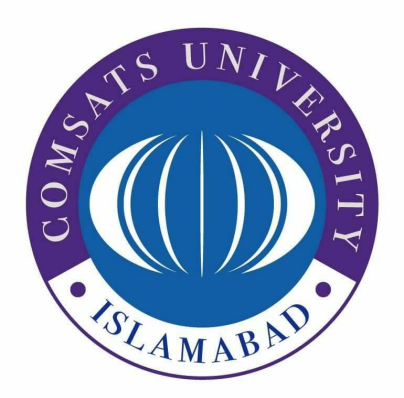

School Management System

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Abstract

Education system forms the backbone of every nation. And hence it is important to provide a strong educational foundation to the young generation to ensure the development of open-minded global citizens securing the future for everyone. Advanced technology available today can play a crucial role in streamlining education-related processes to promote solidarity among students, teachers, parents and the school staff.

Education is central to development. It is one of the most powerful instruments for reducing poverty and inequality and lays a foundation for sustained economic growth. With this aim currently our government has given special emphasis to the educational sector and school improvement activities such as continuous professional development for teachers, training and upgrading teachers and capacitating schools with manpower and materials are among the major actions which have been taken in both primary and secondary schools.

In order to facilitate and simplify these actions one of the major tool is to have automated school management system. School Management System(SMS) consists of tasks such as registering students, attendance record keeping to control absentees, producing report cards, producing official transcript, preparing timetable and producing different reports for teachers, parents,and officials.

Automation is the utilization of technology to replace human with a machine that can perform more quickly and more continuously. By automating SMS documents that took up many large storage rooms can be stored on few disks. Transcript images can be annotated. It reduces the time to retrieve old transcripts from hours to seconds. However, the school system in the government schools of Pakistan is not automated and the record officers generate transcripts and reports manually and the school administrators use their experienced knowledge of miss and hit approaches to prepare timetables.

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Chapter 1

Introduction

1.1 Introduction

Now a days education plays a great role in development of any country. Many of education organizations try to increase education quality. One of the aspects of this improvement is managing of school resources. School Management System carried on by any individual or institution engaged in providing a services to students, teachers, guardians and other persons are intermediary that performs one or more of the following functionalities Student Admission, Employee Registration, Student List, Employee List, Student Attendance, Employee Attendance, Student Routine, Result Management, Payroll & Accounts. School Management System (SMS) is such a service which provides all services for an educational institute to make your life easier and faster by assuring its performance. Easy User Management System, Easy Admission Process, Easy Attendance System[1].

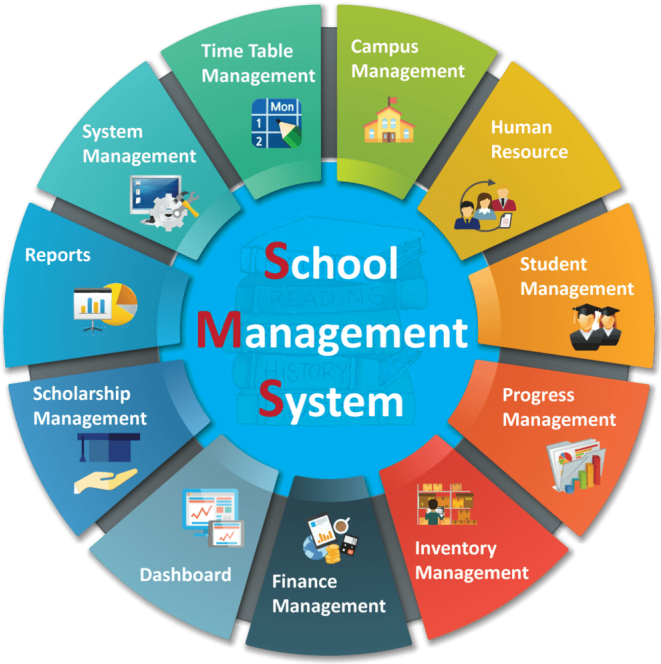

Figure 1.1: School Management System

SMS is a system that will provide you a birds eye view of the functioning of the entire educational institution. By using the latest technologies and helps to make

decision making a lot faster, effective and easier than ever before and will improve the overall quality of education of the institution. The implementation of the system was done using PHP, html and SQL Server technologies, allowing system to be run in Windows OS. SMS managed education institution by simplifying and automating processes and addressing the needs of all stake holders helping them to be more efficient in their respective roles.

1.2 Objectives

The objective of this project describes how the aim of the project can be achieved. The objectives of the projects are as follows:

- To choose appropriate methodology to follow for the development of School Management System.
- To enhance the use and efficiency of authorized School management system.
- To provide easy, safe, effective and attractive interface design that will be easy to navigate.

1.3 Project Scope

Developments in information technology have been impacting upon educational organizations, schools management have been using management system in order to improve the efficiency of administrative. In management system, in order to ensure the efficiency and effectiveness of school administration the design of right management system come to be key issue. The system that the author is aiming to develop is a school management system that will help to keep track of all data with better and reliability of a computerized system. The proposed school management system will come out with enhance functions and features which the current system does not possess, these functionalities will be explained in detail in the next coming chapter [1].

The proposed system will control, manage data and process to support administrators, student, teachers, and secretaries. Other features that the proposed system will provide is proper security, which means the system, will be more secured that only the authorized personnel can access the system. The system restricted that the student cannot access the system only the authorized users can access the system. These features empower the administrators, teachers and secretary to spend less time managing administrative works and to avoid data redundancy and loss of data and other problems involve in the current system. Information processing and sharing saves a significant amount of paper in the school. The new features will add value to organization and improve the schools image[2].

1.4 Features of Web-Based School Management System

Following table will let us know about the different features of the web-based school management system.

With the rapid growth in the number and technology of instruments, the electric meter has played an increasingly important role in power systems. The power meter can be used to detect or measure the presence of voltage, current, and other parameters. The country has suffered from a power shortage for a decade, causing many disruptions to our domestic, industrial, and commercial activities. The is also one of the biggest problems of electricity theft by the private and industrial sector. It is necessary to explore different ways to solve the crisis and save the quantity of electricity supply and demand. One aspect of the problem is installing an efficient and correct accounting system, which is not possible unless we implement an intelligent and a pre-measurement system. In the current meter reading method, the digit manipulator determines the value or position of the needle with respect to the vision scale and causes the human reading to be compromised. In order to operate the larger instruments, the utility must read more Manpower meters. Especially with electricity meters, the most important thing is accuracy and regular reading many times higher than the test paid each month. Many meter readings not only tire the driver, accuracy cannot be guaranteed due to manual work. What is needed is a system that contains energy theft and allows customers to monitor energy use and be aware of the expected billing of energy consumed. This can be achieved through the use of a modern and intelligent meter reading system.

To obtain an acceptable detection accuracy for different types of electric meters, this report proposes a method of digital detection based on deep learning, which can be applied to different types and models of electric meters. There are two types of solutions for processes based on image recognition technology. The first category is OpenCV image recognition technologies. These methods were able to identify some objects such as numbers, image object outlines, etc., and can perform simple practical tasks in image processing. The first DNN-based technologies called segmentation-based methods, which always consist of two steps: segmentation and character recognition, B. Bissacco et al. first use a bounding box at position of the number in the image and then use a convolutional neural network (CNN) as the detection target. Newer methods based on DNN are known as non-segmentation methods, which use a recurrent neural network (RNN) to recognize the number in an image without fixing the position of objects

The design scheme uses an FPGA that combines the wireless transmission module. The FPGA chip is used to build a 32nd number -bit Nios II soft-core processor, which replaces the traditional MCU structure, which takes advantage of the online configuration. , expansion, and improved system performance offerings. Also, it can shorten the secondary development time. The nRF module is used to achieve

wireless data transmission, which has the advantages of low cost, high transmission speed, and good communication quality. Practice shows that it can accurately

complete data collection from meters and is also a trend in the development of the wireless meter reading system

PHS (Persona1 Handphone System), which enables wireless communication at a speed of 32 khps, is the original cell phone system in Japan. PHS uses a frequency band of approximately 1.9 GHz, which is higher than conventional digital cellular phone systems. PHS uses the "Micro Cell zone System" to make optimal use of the limited bandwidth. This system consists of relatively simple Cell-Station units, PHS designed it with the premise that it will be used in urban areas. This system is also used to find the location of a caller . In addition, there are two modes in a PHS communication mode. One is the

public communication mode (which incurs the required communication charges) that connects to a public network like a traditional cell phone, and the other is the transceiver mode (which incurs no connection charges) that can communicate between some terminals as a transceiver terminal without connecting it to the public network. Tool that automatically displays the value of pressure, temperature, and volume of gas consumption with a variety of sensors. This data is temporarily logged by a microcontroller . The microcontroller connected to then sends the GSM / GPRS module as data from the communication device to the database server. The data is then processed in database and used as a customer invoice

In this article, a new chargeable electronic energy metering method is introduced, which automatically records the energy consumed, records this continuously and then sends

it to the billing center via the existing GPRS network. Finally, after processing, the collected data invoice is created with web-based system software and sent as SMS (short messaging system) to customer can monitor and analyze invoice generated every month from any Place of the world

In order to obtain acceptable detection accuracy for different types of electric meters, this article proposes a digital detection method based on deep learning, which can be applied to different types and models of electric meters

The designed system reduces the effort required to manually register energy meters. Furthermore, the data received at from the service provider side can be easily manipulated for the generation of invoices and other similar tasks. With this system we can record the measured values and control the delivery to the user. By adding software on the service provider side, the customer can be informed of the current meter reading, the current cycle bill, the line status and other parameters for the customer either by message, call telephone or Internet-based system

Since most of the electricity meters are installed within the customer's residential buildings, the conventional approach to reading data is to enter private areas and read the meters. This approach faces problems such as: Door-to-door

data collection and involves inconvenience for customers. Applying AMR using the RF module can troubleshoot and improve power service performance, as well as increase customer satisfaction.In the next sections this paper will provide you better understanding of the proposal as well as its other technical and other details

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1.5 Report Breakdown

In this introduction chapter we have given an overview about the project, objectives of our projects, features which are the part of our project. In the chapter number two, we will provide a details about the tools/platform, hardware and software requirement specifications, in third chapter, We will describe how the database of the project is being implemented, in fourth chapter we will briefly discuss how the user interface of the project is being designed, and fifth chapter will contain the results, conclusions and future directions.

Chapter 2

Literature Review

In the chapter 1 we have given the introduction of our project, motivation behind doing that, project scope, Features of Web-Based School Management System and a report break down. Our introduction chapter is giving a complete overview of this project. This chapter is about studies and literatures that are related to the School Management that extended the knowledge related to our project idea, guide us to improve and develop our proposed system more effectively.

2.1 Literature Survey

This is a new attempt to speed up the process of managing data in an educational institute. The existing systems are time-consuming and there are many difficulties faced by the administrator to get information about each and everyone within the organization. Presently in many institutions, most of the tasks are carried on manually such as Employee Registration, Student List, Employee List, Student Attendance, Employee Attendance, Student Routine, Result Management etc,. There are many difficulties faced by instructors, parents, administration, and students for carrying out data related to different activities.

2.2 Introduction to Database Management System

DBMS stands for Database Management System. We can break it like this DBMS= Database +Management System. Database is a collection of data and Management System is a set of programs to store and retrieve those data. Based on this we can define DBMS like this: DBMS is a collection of inter-related data and set of programs to store and access those data in an easy and effective manner. Database system 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.

According to the principles of database systems, the data is stored in such a way that it acquires a lot less space as the redundant data(duplicate data) has been removed before storage. Along with storing the data in an optimized and systematic manner, It is also important that we retrieve the data quickly when needed. Database system ensures that data is retrieved as quickly as possible.

2.3 Applications of Database Management System

The development of computer graphics has been driven both by the needs of the user community and by the advances in hardware and software. The applications of database are many and varied; it can be divided into four major areas:

1. Hierarchical and network system
2. Flexibility with relational database
3. Object oriented application
4. Interchanging the data on the web for e-commerce

Chapter 3

Proposed Methodology

In the previous chapter, we have discussed the theories that support this project related to the School Management System. In this chapter we will proposed our methodology for this project while giving details about proposed methodology ER diagram, database implementation, software being used in this project.

3.1 Proposed Methodology

The proposed School Management System (SMS) will dealt with all this issues that the current system is facing all the process are suggested to be executed more efficiently and effectively without any difficulties.
All the processes and operations in the current school management system are executed manually inform of paper. This makes all the process difficult to the school administrators, teachers and other officials to carry out. All the records of students, staffs and many other important data related to the school are kept indifferent files. There is a need to rehabilitate their system to computerized school management system so that that they will efficiently carry their work without any difficulties.

The proposed system will remove the all the manual process of ,updating record, searching data eliminate registering student and teachers, forming classes ,assigning teachers , entering student exam details, generating time table, uploading student result, and many other functionalities needed by the end users. By automating the system, it will extremely improve the way school function, which will also improve efficiency and managerial effectiveness[1].

There is also high risk of losing data in the current manual system because school management use to store all their data in the same place but different files.This problem will be address by introducing new feature in to the proposed SMS that will enable the administrator to store information about, students, teachers, subject, exam details, and time table, attendance and so on, and also the teacher will be able to enter students marks and so that back up can be done when any data lost etc. All this features will be simplified in an easiest way so that they will carry out their workloads efficiently without any difficulties.

3.2 Entity Relation Diagram

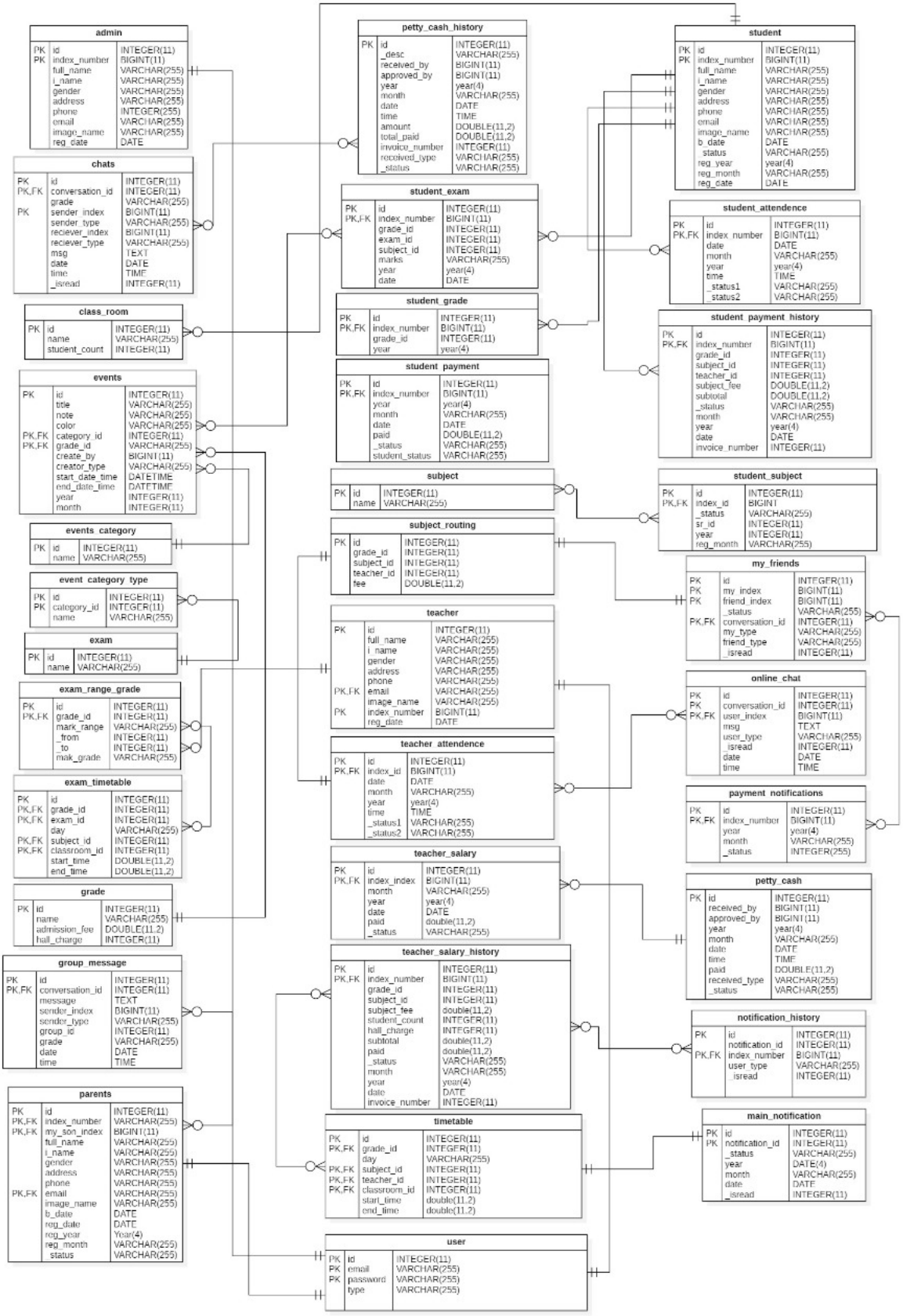

Figure 3.1: Entity Relation Diagram of SMS

3.3 Tools/Platform, and Softwares

Following are the software and their requirements which we have used for this project.

3.3.1 MySQL Workbench CE 8.0

MySQL Workbench is a visual database design tool that integrates SQL development, administration, database design, creation and maintenance into a single integrated development environment for the MySQL database system. It is the successor to DBDesigner 4 from fabFORCE.net, and replaces the previous package of software, MySQL GUI Tools Bundle.

Figure 3.2: MySQL Logo

3.3.2 HTML

The HyperText Markup Language, or HTML 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 (CSS) and scripting languages such as JavaScript.

Figure 3.3: HTML Logo

3.3.3 PHP

PHP is a general-purpose scripting language geared towards web development. It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994. The PHP reference implementation is now produced by The PHP Group. PHP originally

stood for Personal Home Page, but it now stands for the recursive initialism PHP: Hypertext Preprocessor.

Figure 3.4: PHP Logo

3.3.4 XAMPP

XAMPP (/'zmp/ or /'?ks.mp/) is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

Figure 3.5: XAMPP Logo

3.4 Project Working Manual

Following steps will provide a complete guide to run your project using XAMPP.

1. Download XAMPP and install that. `https://www.apachefriends.org/download.html`
2. Search XAMPP Control Panel in the search bar and open that.

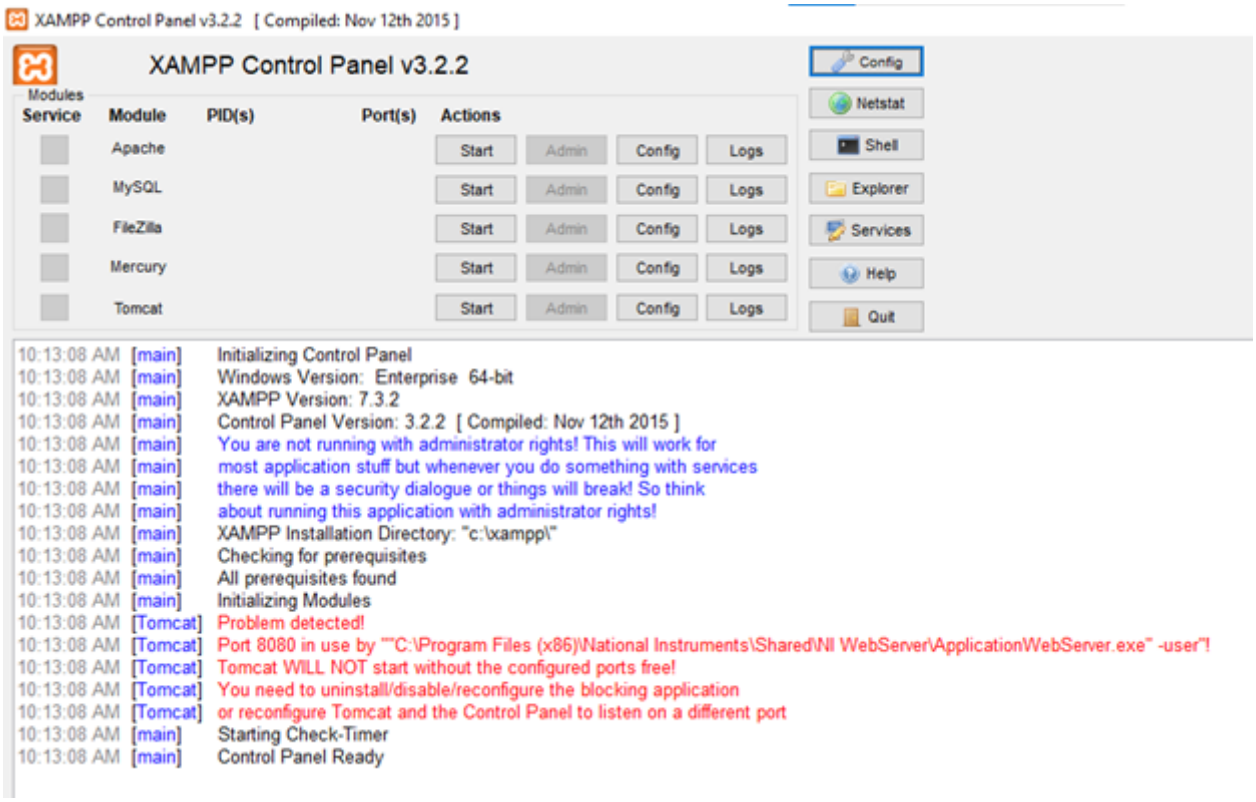

Figure 3.6: XAMPP Control Panel View

3. Start Apache and MySQL.

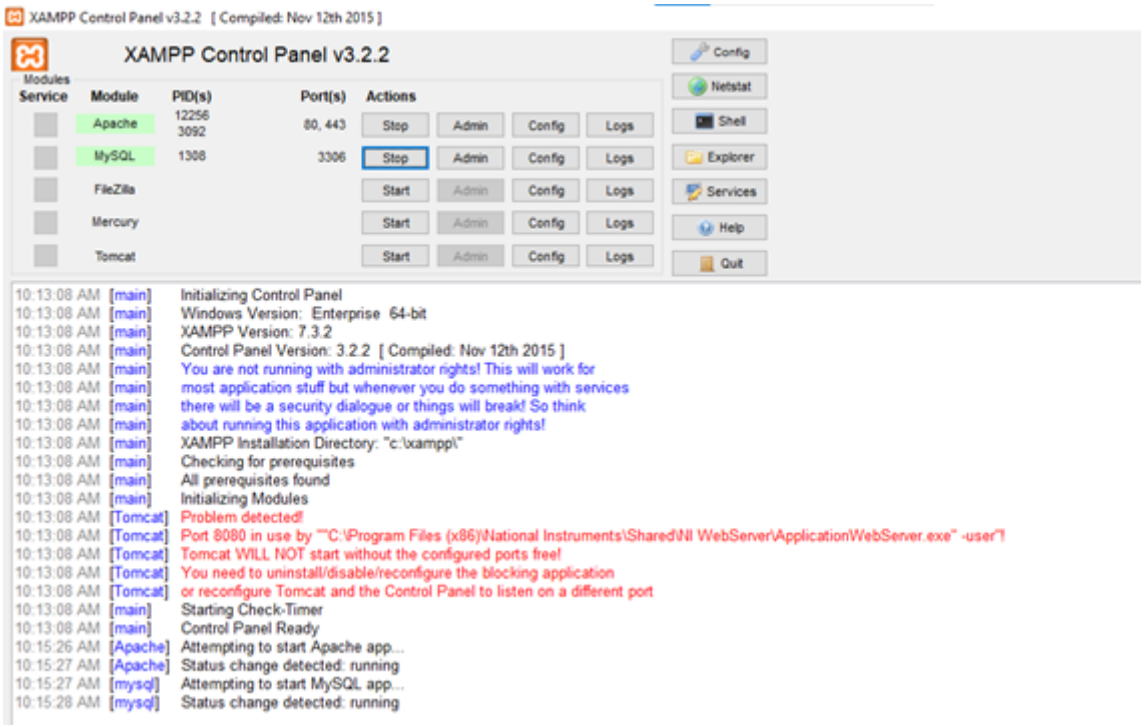

Figure 3.7: XAMPP Control Panel View

4. If MySQL doesn'tt start, Search services on search bar.

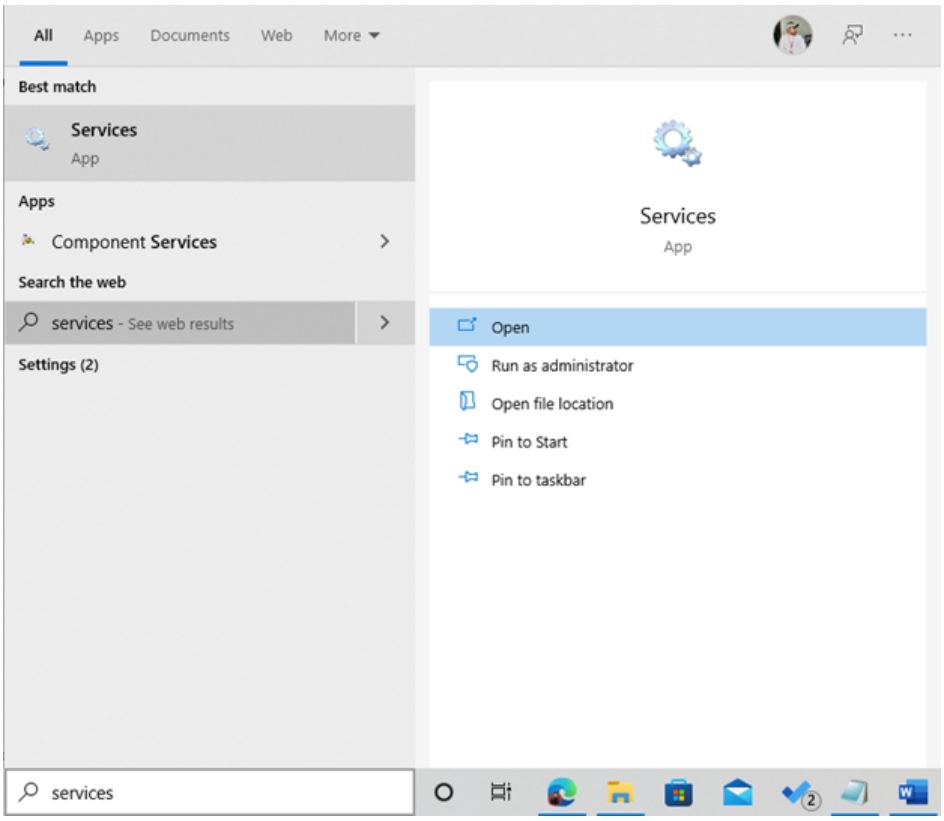

Figure 3.8: Search Panel View

5. Search mySQL, right click on that and stop from there.

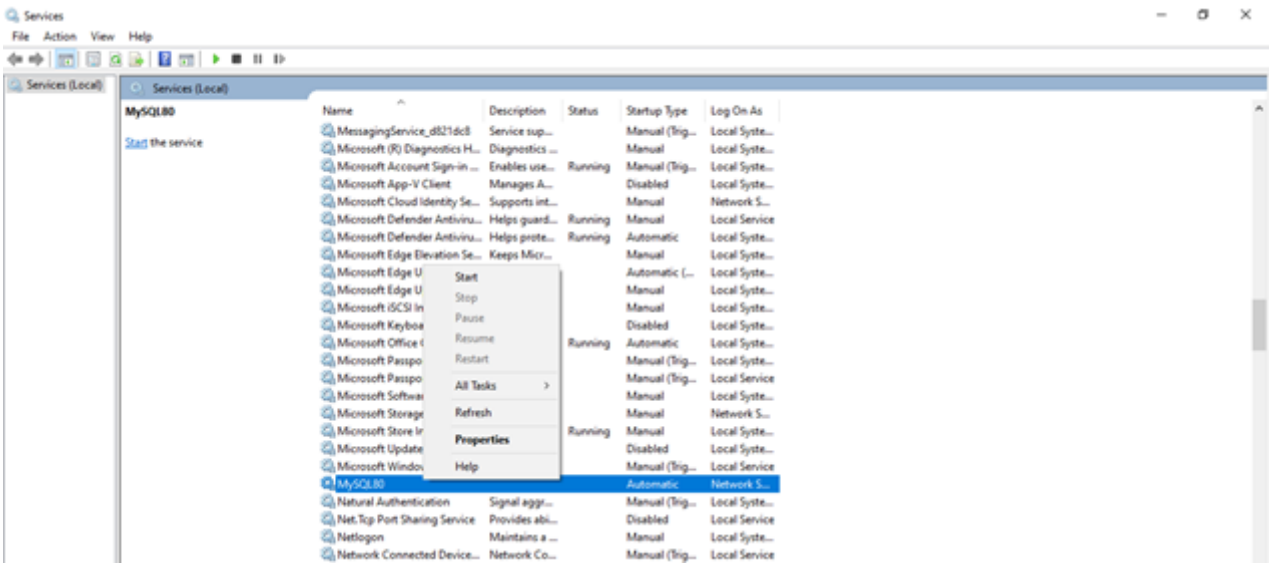

Figure 3.9: Services Panel View

6. Go back to XAMPP Control Panel and Start Apache and MySQL.

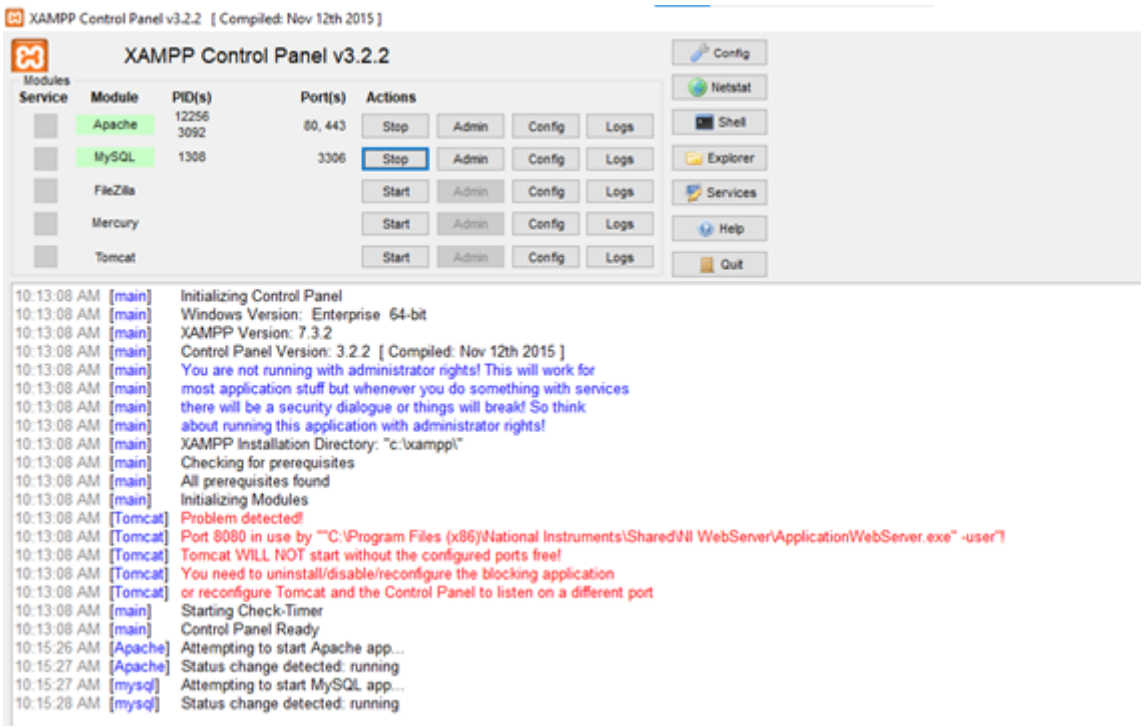

Figure 3.10: XAMPP Control Panel View

7. Find the project folder and copy from there.

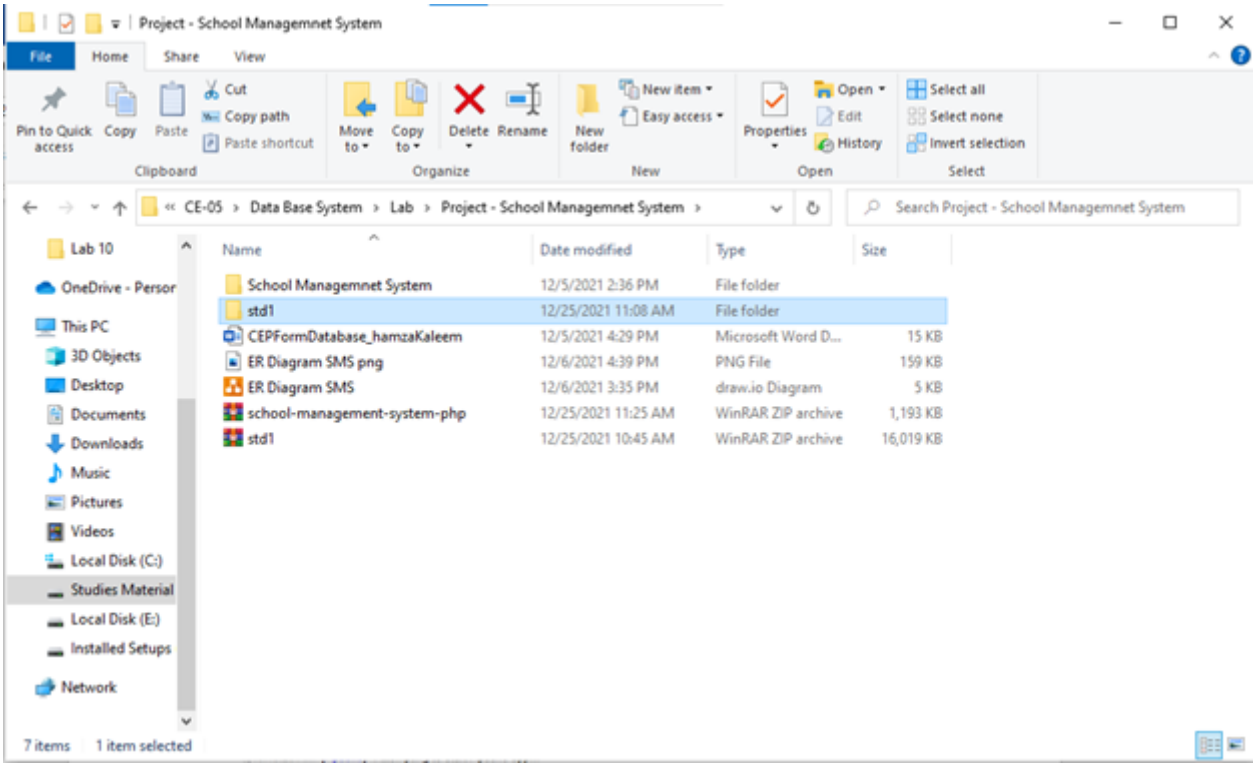

Figure 3.11: File Location to be Copied

8. Go to xampp folder where you installed this, than go to htdocs and paste the project file there.

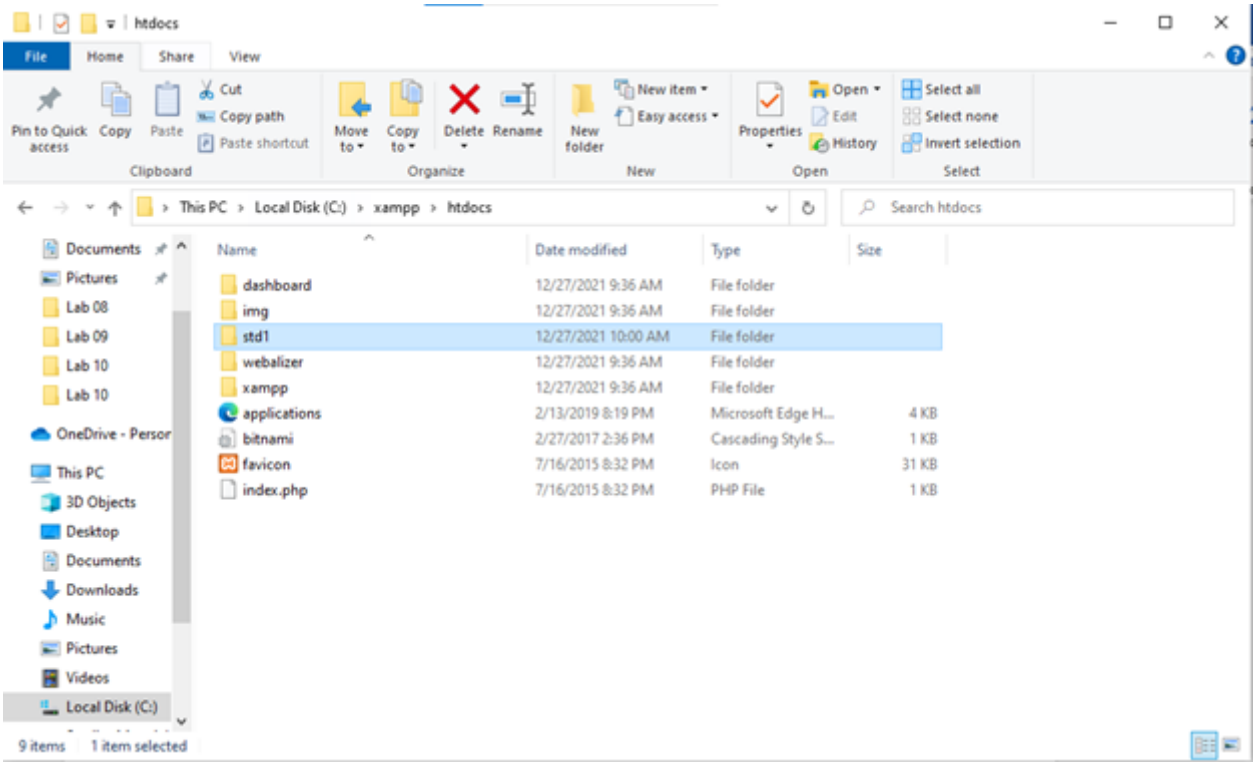

Figure 3.12: Destination File Location

9. Open any browser and search `http://localhost/phpmyadmin/`

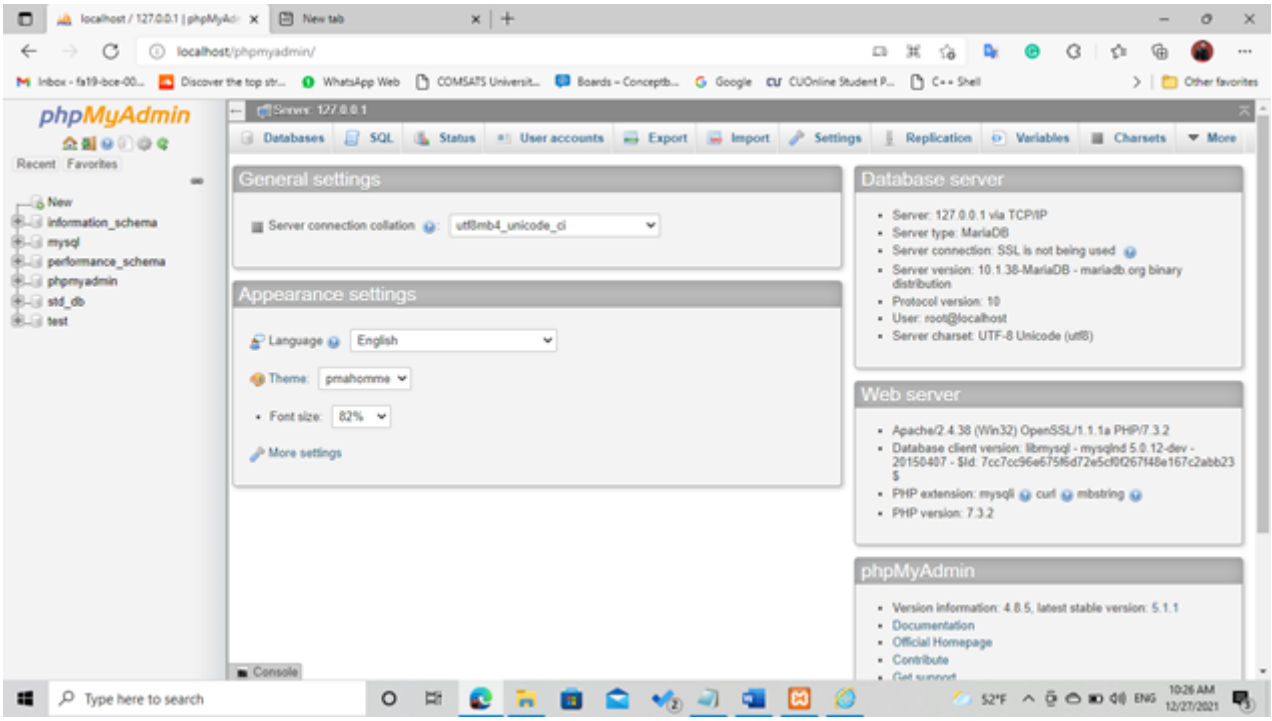

Figure 3.13: phpmyadmin view

10. Click on the databases

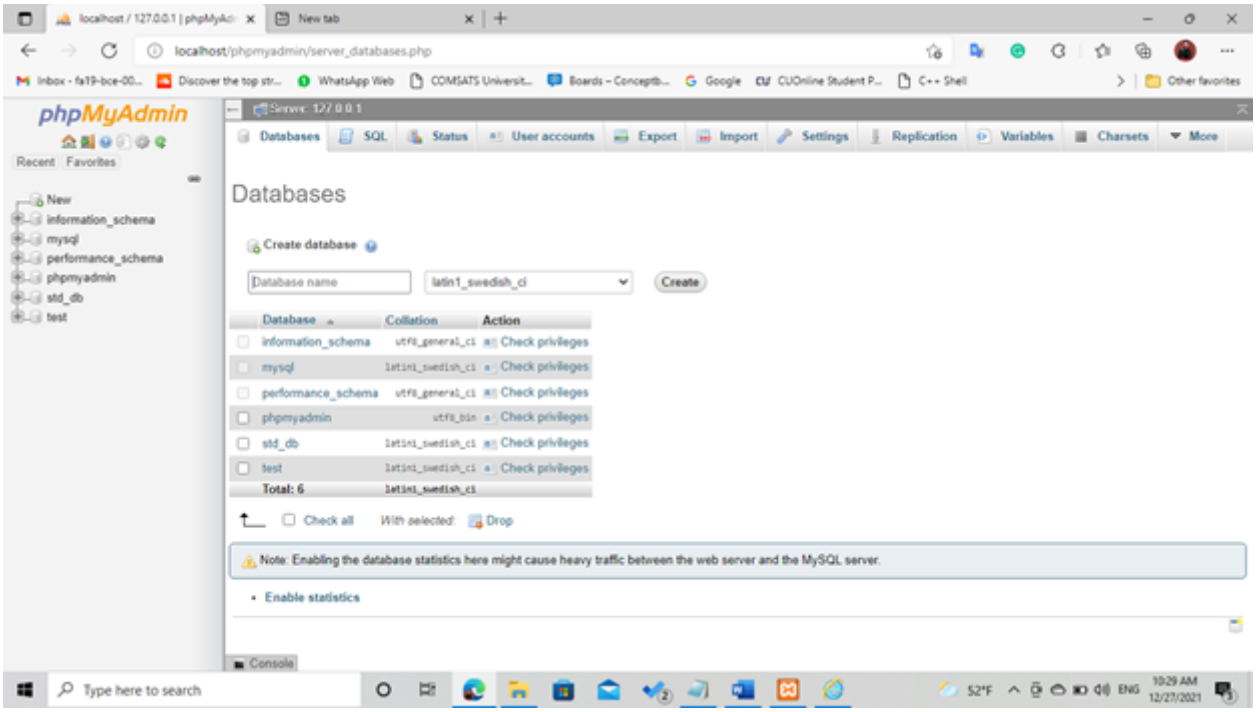

Figure 3.14: phpmyadmin Database view

11. Enter the name of the database of the project and press create e.g., std_db

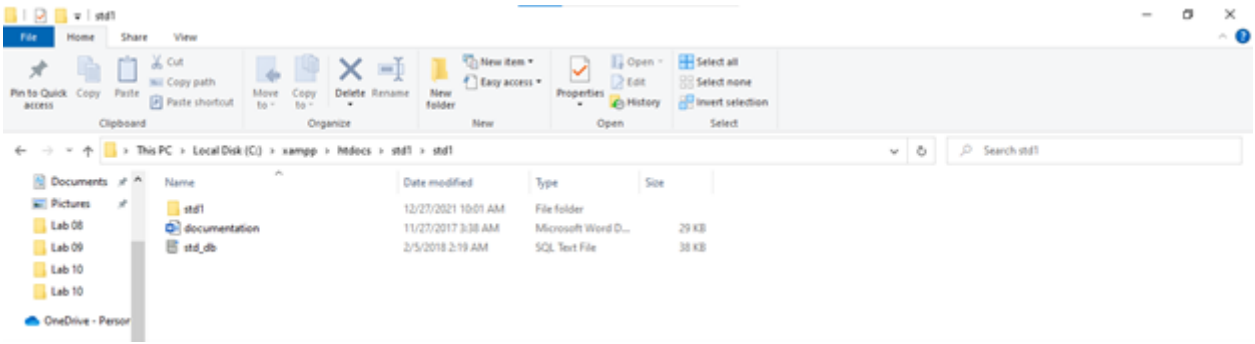

Figure 3.15: phpmyadmin view

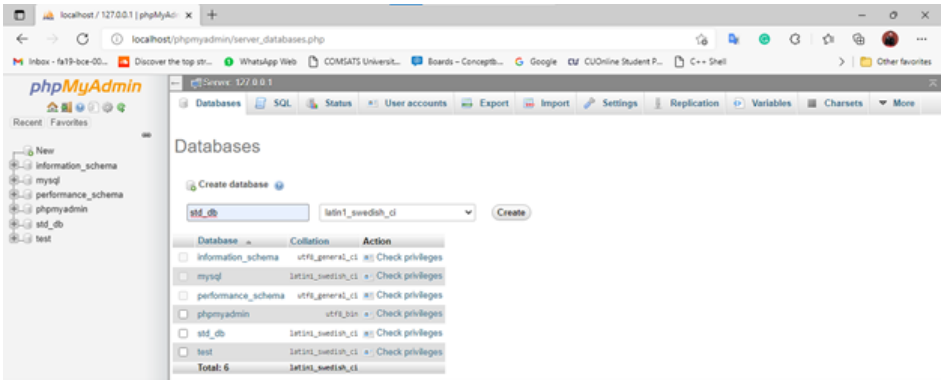

Figure 3.16: phpmyadmin view

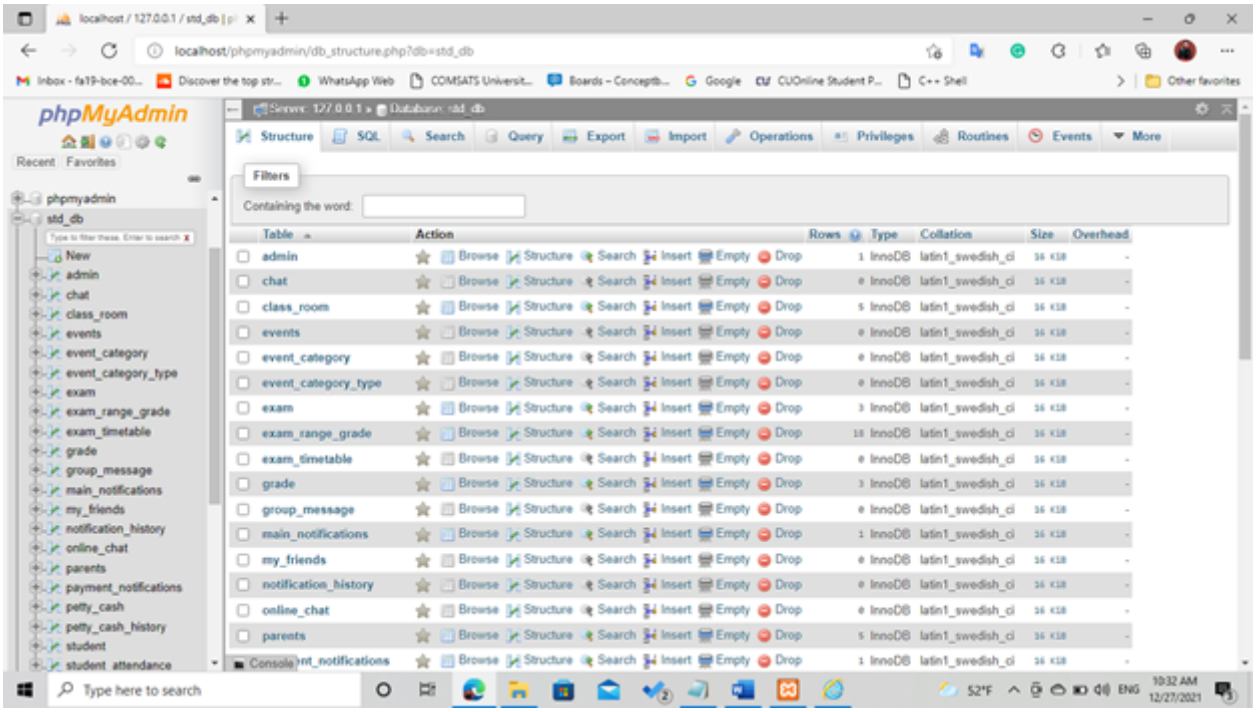

Figure 3.17: phpmyadmin view

12. Click on the import

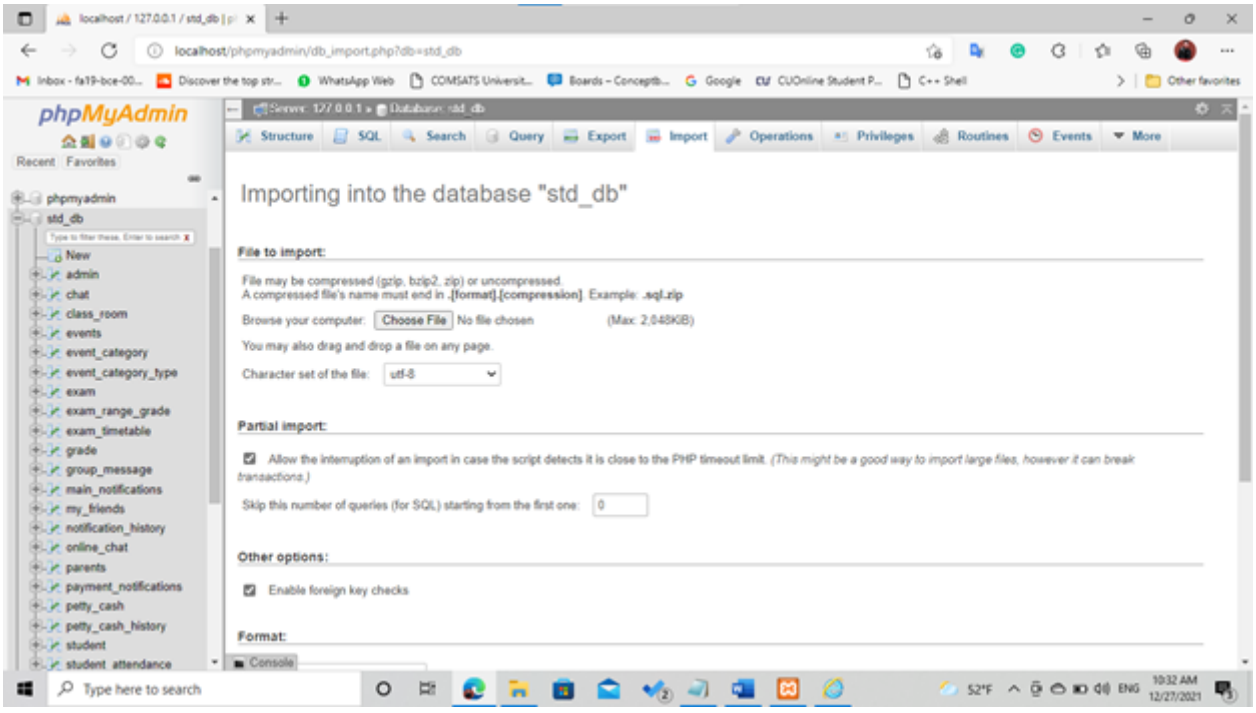

Figure 3.18: phpmyadmin view

13. Choose the same database file and import this

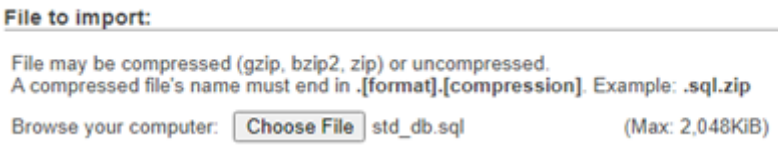

Figure 3.19: phpmyadmin view

14. Scroll down and press on the go

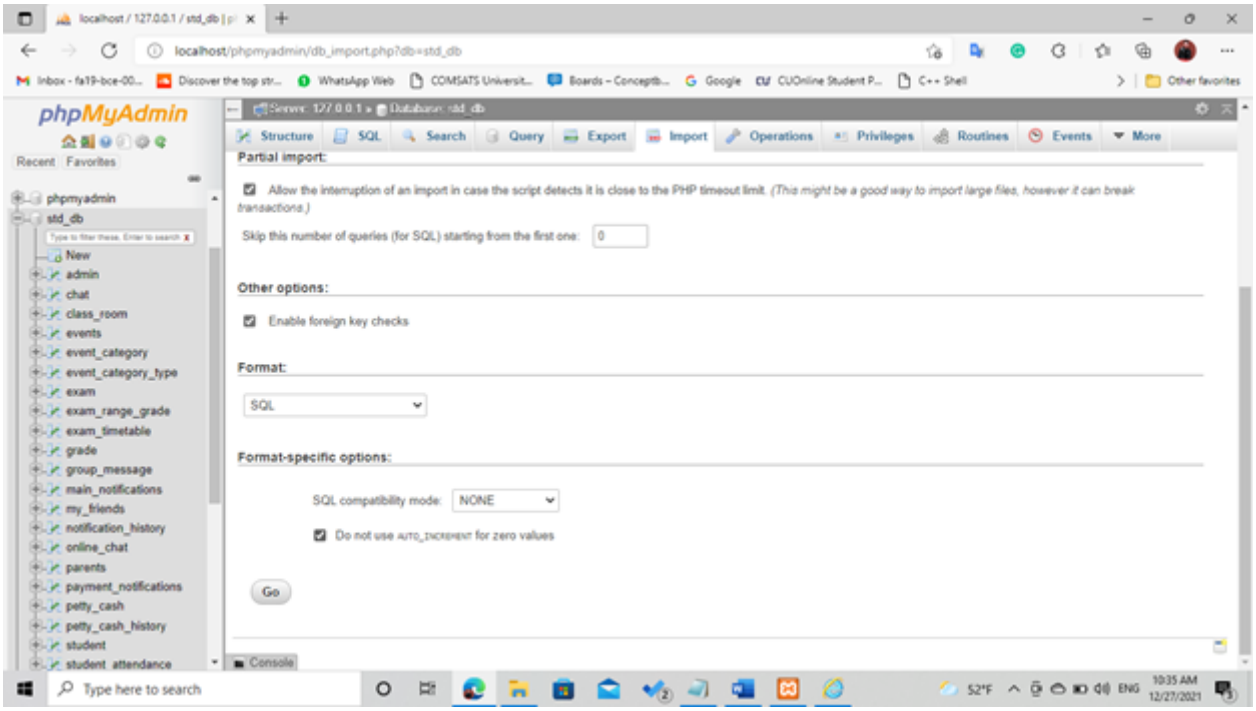

Figure 3.20: phpmyadmin view

15. Open a new tab and search localhost/projectFoldername e.g., localhost/std1

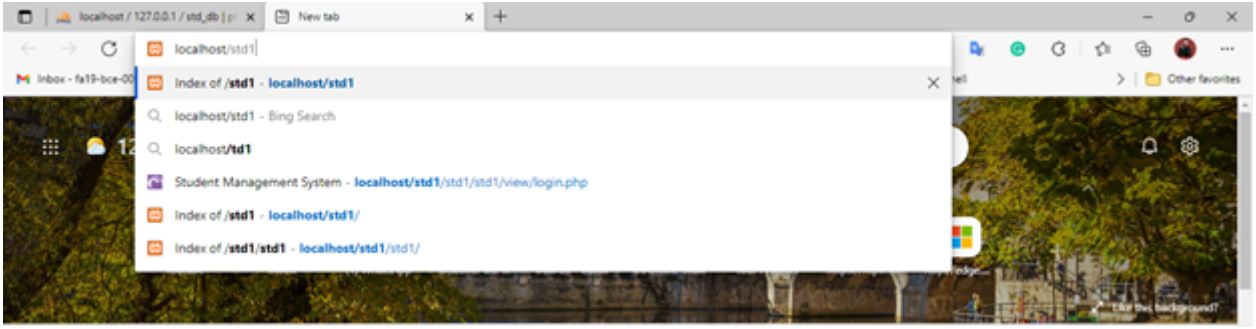

Figure 3.21: localhost/std1 view

16. Click on the project name again.

Figure 3.22: localhost/std1 view

17. Here you go

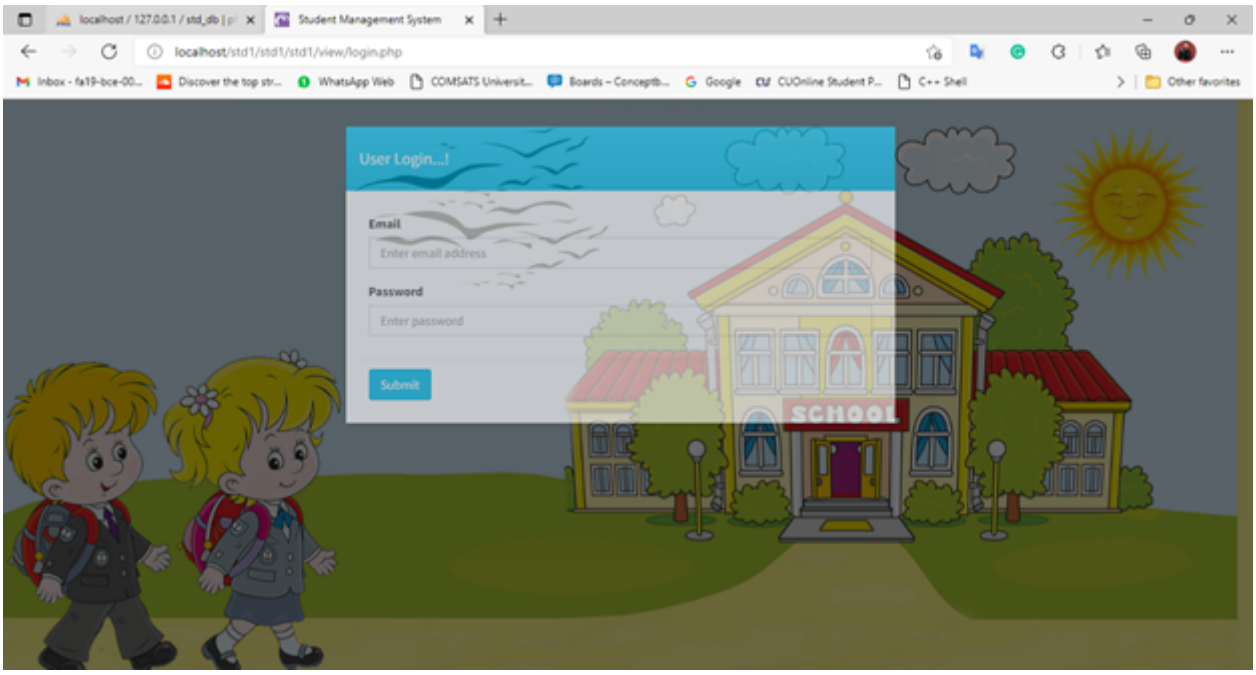

Figure 3.23: Project Front Page

Chapter 4

Results

In the previous chapter, we have discussed the methodology and the software we have used to implement this code. In this chapter we are presenting the result of our project.

4.1 Home Page

Home page of the project is shown in the following figure.

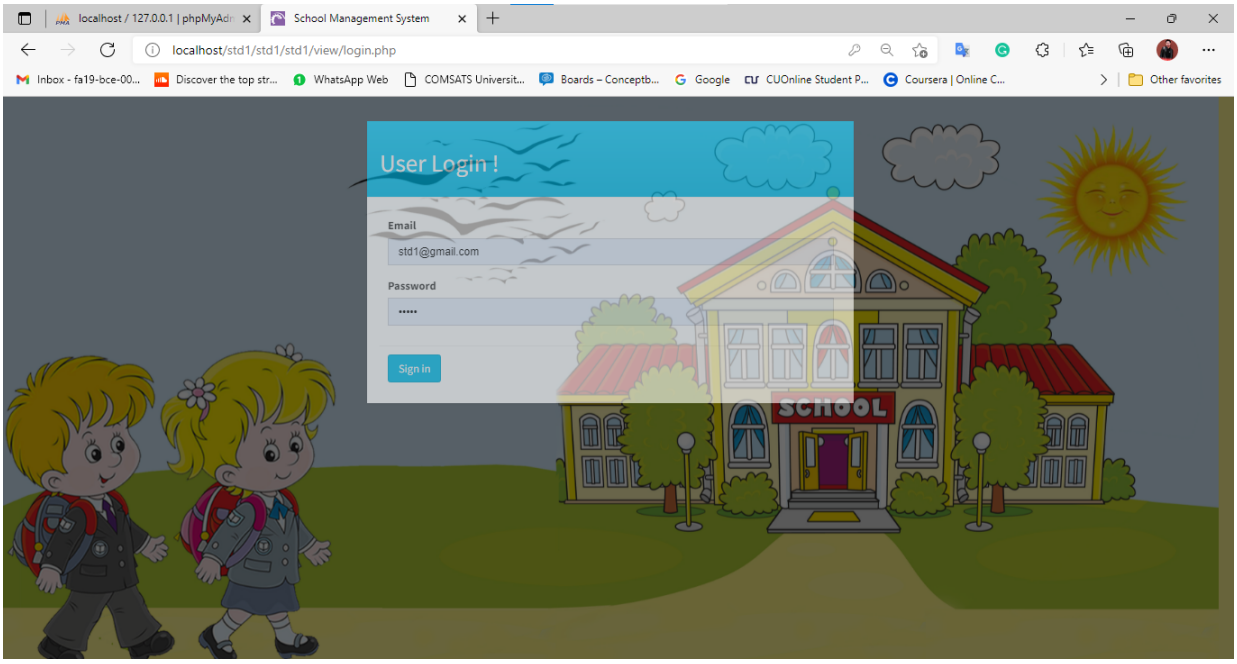

Figure 4.1: Home Page of SMS

As we have mentioned in our project feature that it is providing multi login so home page of the school management system is providing us following four (4) login options:

1. Admin
2. Teacher
3. Student

4. Parents

4.2 Admin

We have two admin at the moment but we can add more as much as we want.

1. email:admin1@gmail.com, password: 12345
2. email:admin2@gmail.com, password: 12345

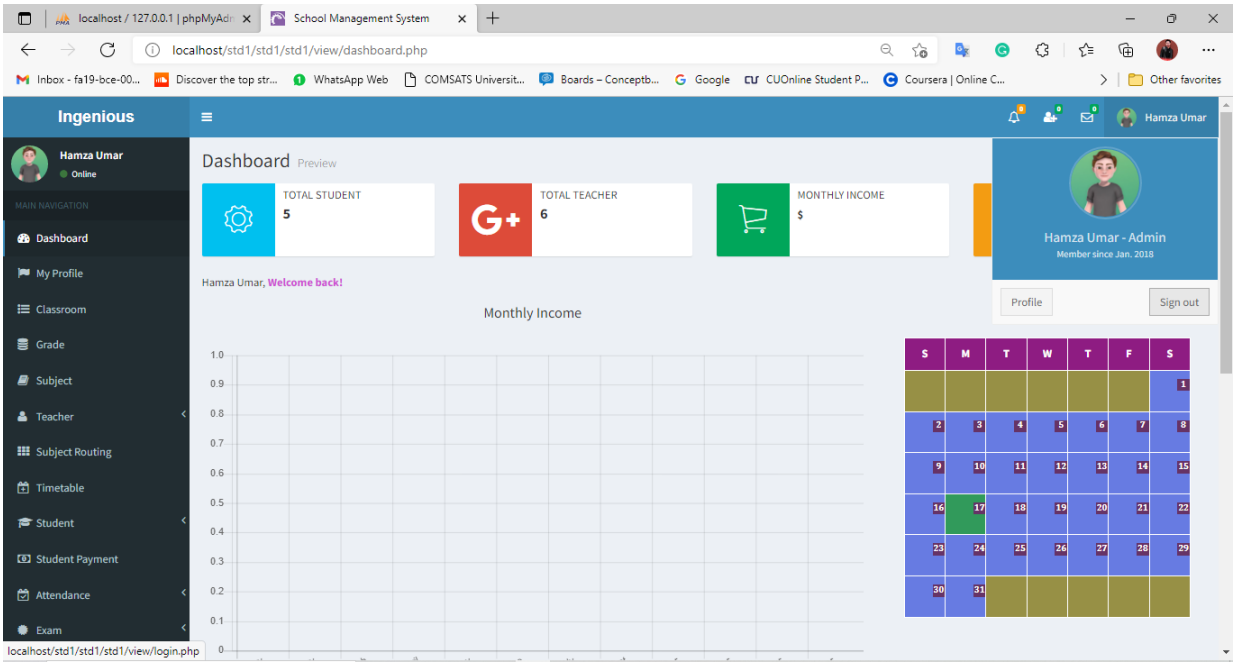

Figure 4.2: Admin View

Admin have all the access on the web base school management system and can add and edit everything on the web.

4.3 Teacher

Teacher is having access on the tabs mentioned on the left side of the screen. We have some teachers at the moment but we can add more as much as we want.

1. email:t1@gmail.com, password: 12345
2. email:t2@gmail.com, password: 12345
3. email:t3@gmail.com, password: 12345
4. email:t4@gmail.com, password: 12345
5. email:t5@gmail.com, password: 12345
6. email:t6@gmail.com, password: 12345

Following figure is showing a teacher login view.

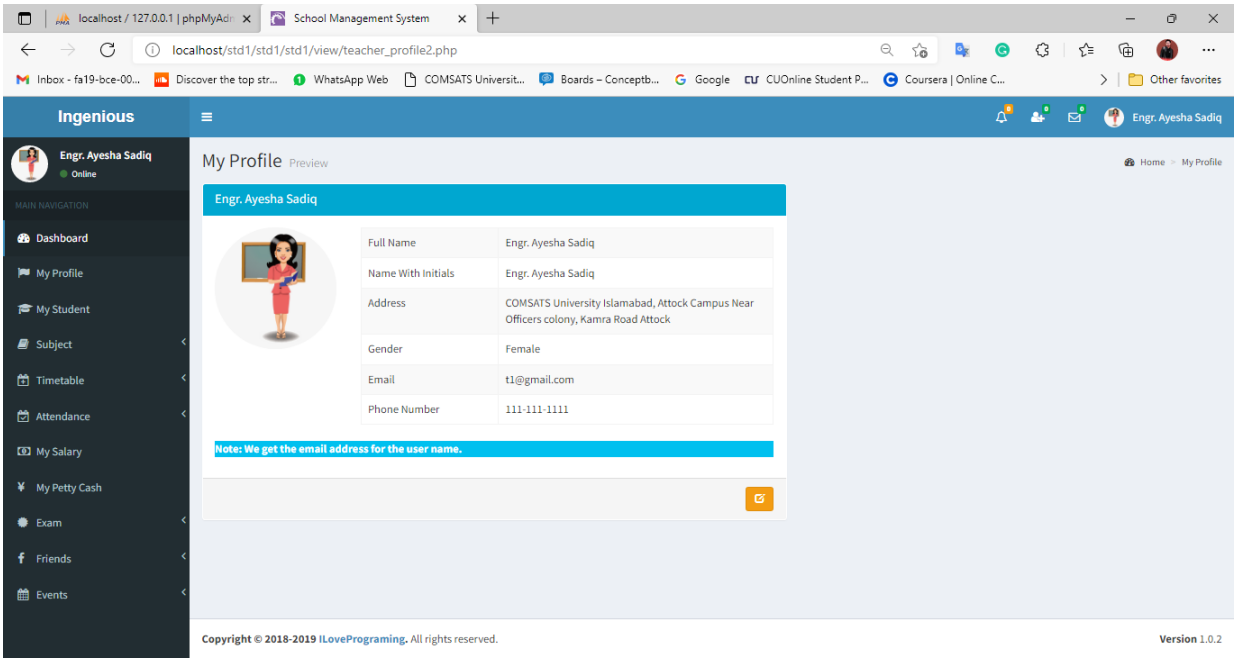

Figure 4.3: Teacher View

4.4 Student

A student view is showing in the following figure, a student have some access to the resources given to them by developers. We have some students at the moment but we can add more as much as we want.

1. email:std1@gmail.com, password: 12345

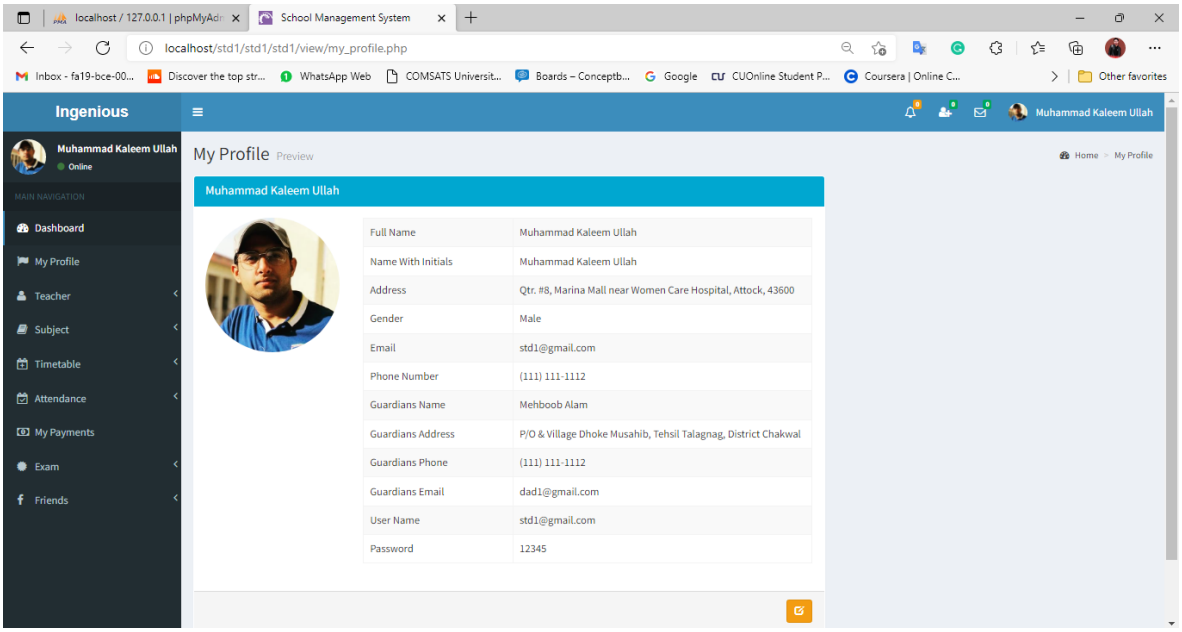

Figure 4.4: Student View

4.5 Parents

A parent's view is showing in the following figure. We have some parents at the moment but we can add more as much as we want.

1. email:dad1@gmail.com, password: 12345

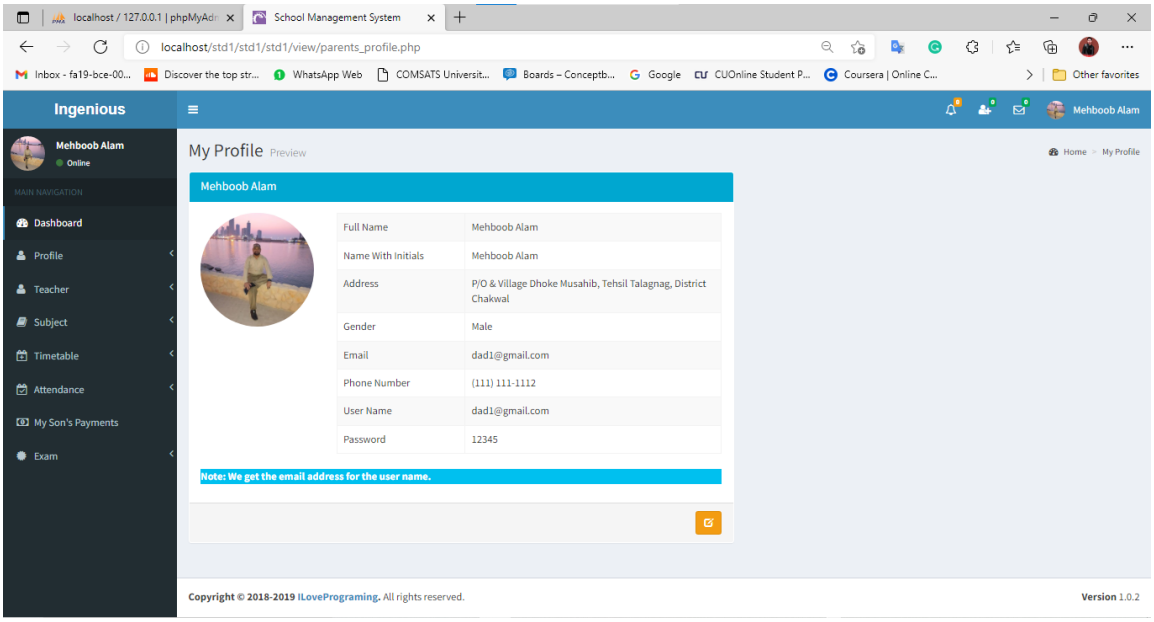

Figure 4.5: Parent View

4.6 PHP Admin View

A phpmyadmin view is showing in the following figure. We can add, edit and can delete at this platform.

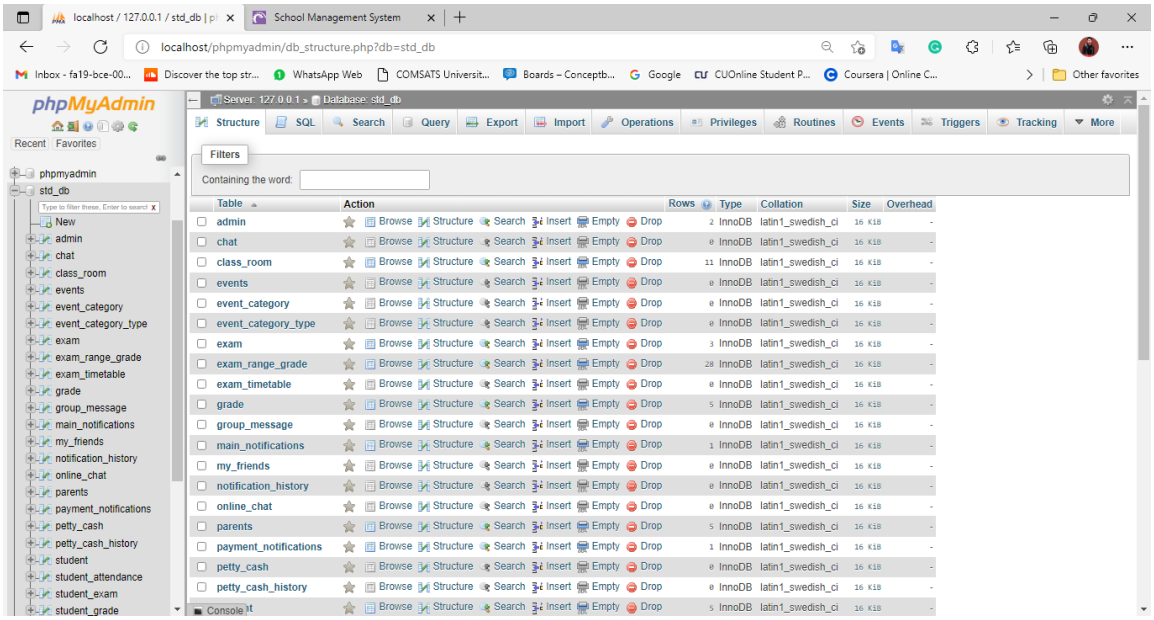

Figure 4.6: phpAdmin View

Chapter 5

Conclusion and Future Work

5.1 Conclusion

In conclusion, a database is a far more efficient mechanism to store and organize data than spreadsheets; it allows for a centralized facility that can easily be modified and quickly shared among multiple users. Having a web based front end removes the requirement of users having to understand and use a database directly, and allows users to connect from anywhere with an internet connection and a basic web browser. It also allows the possibility of queries to obtain information for various surveys. Due to the number of users reading and modifying student data in the department, it is an ideal use for such a system.

5.2 Strengths of The Proposed System

Some of the proposed system functions and features will be describe in this section:

1. The most important feature of the proposed system is security, which will provide more security to the system such as login with username and password, the system will not allow any user to access the system unless they have user ID and password.

2. The proposed system will provide function of registering student in to the system by the administrator.

3. The proposed system will provide function where by the administrator can add new secretary and new teacher in to the system.

4. The proposed system provides function where by the teacher can enter student marks in to the system and calculate student grade. However, the proposed system includes so many other features which are not presented in the current system.

5. The Proposed system comes with the function of generating students report card.

6. The proposed system comes with the function of creating time table as well as printing the time table

5.3 Future Work

In this report, we have reported a novel idea to design School Management System. But as there is always room for improvement, this idea can be improve more following are the future work for this SMS.

1. We can create an app which will deal the management of the school institutions.
2. We can create that app to make it work for the off line use as well as.
3. We can create this in more efficient way to fully utilize other requirement of the school management.

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