL provides us user authentication system.



The screenshot shows the phpMyAdmin interface for a MySQL database named 'lms'. The left sidebar displays a tree view of the database structure, including tables like 'answers', 'class_evaluations', 'class_works', 'class_works_ans', 'comments', 'courses', 'enrolls', 'failed_jobs', 'lectures', 'migrations', 'password_resets', 'permissions', 'permission_role', 'posts', 'questions', 'roles', 'role_user', 'tests', 'topics', and 'topic_user'. The main area shows a table listing the database's tables with columns for Table, Action, Rows, Type, Collation, Size, and Overhead. The table 'class_works_ans' is highlighted.

Table	Action	Rows	Type	Collation	Size	Overhead
answers	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	32.0 K	-
class_evaluations	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_unicode_ci	16.0 K	-
class_works	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_unicode_ci	16.0 K	-
class_works_ans	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_unicode_ci	16.0 K	-
comments	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8mb4_unicode_ci	16.0 K	-
courses	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_unicode_ci	16.0 K	-
enrolls	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8mb4_unicode_ci	16.0 K	-
failed_jobs	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	16.0 K	-
lectures	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_unicode_ci	160.0 K	-
migrations	Browse Structure Search Insert Empty Drop	21	InnoDB	utf8mb4_unicode_ci	16.0 K	-
password_resets	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	32.0 K	-
permissions	Browse Structure Search Insert Empty Drop	12	InnoDB	utf8mb4_unicode_ci	16.0 K	-
permission_role	Browse Structure Search Insert Empty Drop	24	InnoDB	utf8mb4_unicode_ci	48.0 K	-
posts	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	16.0 K	-
questions	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	32.0 K	-
topic_user	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_unicode_ci	16.0 K	-

Figure 4.3 Database of 'LMS'

Figure 4.3, represents the database of the system. This system runs in the localhost, phpmyadmin in xamp server.

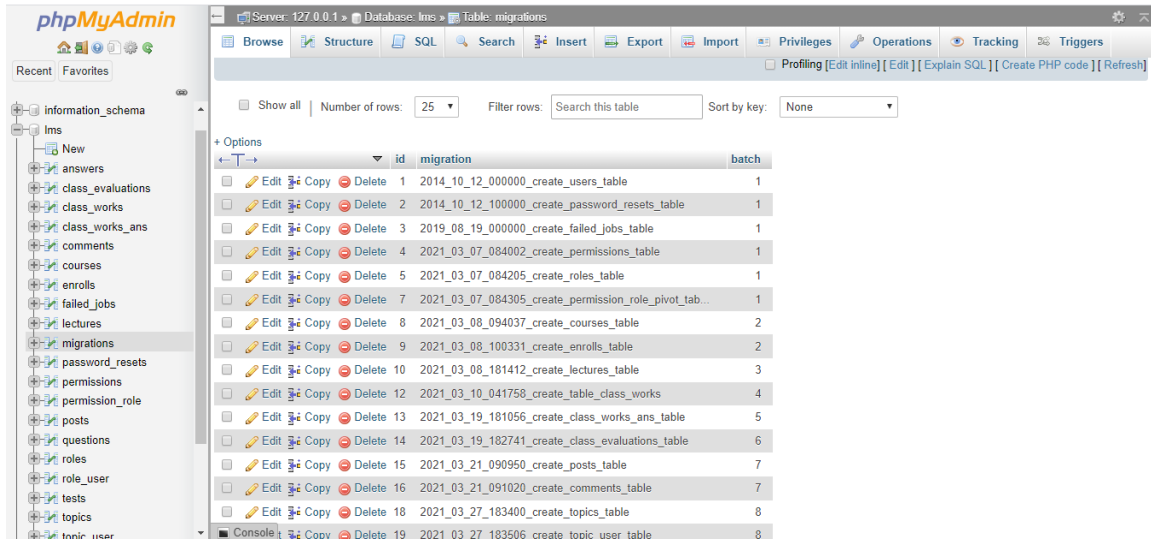


Figure 4.4: Migration Page

In this Figure 4.4; is migration database page. PHP (Laravel Frame Work) is connect with this database page. Every table data base are create table and connect with PHP (Laravel Frame Work).

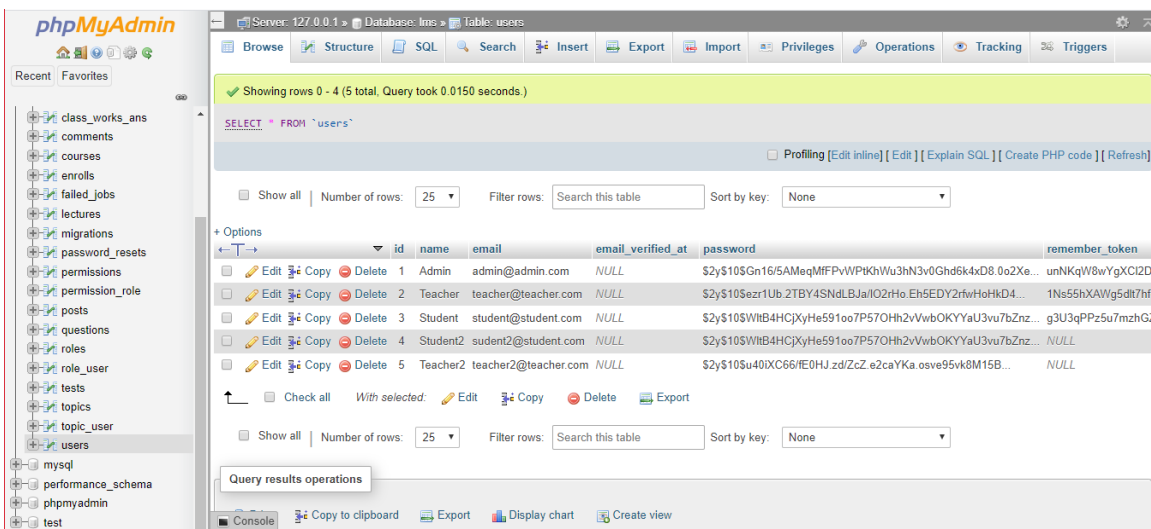


Figure 4.5: Storage of User Page

This database has every user's and admin's accounts storage. Their profile, picture, secure password, address are stored in this database.

4.3 Interaction Design and UX

Teacher Home Page Design:

- Dashboard (Teacher dashboard for operating the system)
- Course (Variety of courses created by teacher)
- Quiz. (Exams taken and created by teacher)
- Course Management (Course creation and management by teacher).
- Student Report (Students' report management by teacher)
- Enrolled(Student enrollment by the teacher with a significant system)

Student Home Page Design:

- Dashboard (Students' dashboard for operating the system)
- Report (results published by teacher)
- Quiz (Exams taken and created by teacher)
- Classwork (A class task for students published by teacher).

Admin Home Page Design:

- Dashboard (Operating page for admin)
- User (Admin controls users for the system)
- Permission (Admin permits the users)
- Roll (admin edits, deletes, and adds users)

UX

User Experience is the abbreviation of UX. I have tried to make a user's friendly website. I have used this website from various browser. Some of people have used this project, but they have given me a positive review. I have found everything okay. But as I haven't

launched this website publicly, so I don't have enough information on user experience at this moment.

4.4 Implementation Requirements

People can use different kinds of working language or Frames to do any PHP related development project. I used Brackets and Visual Studio because they seemed more convenient to us. There are many classes built into PHP (Laravel Framework). Therefore, it reduces the complexities of coding. The design is also very easy in HTML, CSS, JAVASCRIPT Library JQuery. The requirements for the implementation of my project are discussed below:

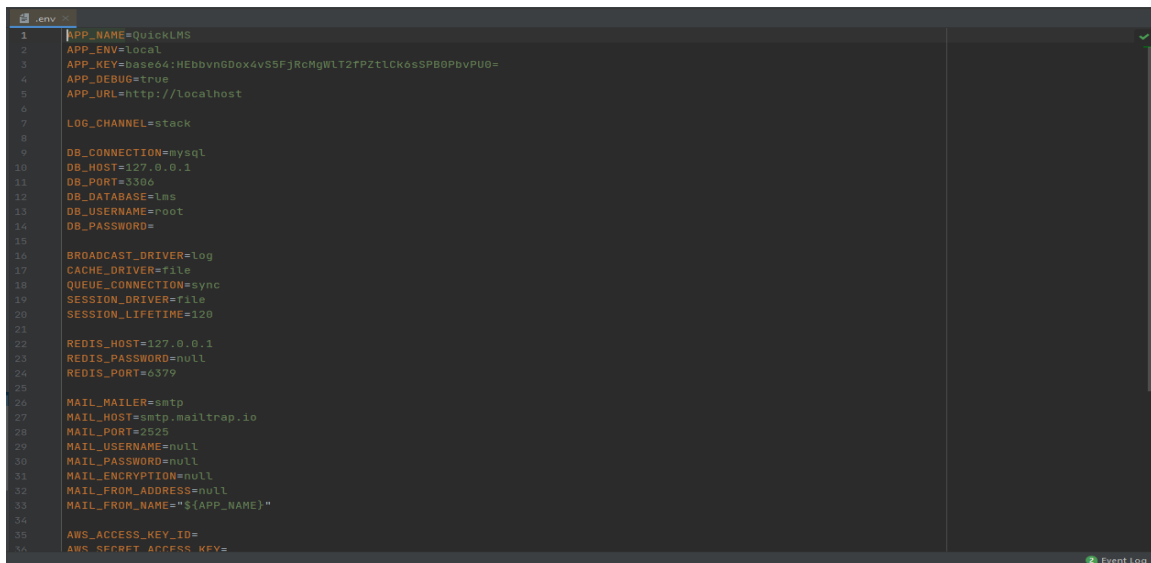
- PHP Laravel Frame Work plays an important role in this project. This is a complete package for developing a website application. I used the current version of PHP Laravel Frame Work version 7.1.0. Although I started my project with an older version, I updated it to the latest version 7.1.0.
- We don't have to worry about the server because MySQL gives us the ease of the server. We can use MySQL storage, database, and authentication functions without any problem. MySQL manages the server, hosting, etc. I need to connect my project with MySQL.
- The emulator, a feature of Visual Studio, is a virtual operating system that can be created in Visual Studio to debug, test, and run an application in various Visual Studio browsers.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

A database is a basic requirement for any control system project. There are various data has to be kept in our database. We store data and restore it from the database in accordance with our needs. Although I am developing a web application, I need a database. MySQL is database. By using MySQL database, we don't need to worry about hosting. First of all, I connected the project to MySQL by following a few steps: available on the MySQL website. We need to define database in MySQL. Then we need connect it to PHP code. After the confirmation for authentication it is connected to the php server. MySQL .env files need to be migrated, then set up the database name in the .env file, transfer it to Laravel and import the whole table from the database.



```
1 APP_NAME=QuickLMS
2 APP_ENV=local
3 APP_KEY=base64:HEBbn6Dox4v5SFjRcMgWLT2TPZtlCKesSPB0PbvPU0=
4 APP_DEBUG=true
5 APP_URL=http://localhost
6
7 LOG_CHANNEL=stack
8
9 DB_CONNECTION=mysql
10 DB_HOST=127.0.0.1
11 DB_PORT=3306
12 DB_DATABASE=las
13 DB_USERNAME=root
14 DB_PASSWORD=
15
16 BROADCAST_DRIVER=log
17 CACHE_DRIVER=file
18 QUEUE_CONNECTION=sync
19 SESSION_DRIVER=file
20 SESSION_LIFETIME=120
21
22 REDIS_HOST=127.0.0.1
23 REDIS_PASSWORD=null
24 REDIS_PORT=6379
25
26 MAIL_MAILER=smtp
27 MAIL_HOST=smtp.mailtrap.io
28 MAIL_PORT=2525
29 MAIL_USERNAME=null
30 MAIL_PASSWORD=null
31 MAIL_ENCRYPTION=null
32 MAIL_FROM_ADDRESS=null
33 MAIL_FROM_NAME="${APP_NAME}"
34
35 AWS_ACCESS_KEY_ID=
36 AWS_SECRET_ACCESS_KEY=
```

Figure 5.1: Database Connection PHP (Laravel Frame Work) Code

Figure 5.1 shows PHP (Laravel) code has connected to Database- which is using for MySQL authentication and create storage. It is helps to create table or more database table in MySQL and connect with PHP code.

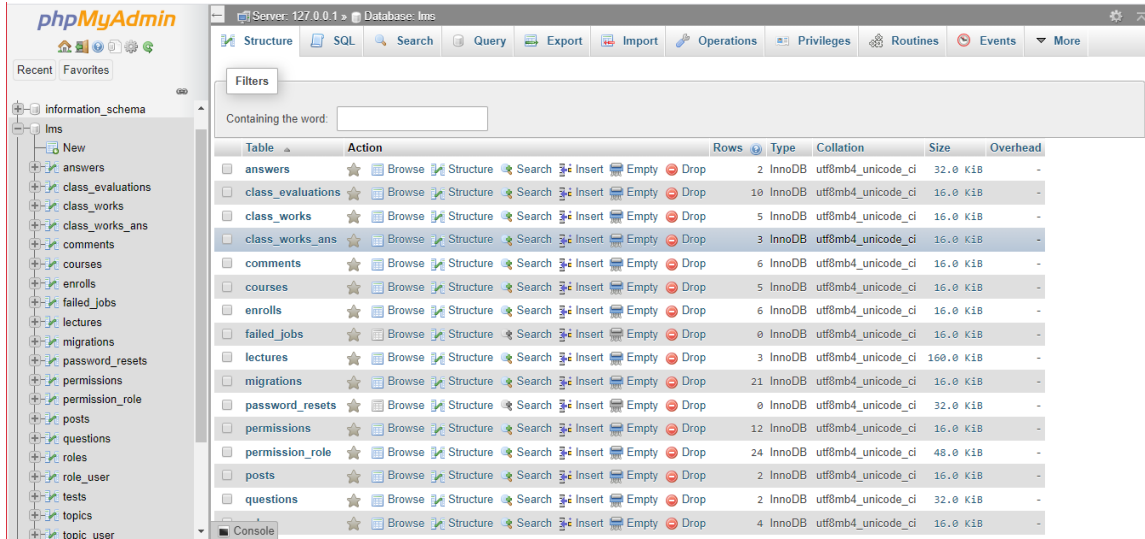


Figure 5.2: MySQL Database

This Figure 5.2 is the MySQL Database page. Here is all table of database.

An admin can add new features and new table for this authentication page of database. And an admin can remove table or features from here.

5.2 Implementation of Front-End Design

Throughout this chapter, I illustrate how the system works in real time. This will allow us to better visualize the system before we actually use it. This chapter explains the system's operation in detail, from start to finish. A clearer image of LMS's communicative teaching and learning method will be given to the reader with the assistance of this graphic depiction.

For developing a web application is a need for success making its UI simple and easily understandable. People will not interest if it is not understandable and simple. I keep this process in my mind and making it an attractive UI for the customers. There are two types of module in this project. There are user module and admin module. Users are teachers and students and admin module is operated by the admiration's stuffs.

5.2.1 User Module

Teacher's view: In the User Module of teachers' view have many features which I have shown step by step in this section.

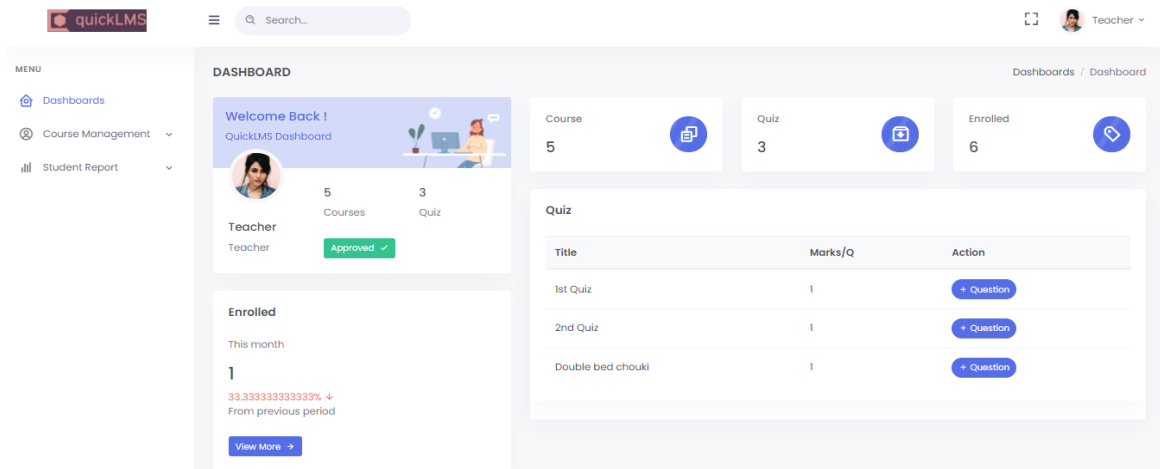


Figure 5.3: Home Page for teacher of the System LMS

From figure 5.3, we observe a very communicative homepage from a teacher's point of view. The homepage consists of 'Classes' and 'Add' tabs in the side navigation bar. Home page will also display all the classes created by a teacher.

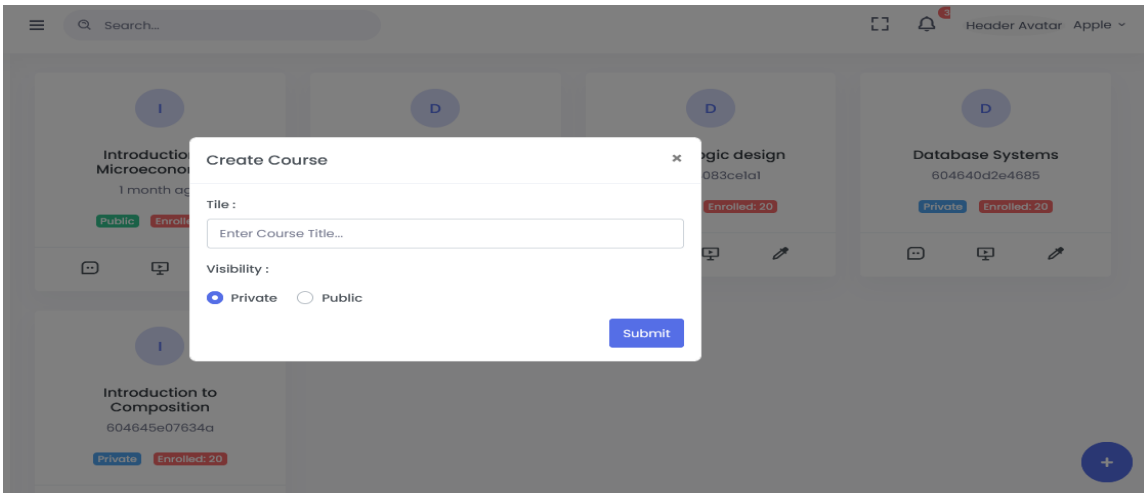


Figure 5.4: Home Page of the ‘Create Course’

In figure 5.4, teacher can create course by adding the course title, semester, and section and class code and room number. By doing this simple task, a teacher can create as many courses as he or she wants.

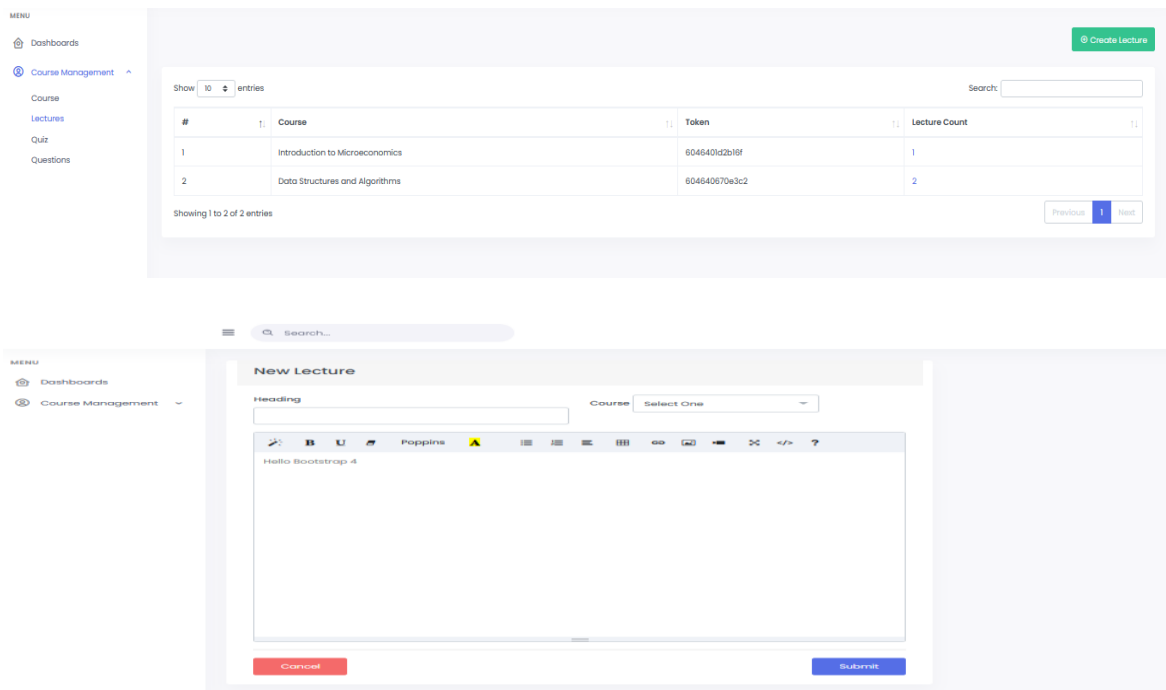


Figure 5.5: Home Page of ‘Lectures’

In figure 5.5, In this ‘Lectures’ section a teacher can post his class lecture by typing with different methods and after posting the lectures teacher can also edit those if it is needed.

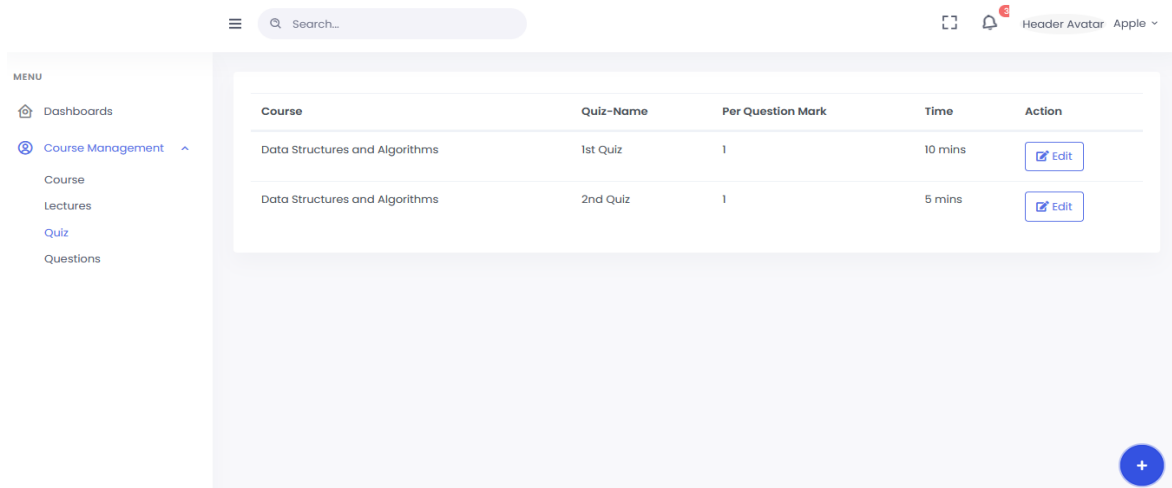


Figure 5.6: Home Page of the Quiz Part

In figure 5.6, quiz system represents the most effective part, which allows a teacher to take real time quiz in the class room. From this page a teacher can take quiz after creating the quiz paper and this platform provides that facility.

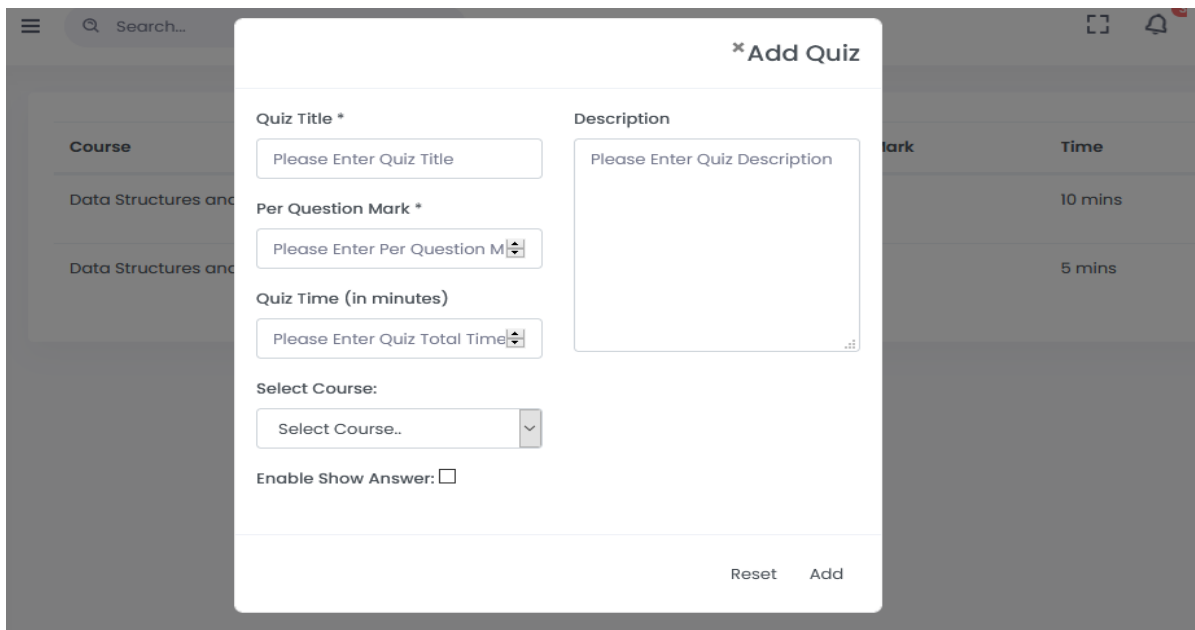


Figure 5.7: Homepage of 'Quiz Creation'

Figure 5.7, shows the 'Question Create' form where teacher will create a question by adding the options in the section. Teacher will set a time period for the quiz in minutes.

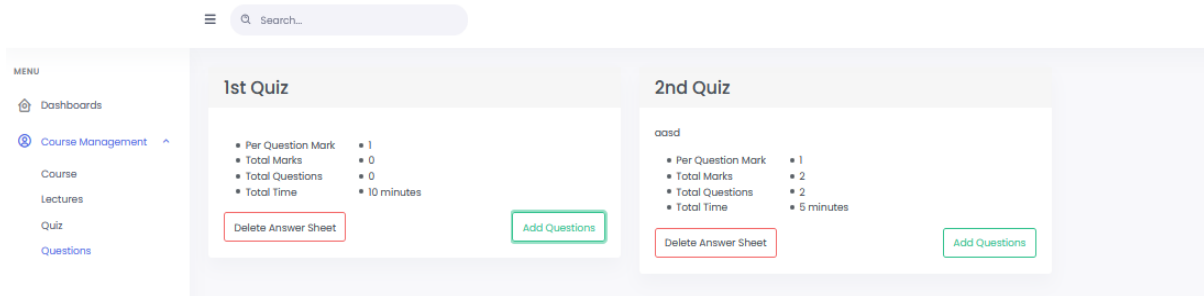


Figure 5.8: Home Page for Quiz Result

Figure 5.8 represents the quiz result board from the teacher end. Teacher can observe the result of the students' given exams.

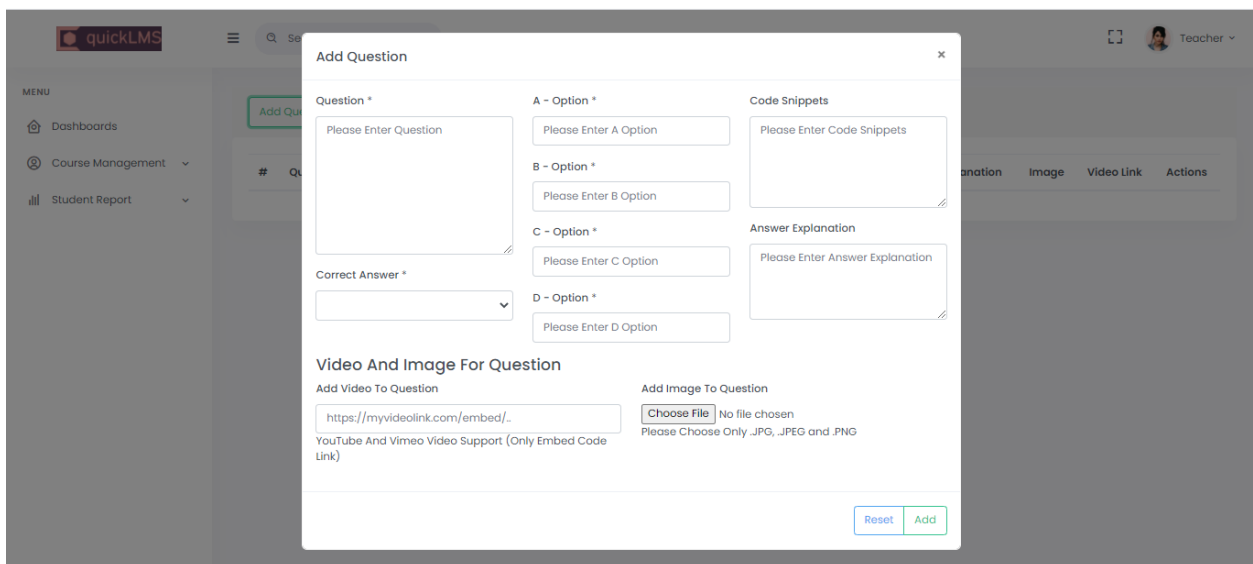


Figure 5.9: Home Page for 'Add Questions'

Figure 5.9 represents the question addition where teachers can add respective questions with four options along with video and image if it is related to the questions. Also teacher can add code snippets and can ask answer explanation.

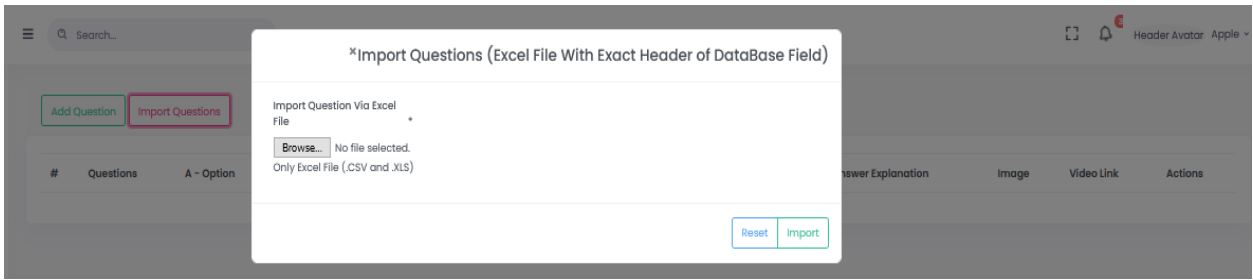


Figure 5.10: Home page for 'Import Questions'

Figure 5.10 represents importing questions when it is ready for the quiz. Teacher can reset it any moment and browse any file to upload with the questions.

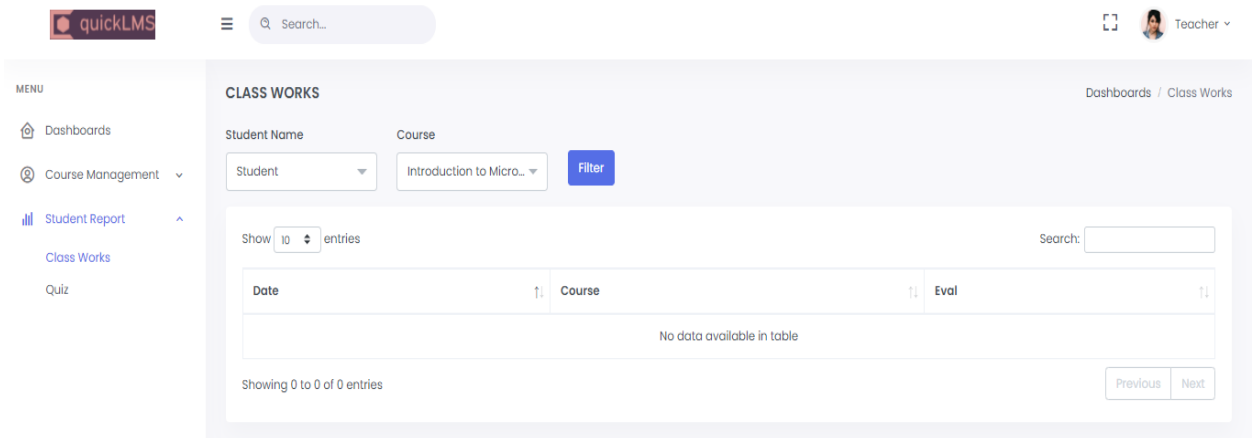


Figure 5.11: Home page for 'Student Report'

Figure 5.11 represents the 'Student Report' section where teachers can analysis students' reports by entering name and course. It will show the evaluation of students by which teacher can observe the students' progress to the courses.

Student View:

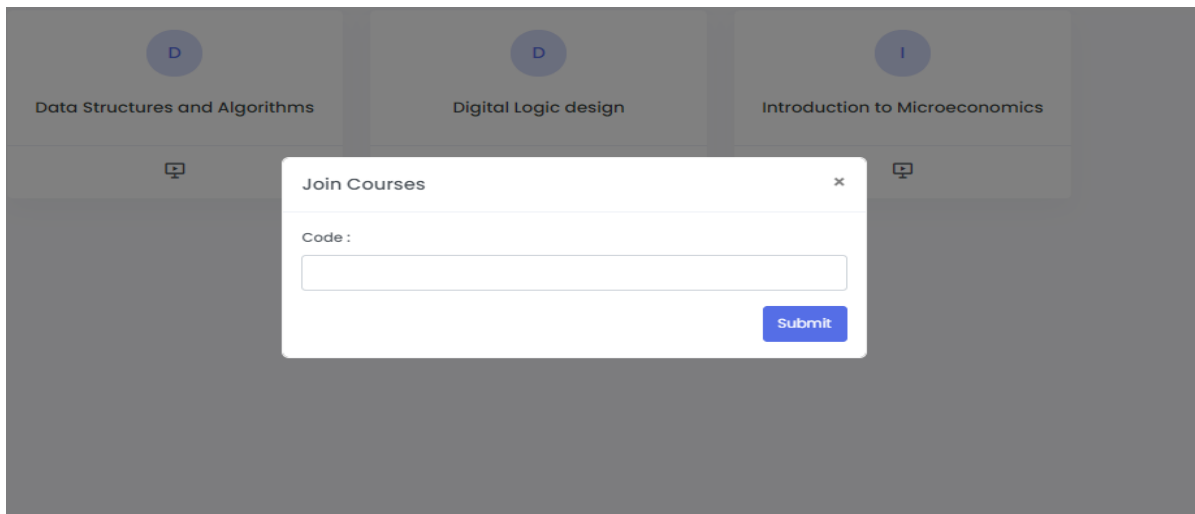
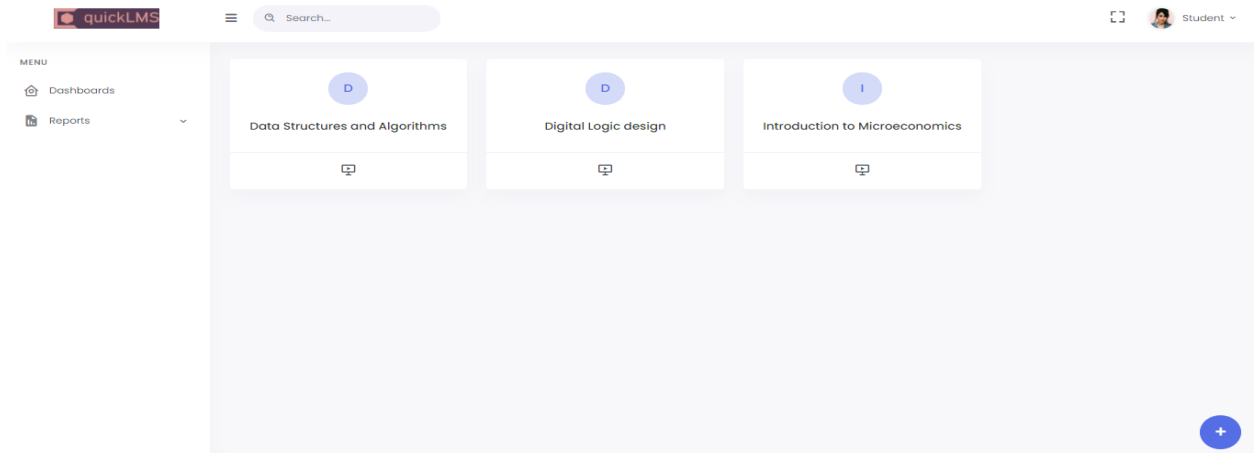


Figure 5.12: Student Home Page

Figure 5.12 represents the home page from student's point of view where students will be able to find every classes and in the class they can perform the quiz generated by the teachers. And also student can join a class by entering course code provided by the teacher pressing the '+' button below the page.



Figure 5.13: Home page for 'Lectures' for students' study

Figure 5.13 represents lectures for students' study where students can find lectures for respective courses provided by the teachers.

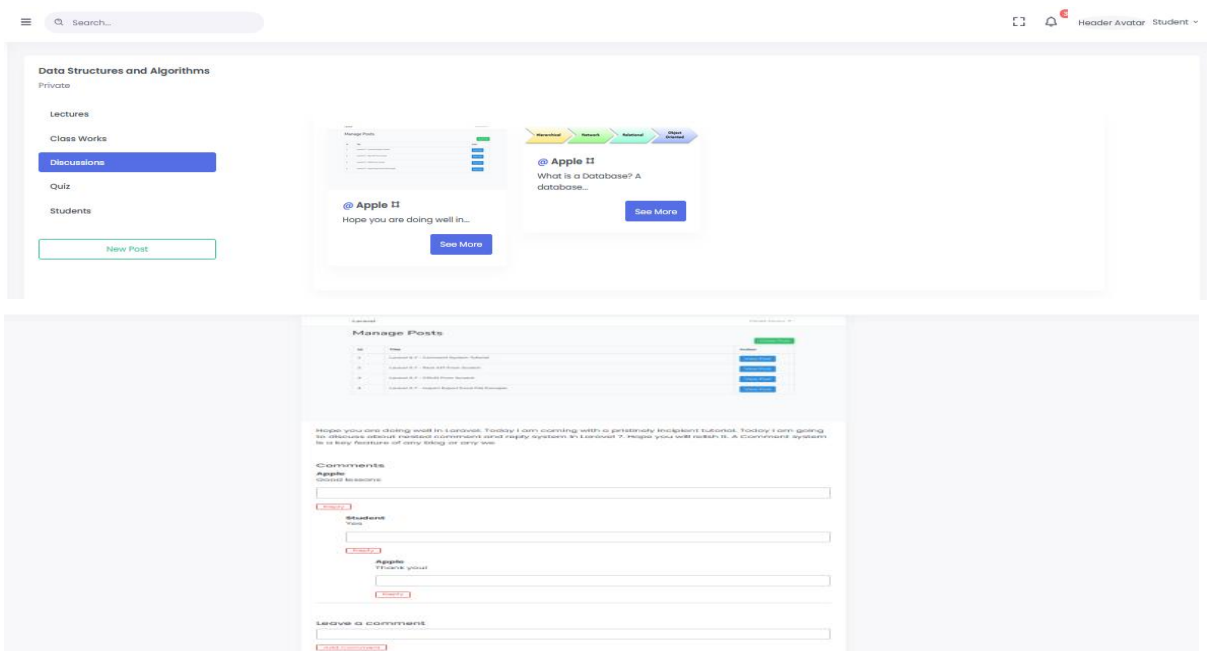
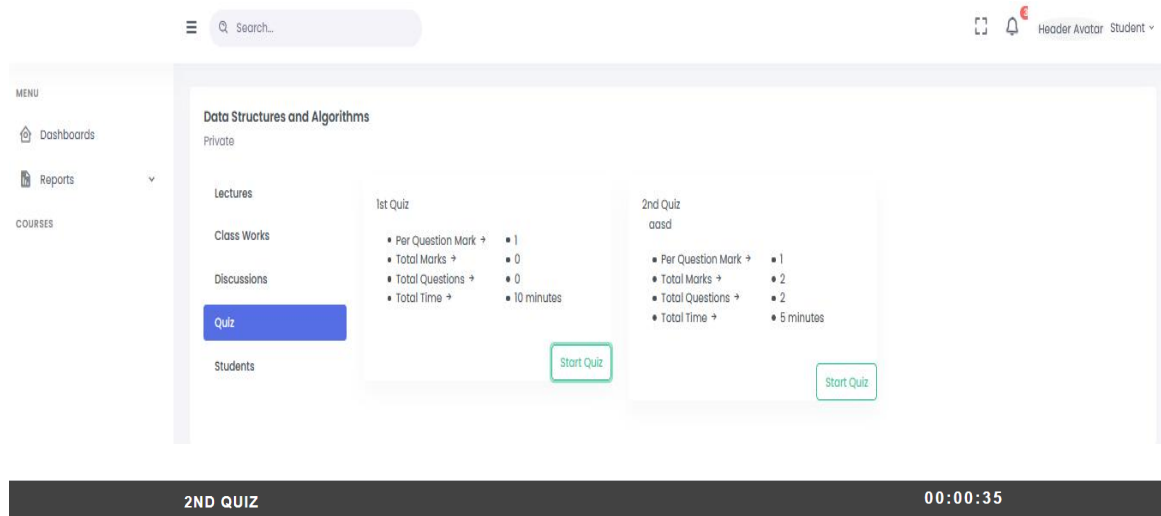


Figure 5.14: Homepage for 'Discussion'

Figure 5.14, represents discussion between teachers and students in course related topics with a fine system I provided in my website. Also teacher or student can leave a comment when it is needed.



Total Questions 1 / 2

Q. Any node is the path from the root to the node is called

- Ancestor node
- Successor node
- Internal node
- None of the above

Next

Next

Figure 5.15: Homepage for 'Quiz' (students' view)

Figure 5.15 represents Quiz section from students' perspective where students can perform any quiz given by teacher in a respective course. The 'Start Quiz' button will open up the quiz for the students.

5.2.2 Admin Modules:

Here I have shown the details of admin part of my system which represents a unique design from other relative system.

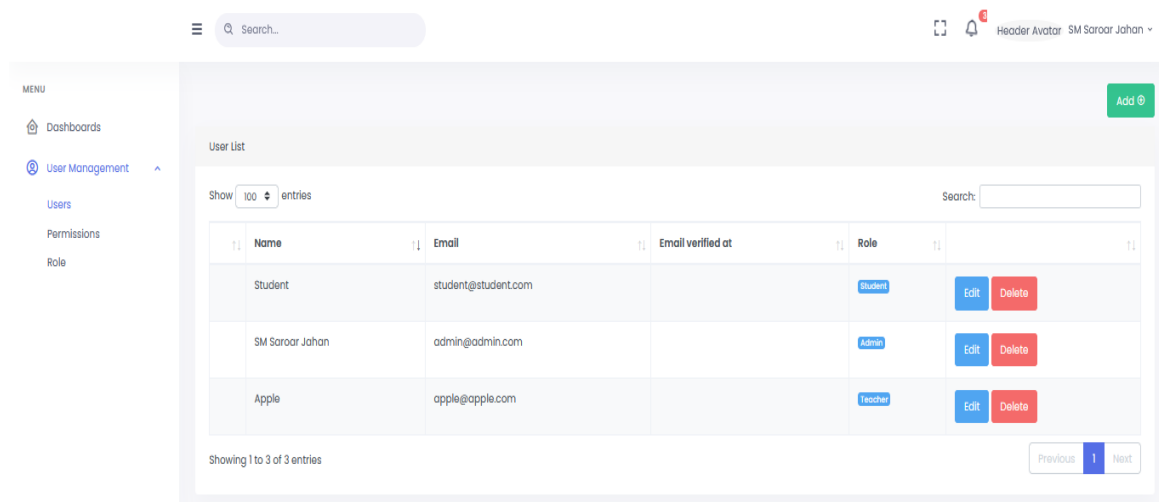


Figure 5.16: Admin Home Page 'Users'

Figure 5.16, shows the admin panel home page. From here admin can include teacher and student as users and also can edit their documents from the three tabs at the side navigation bar named 'Roles', 'Users', 'Permissions' and 'Role'.

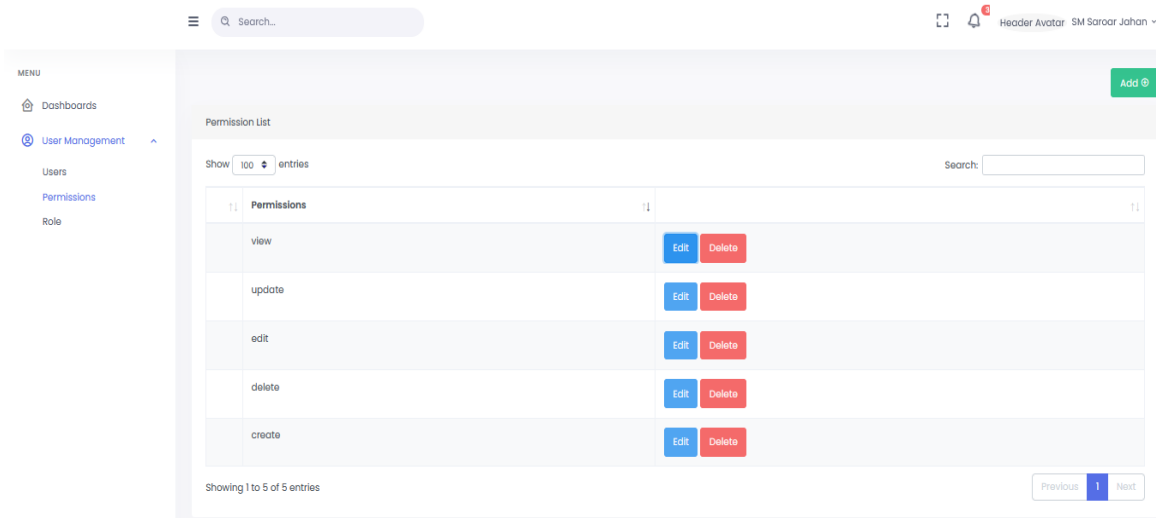


Figure 5.17: Admin Home Page 'Permissions'

Figure 5.17. represents permissions of entrance to the web page from any teacher or student controlled by the admin. There are several option for the admin to deal with the permissions like view, update, edit, delete, create etc.

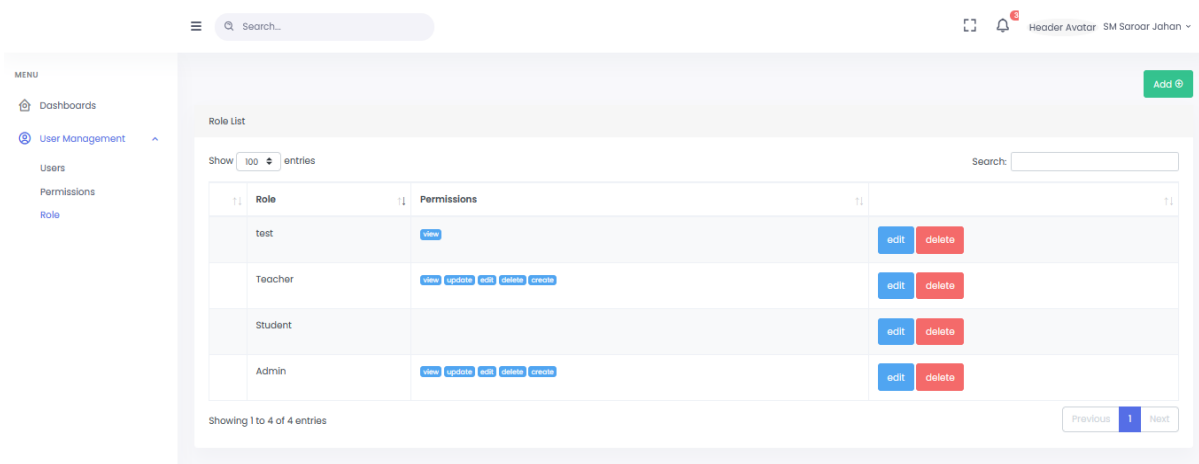


Figure 5.18: Home Page for 'Role'

Figure 5.18, represents the home page of 'Role' option at the side bar. Here admin can add new teacher or new student or new admin and also can edit the records.

5.3 Implementation of Interaction

The success of any project depends on the interaction of applications. It is therefore very important for the success of the project. All the people in our country who have used the Internet, their wait is an easy to use application. If an application has high complexity, people are not interested in that application. For this reason, my interaction was given the first priority of an easy to use app. Therefore, I have done my best to make this web application as user friendly as possible.

5.4 Testing Implementation

After successful running this web application, I try to testing it in many ways. My whole application is tested by both module; user and admin module. Given that some of example below:

Table 5.1: Testing Information and Date

Test Case	Test Input	Expected Outcome	Obtained Outcome	Result	Tested on
1. Student login	Fill up form correctly	Successful login	Successful login	Pass	07/07/2021
2. Student login	Your email part is empty	Alert Please give your email	Form is incomplete, Please complete all field of form	Pass	07/07/2021
3.	Enter course code	successfully	successfully	Pass	12/07/2021

Course join		enrolled	enrolled		
3. Course join	invalid course code	Alert invalid course code	Alert invalid course code	Pass	12/07/2021
4. Start Quiz	Click start quiz button	Quiz starts successfully	Quiz starts successfully	Pass	25/07/2021
5. Start Quiz	Click taken quiz button	Alert quiz already taken	Alert quiz already taken	Pass	03/08/2021
6. Create course	Enter course name	Successfully course created	Successfully course created	Pass	05/08/2021
7. Create Lecture	Form fill up with required field	Successfully Lecture created	Successfully lecture created	Pass	05/08/2021
8. Create Lecture	Form fill up with not all required field	Alert form not created	Alert form not created booked	Pass	07/08/2021
9.	Incorrect	Alert	Alert	Pass	07/08/2021

Create quiz	information	Field is required	Field is required		
10. Create quiz	Please Enter your correct information	Successfully quiz created	Successfully quiz created	Pass	02/07/2021
10.Create quiz question	Fill up Field	Successfully quiz question created	Successfully quiz question created	Pass	08/07/2021
11. Create quiz question	incorrect information	Alert Field is required	Alert Field is required	Pass	08/07/2021
12.Admin Create role	Fill up Field	Successfully role created	Successfully role created	Pass	08/07/2021
13. Admin Create teacher	Fill up Field	Successfully teacher created	Successfully teacher created	Pass	13/08/2021
14.Log Out	Click log out button	Log out the from the profile	Alert Log out successful	Pass	25/08/2021

5.5 Testing Result and Reports

For finding bugs we need to Testing the application. From the testing I can faced many bugs. And fixed almost bugs what I've got. I need more testing my application than I can reduce more complexities. Which are shown in 5.1.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

The 'LMS' platform (communication platform for teaching and learning) is mainly used for communication between teacher and student and increasing participation in classes. The platform supports all the requirements of a university education system and is able to provide easy and efficient communication between teacher and student by asking questions. Helps increase classroom participation within the classroom. The platform also offers the possibility of making backups as needed. In addition, I have extended the platform to a fully functional cutting edge website. This website contains all existing modules and additional functionality has been developed. The teacher can ask inquiry questions and see the results. The student can now have an online questionnaire from the teacher that he / she can give through my website. Student test scores can also be viewed online and the teacher can reuse the question by simply clicking on it. Each of the examination information can be provided in detail.

This report also mentions in detail the components used in the platform and the functionality of each of the components provides a list of methods that can be utilized to create this platform. This platform concept can also be used in future applications.

From the beginning of the development of this platform, my main goal has been to develop a fully functional state-of-the-art system that could serve the masses and turn into a formidable business entity. By introducing the LMS platform (communication platform for teaching and learning) in education, it would be a stepping stone for all other educational organizations to take the initiative to also introduce these automated systems in their businesses. On top of being a deadline-oriented person, I also aimed at creating something that would actually be beneficial in the real world. Ending with a few words on my journey to reach this significant milestone, I think I have come a long way, and I don't hesitate to say that my accomplishments to date have exceeded all of our

expectations. This means that innovation in education is only getting started, in my opinion.

6.2 Scope for Further Developments

The fundamental reason of developing such web based system is to offer a basic platform for teachers as they will be able to manage their classes more easily while improving participation. The present version of the platform might be enhanced. For the purpose of safeguarding this system, firewalls and other security measures can be implemented. Additionally, the teacher can type scientific notation. I will also improve quiz management, where teacher can see the result against each option of a question.

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APPENDIX

Appendix A: Project Reflection

I began to build this project from Fall-2020. I did many researches for this project. I have tried to learn about web based systems of educational institutions. I have collected much of the information from universities in Bangladesh. Then I took the decision for build this project. Then I choose MySQL for database, because it is basic database which is under stable for any admin- which can help authority to keep an admin for this website.

This is hard to keep it user-friendly. I make a user-friendly UI for this website. This interface will be understandable for students and teachers. So, I hope it will reduce complexities for them. After developing new features and facilities it will very helpful to the relative people. It will reduce communication gap between teachers and students. So, Web based educational System application will be popular to all the teachers and students.

PLAGIARISM

Plagiarism Report

LMS- A WEB BASED PLATFORM FOR TEACHER AND STUDENT COMMUNICATION

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