MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Project Report

on

E -Classroom

Submitted By:

Madhur Rathi , 0901CS191054

Nishant Purohit , 0901CS191067

Faculty Mentor:

Dr. Ranjeet Kumar Singh

Assistant Professor CSE Department

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

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E-Classroom

A project report submitted in partial fulfilment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

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Submitted to:

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CERTIFICATE

This is certified that **Madhur Rathi (0901CS191054)** has submitted the project report titled **E-Classroom** under the mentorship of **Dr. Ranjeet Kumar Singh Assistant Professor CSE Department** in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.

Dr. Ranjeet Kumar Singh
Faculty Mentor
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CERTIFICATE

This is certified that **Nishant Purohit (0901CS191067)** has submitted the project report titled **E-Classroom** under the mentorship of **Dr. Ranjeet Kumar Singh, Assistant Professor, CSE Department** in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.

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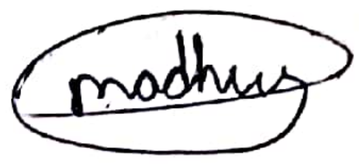
DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Dr. Ranjeet Kumar Singh** Computer Science & Engineering.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



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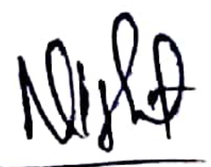

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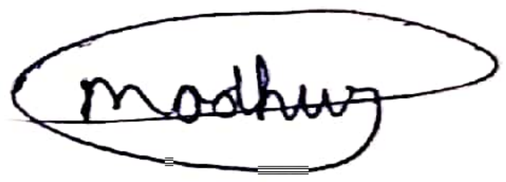

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ABSTRACT

E-Classroom deals with the maintenance of the student's attendance and academic details. It generates the attendance of the student on the basis of presence in class. It is maintained on the daily basis of their attendance. It is mainly done to remove manual work by the teacher and save paper i.e it is eco-friendly. The staff will be provided with a separate username & password to make the student's status. The staff handling the particular subjects are responsible to make the attendance for all students. Only if the student presents on that particular period, the attendance will be calculated. The students' attendance reports based on weekly and consolidated will be generated. It also provides the report of their results, schedule of classes and notices provided by the teacher to the student.The system communicates with the database residing on a remote server. We are going to use the Xampp server to store the database and to run the web-site.

Keywords: Classroom, Automated, Eco-friendly, Xampp server

सार:

ई-कक्षा छात्र की उपस्थिति और शैक्षणिक विवरण के रखरखाव से संबंधित है। यह कक्षा में उपस्थिति के आधार पर छात्र की उपस्थिति उत्पन्न करता है। यह उनकी उपस्थिति के आधार पर दैनिक बनाए रखा जाता है। छात्र की स्थिति बनाने के लिए कर्मचारियों को एक अलग उपयोगकर्ता नाम और पासवर्ड प्रदान किया जाएगा। विशेष विषयों को संभालने वाले कर्मचारी सभी छात्रों की उपस्थिति के लिए जिम्मेदार हैं। केवल यदि छात्र उस विशेष अवधि में प्रस्तुत करता है, तो उपस्थिति की गणना की जाएगी। साप्ताहिक और समेकित के आधार पर छात्रों की उपस्थिति रिपोर्ट तैयार की जाएगी। यह उनके परिणामों की रिपोर्ट, कक्षाओं की अनुसूची और शिक्षक द्वारा छात्र को उपलब्ध कराए गए नोटिस भी प्रदान करता है।

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CHAPTER 1 : INTRODUCTION

1.1 Overview

This report discusses the result of the work done in development of the "classroom management system" website on the platform. It is a kind of an attendance management and project submission management project going in the Computer Science Department, Madhav Institute of Technology at the development of a web application for providing a platform for facilitating the teachers and schools and integration of various tools developed during the execution of the project.

1.2 Objective

1. An Integrated application on the web was required for interaction of user/customer with the various functionalities (like Login ,attendance, project etc.) with the platform specification being done in the application itself.

2. Based on the final platform configuration and bindings, the final product comes in the form of an attendance management system that has a good graphical user interface and is user friendly.

1.3 Methodology

To implement the above goals, the following methodology needs to be followed:

1. Specifying the Application and various components of it.
2. Specifying the bindings between the tasks and the resources.
3. Tools.
4. Analysis: Extracting the data required for application.

1.4 Required Tool Description

Web applications can be developed across multiple IDE's and there are several plugins available for making the current IDE capable of writing the codes for websites. Out of several IDE's I have used the popular editor Visual Studio.

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows

Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that expand the functionality at almost every level - including adding support for source control systems (like Subversion and Git) and adding new toolset like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Azure DevOps client: Team Explorer)

1.5 Required Languages

1. **HTML -** The Hypertext Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser.

2. **CSS -** Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and Javascript.

3. **JavaScript -** Javascript often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled and multi-paradigm. It has dynamic typing, prototype-based object-orientation, and first-class functions

4. **PHP -** PHP (Hypertext Preprocessor) is known as a general-purpose scripting language that can be used to develop dynamic and interactive websites.

5. **SQL -** SQL (Structured Query Language) is a standardised programming language that's used to manage relational databases and perform various operations on the data in them

1.6 Services

Services are the component in the system which runs in the background. Hence all the background tasks are done using the services component. This component is useful especially when a task is to be performed without impacting the user of its operation. This component does

not provide any User Interface. For example downloading the file from the internet or loading an image. All the Services that are created in the application have to inherit the services class provided by the Android Operating System.

1.7 Layouts

A layout defines the visual structure for an user interface, such as the UI for any activity. These files are responsible for defining the user Input. The user has the luxury of seeing how the designed layout will look like in the Graphical mode and they have the option of selecting the items that they desire to view layout.

CHAPTER 2 : PROJECT REQUIREMENTS

2.1 System Requirements

1. Computers running Microsoft Windows must meet the following minimum Hardware and Software requirements.
2. **Software Requirements –** An OS, Text Editor, GUI for backend
3. **Hardware Requirements** – Laptop/Computer, Mobile device or Tablet
4. Microsoft Windows 7/8/10 (32- or 64- bit)
5. 3 GB RAM minimum, 8 GB RAM recommended; plus 1 GB for the Android Emulator

2.2 Functional Requirements

1. **Login for student:** If the student wants to login they can login from the login page.
2. **Login for teacher:** If the teacher wants to login they can also login from the login page.
3. **Display the Home page:** Shows no of students, no of teachers, total subjects.
4. **Categories for teacher:** It has sections for adding students, adding teachers, and adding parents. Sections to mark attendance for students.
5. **Categories for students:** It has sections for notice, schedule and their report.
6. **Database:** All the information is stored in the database on the Xampp server.
7. **Logout:** Once the teacher/student has completed the task, they can logout of the website.

2.3 Non-Functional Requirements

1. **Portability:** Systems running on one platform can easily be converted to run on another platform.
2. **Reliability:** The ability of the system to behave consistently in a user-acceptable manner within the environment for which the system was intended.
3. **Availability:** The system should be available at all times, meaning the user can access it any time using a web browser, only restricted by the downtime of the server on which the website runs.
4. **Maintainability:** A commercial database is used for maintaining the database and the application server takes care of the site.
5. **Security:** Secure access of confidential data (customer details).

6. **User-friendly:** System should be easily used by the customer.
7. **Performance:** Performance should be fast.
8. **Safety:** Data in the database system should not be damaged.
9. **Privacy:** Personal information of the system should be taken care of.

CHAPTER 3 : PROJECT DIAGRAMS

3.1 Data Flow Diagrams

Data Flow Diagram Level-0

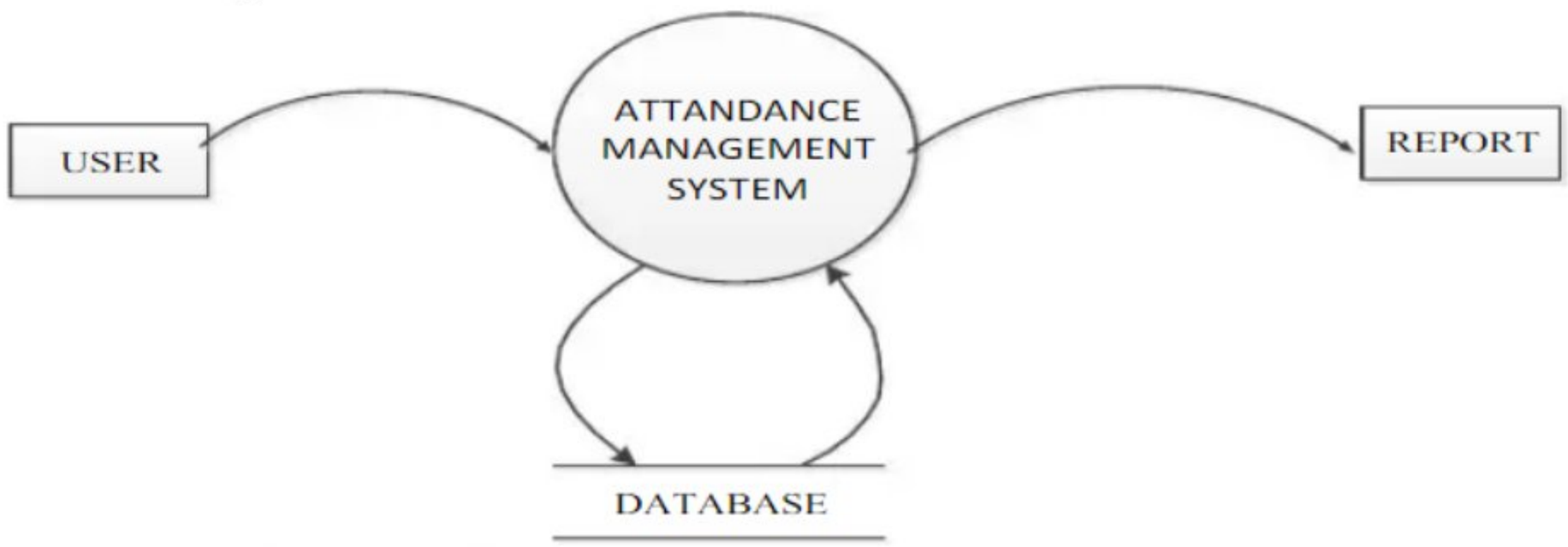

Fig 3.1 DFD Level 0

Data Flow Diagram Level 1

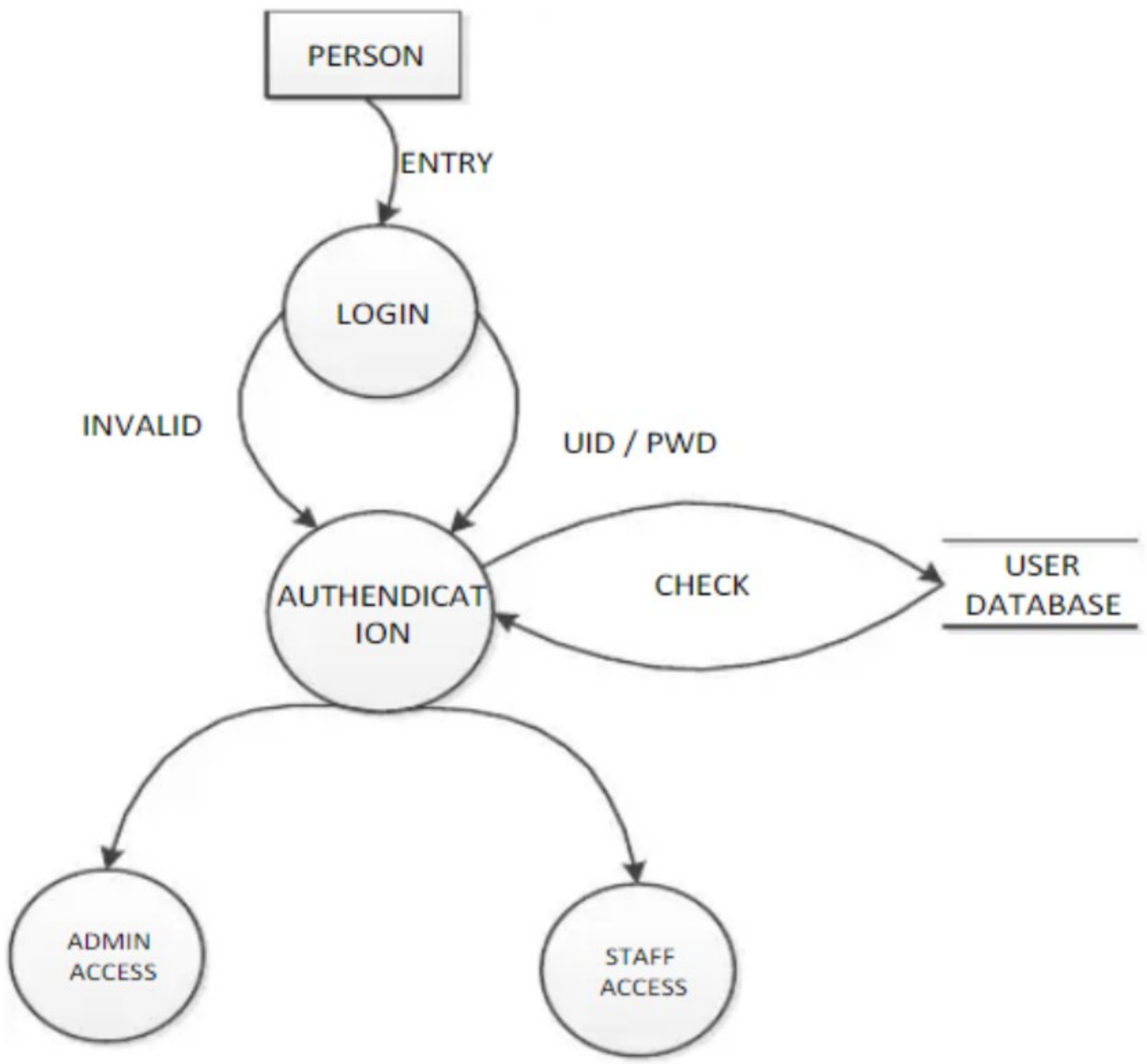

Fig 3.2 DFD Level 1

Data Flow Diagram Level 2

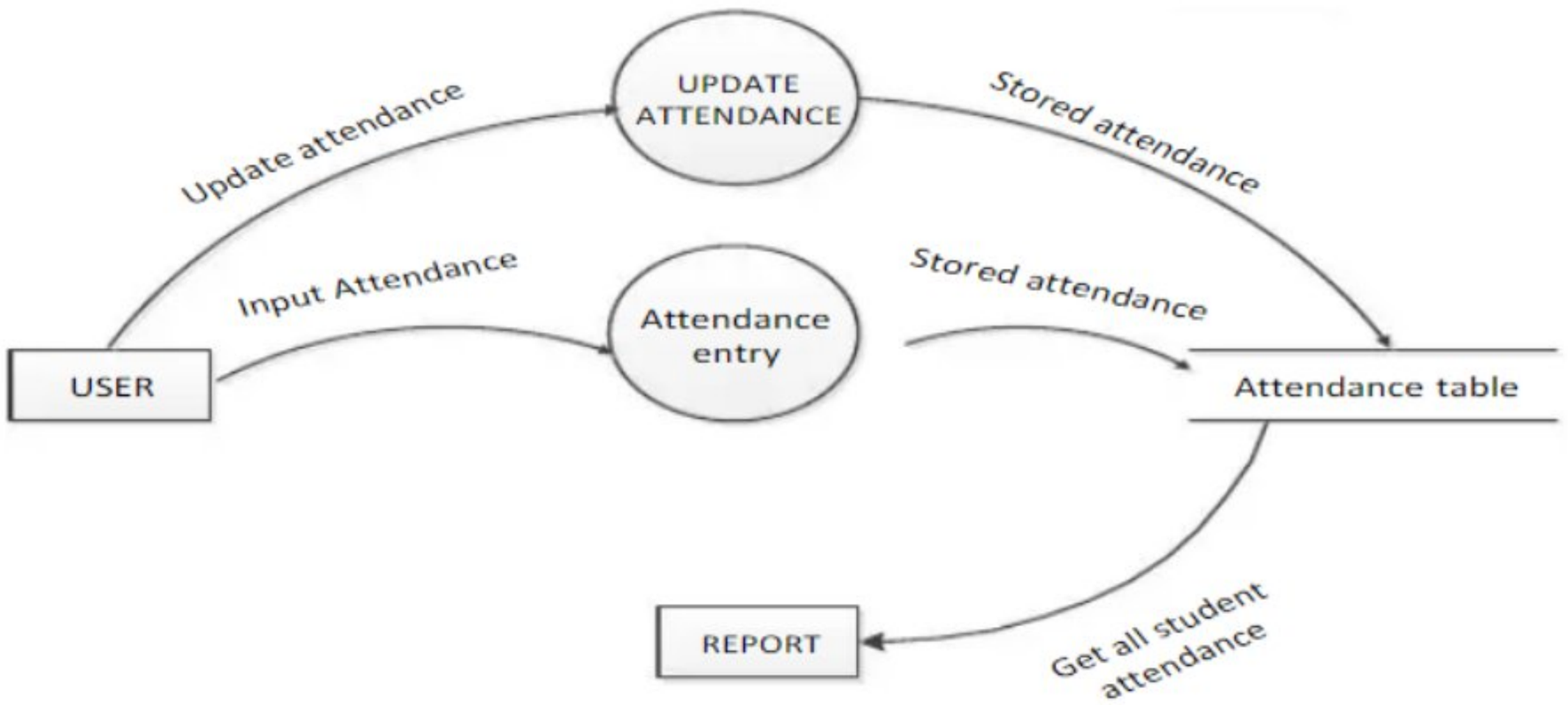

Fig 3.3 DFD Level 2

3.2 E-R Diagram

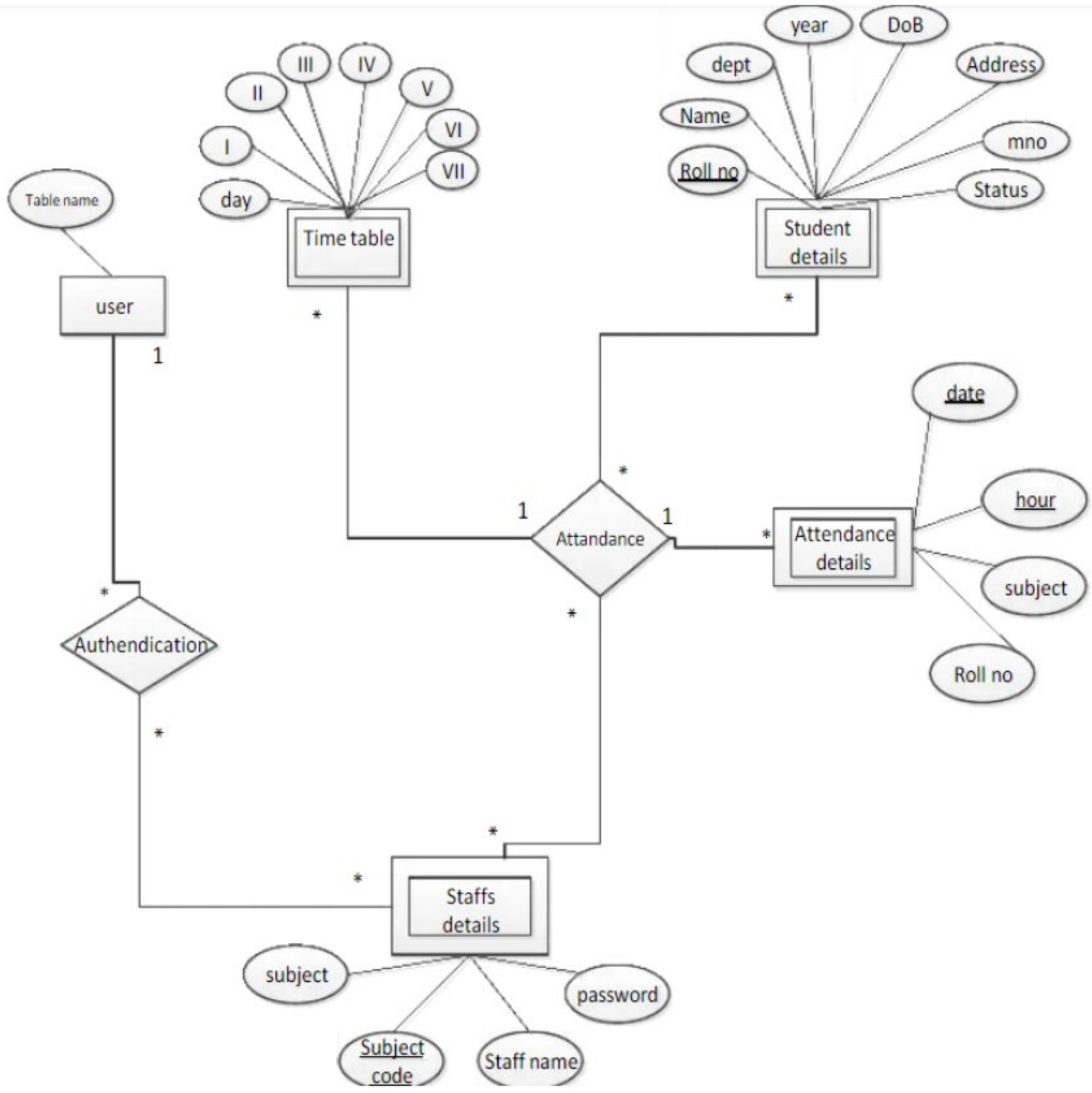

Fig 3.4 E-R Diagram

CHAPTER 4 : FINAL ANALYSIS AND DESIGN

4.1 Login Page

Before entering into the system (home page), the user must login, for this purpose the login page is created. This log in form is made for security purpose i.e. only authenticated users have access into the system, i.e. either administrator or the user.

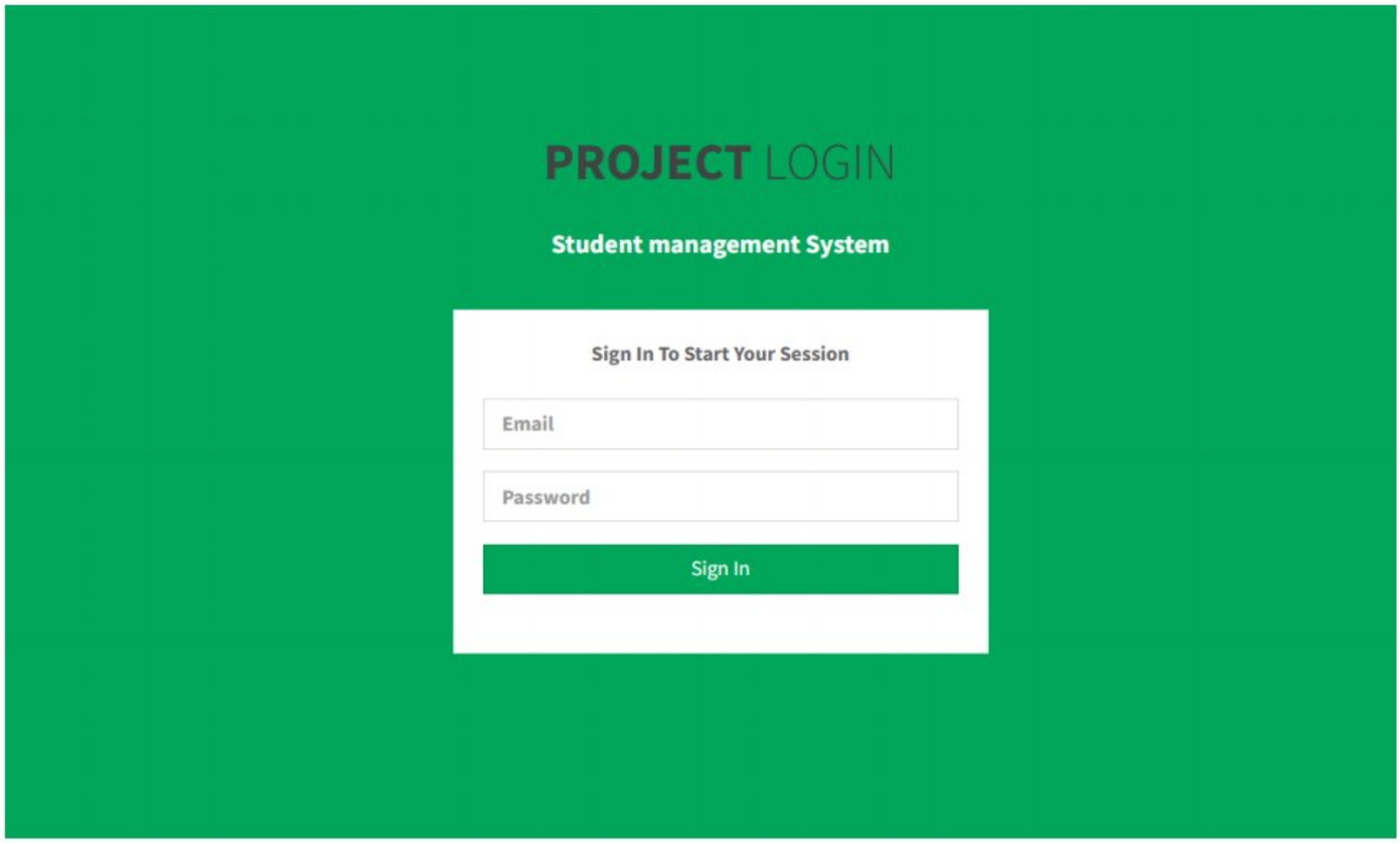

Fig 4.1 Login page

4.2 Login as a teacher :

4.2.2 Students : This is the student screen which provides information about student's data such as Student Name, DOB, Gender, Email, Phone, Address, Session, Program, and Semester in the form of rows and columns.

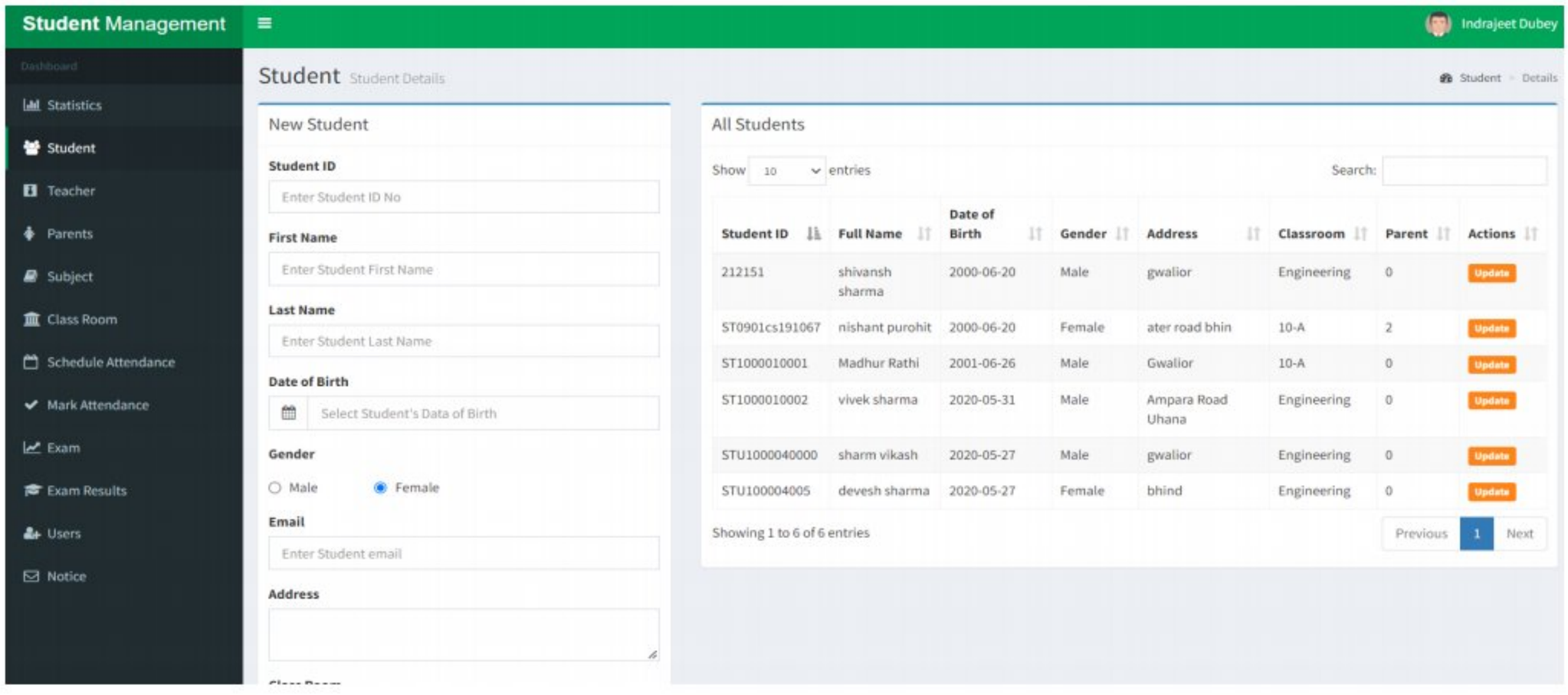

Fig 4.2 Students Enrolled

4.2.3 Teacher : Teacher can be enrolled in a particular classroom. It requires teacher id, teacher first and last name, gender, email, address and contact info. Teachers added can be seen in the right window.

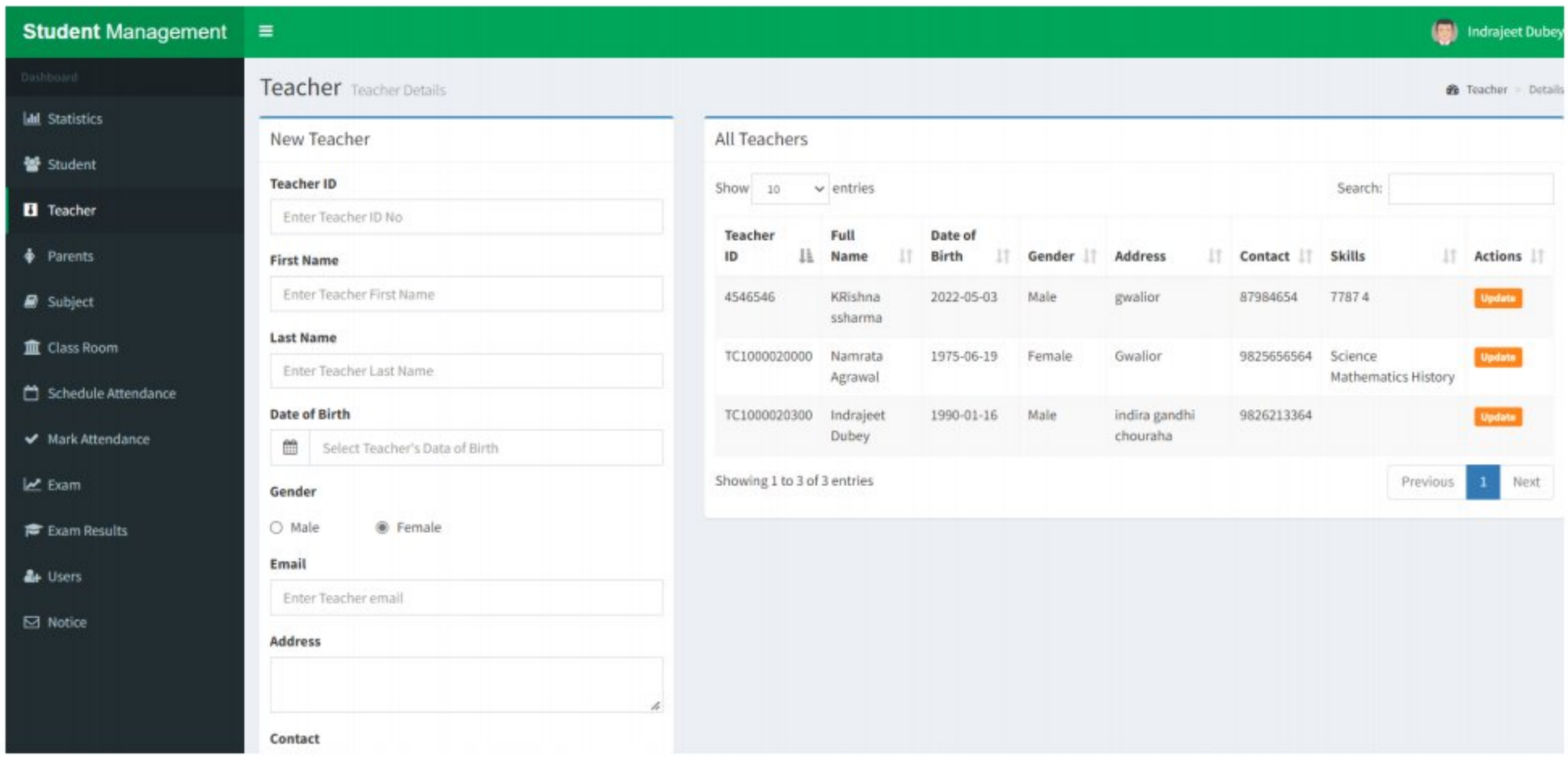

Fig 4.3 Teacher

4.2.5 Mark Attendance： Teachers can mark attendance of students if they are present in class.

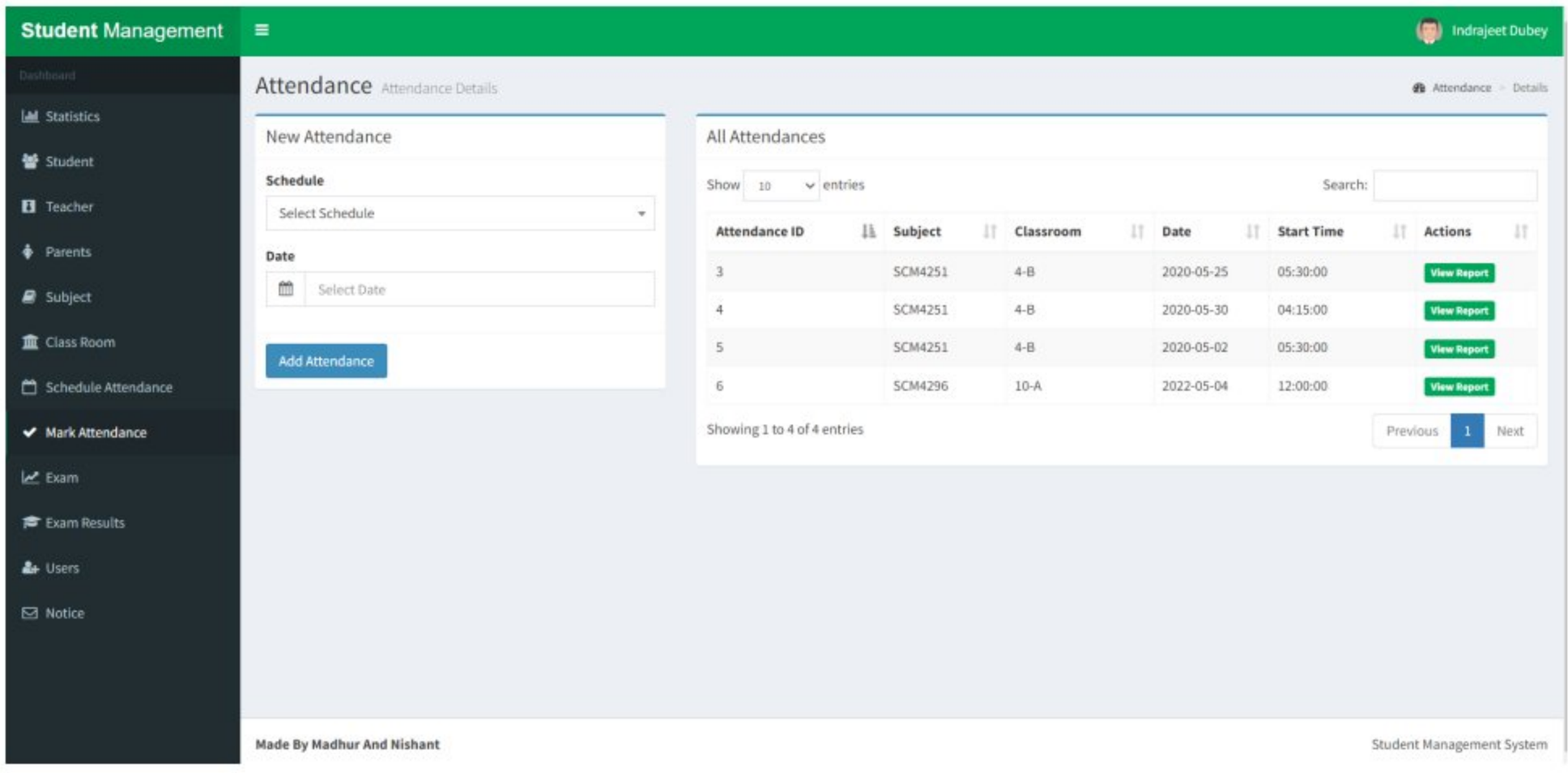

Fig 4.4 Mark Attendance

4.3 Login as a Student :

4.3.1 Statistics : When students login through their registered email, the window is opened which shows total students in class, total teachers, total subjects and parents registered by the teacher.

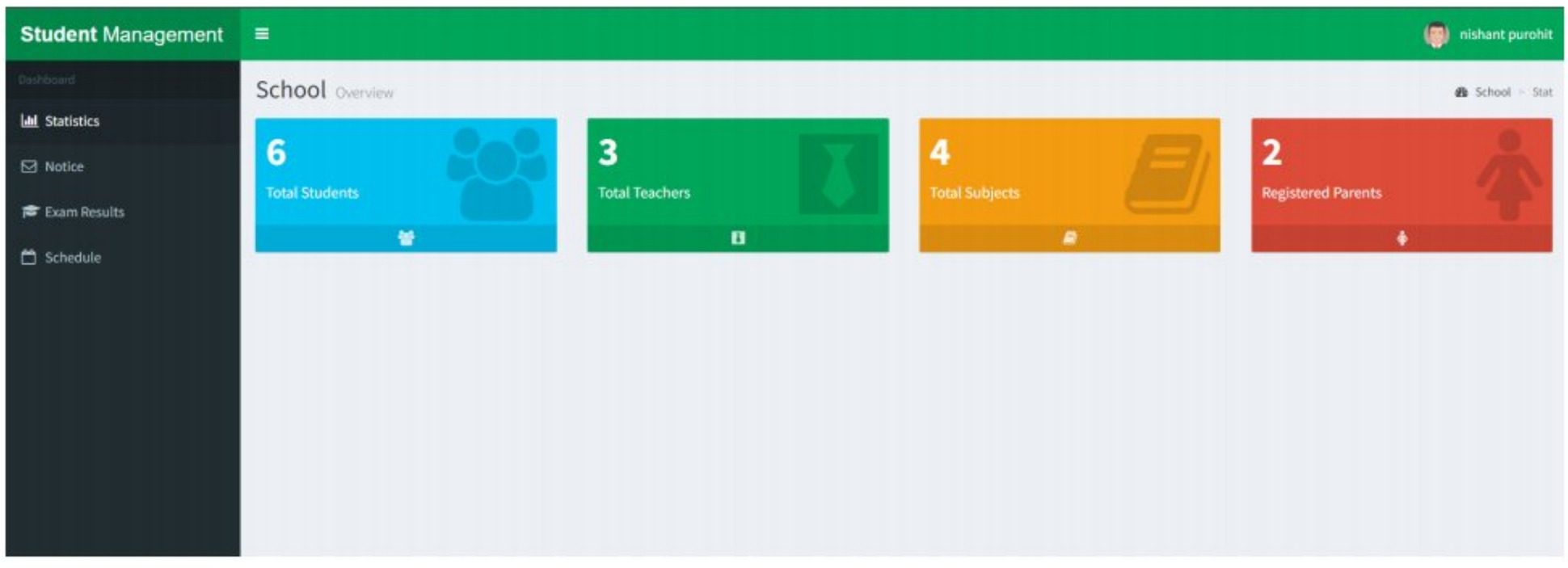

Fig 4.5 Statistics

4.3.3 Exam Result : It shows the result of students with their marks and grade of respective subject .

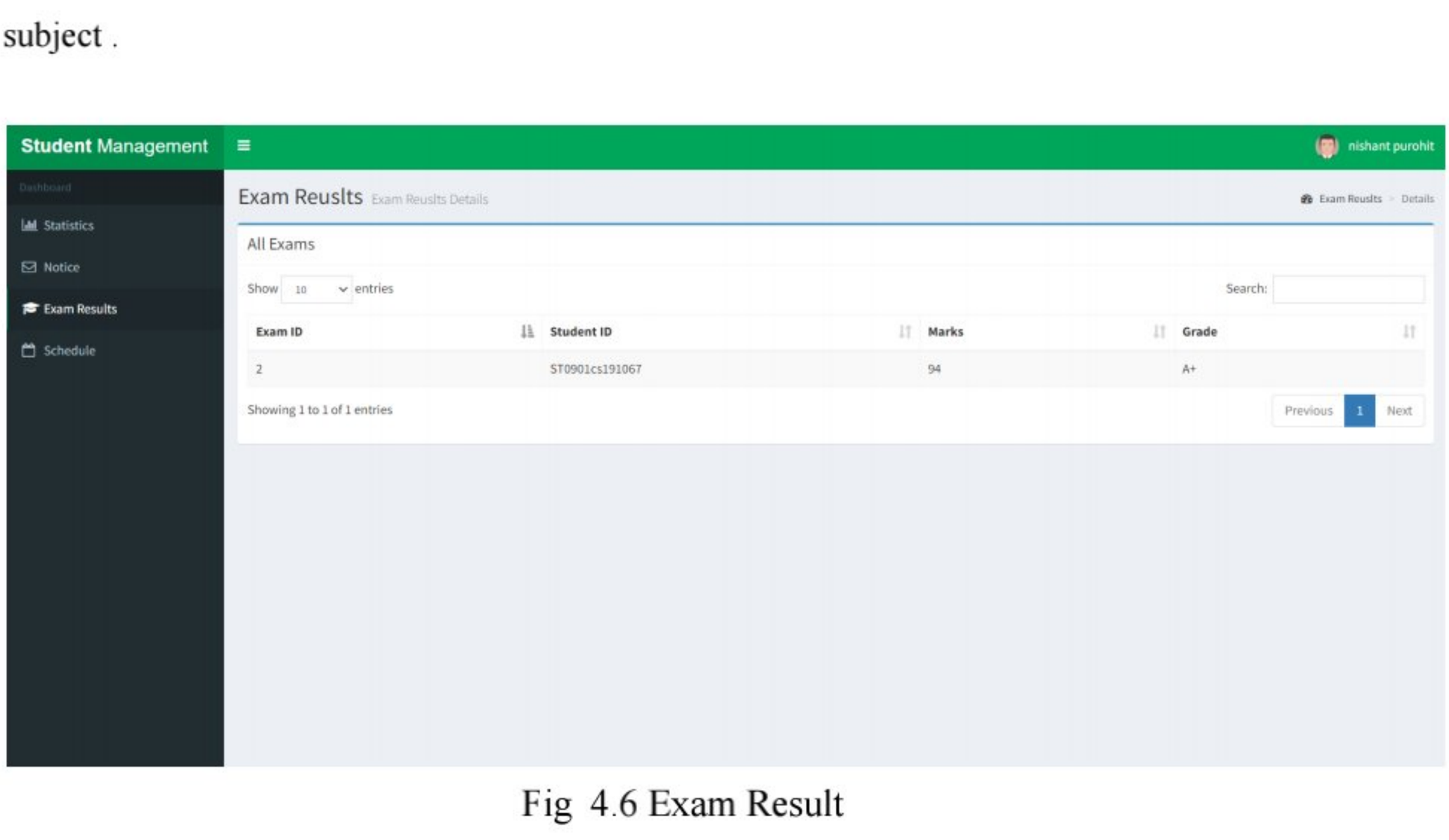

Fig 4.6 Exam Result

4.4 Databases

We have used the database phpMyAdmin which runs on Xampp server where we have created different tables for storing the information of teachers , students , parents , regarding exams, notices, etc.

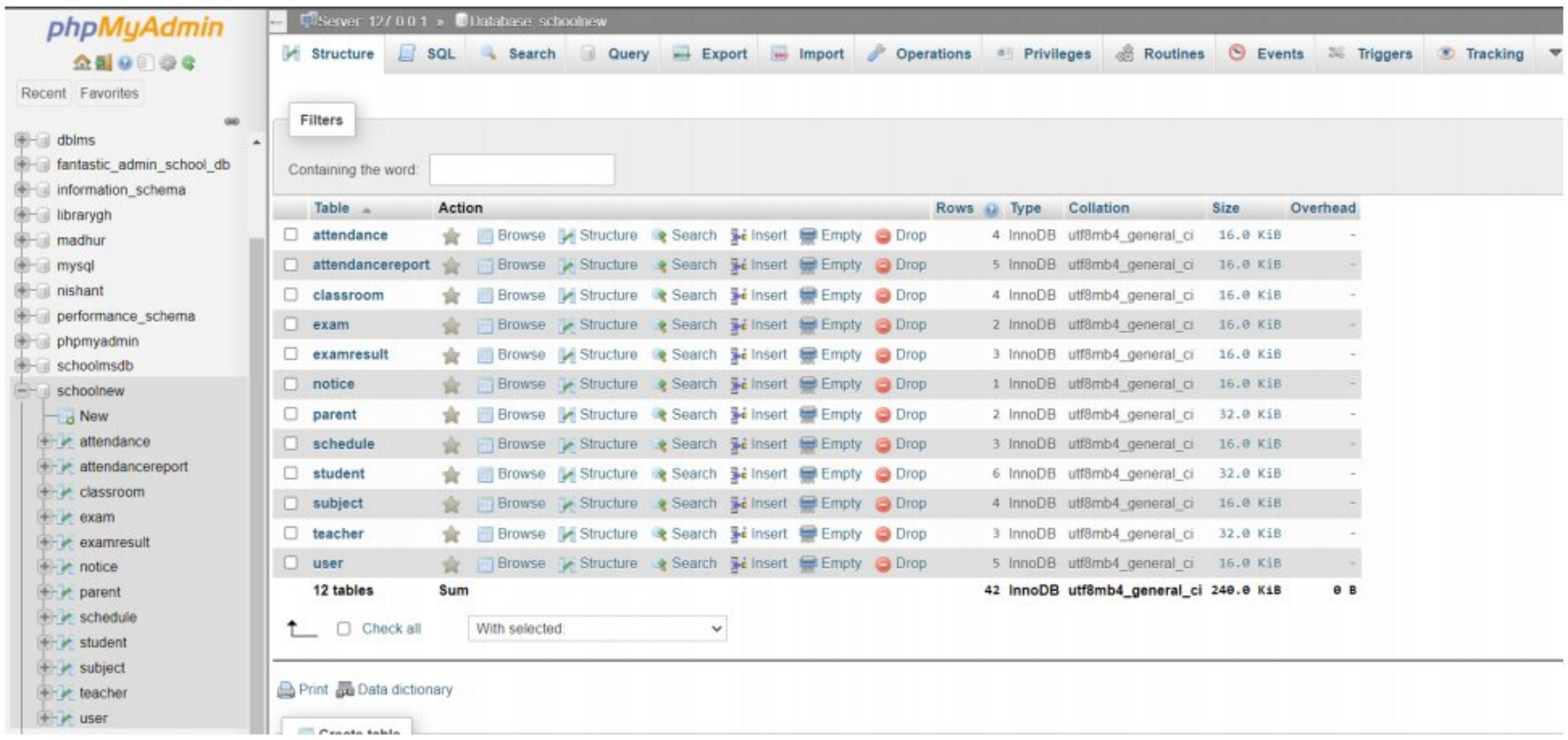

Fig 4.7 Database

CHAPTER 5: CONCLUSION AND FUTURE SCOPE

5.1 Conclusion

In this work, the web based attendance management system is developed using PHP server-side scripting language and CSS, HTML ,JavaScript for designing which fully meet the system's goals.
This system overcomes many limitations incorporated in attendance, this system saves a great amount of time and reduces errors which may occur during attendance calculation. The system I have developed is fully responsive which can be used in mobile, tablets and different operating systems.
Some other benefits are,

- Automated and web-based for easy accessibility
- It is a dynamic and flexible system
- It excludes paperwork and the possibility of making mistakes while using paper for
- taking attendance
- It is very user friendly and handy
- The records of current and previous can be available in prompt and immediate.

5.2 Future work

We will make some future improvement in my project by making this Biometric Attendance System in order to make it more advanced and increase its reliability and effectiveness. Biometrics is an automated technique of identifying a person's behavioural or physiological characteristic.
A fingerprint scanner has two basic tasks which are,
i. It requires an image of a person's finger.
ii. It requires identifying and diagnosing whether the pattern of ridges and valleys in the current image matches the pattern of ridges and valleys of previous scanned images.

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