

# Student's Progress Tracker

## GROUP MEMBERS

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Submitted to Department of Computer Science

# Project Presentation Outline

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# Abstract

Given that they still rely on paperwork and manual processes, the majority of academic institutions have trouble keeping track of student records, attendance, accounting, admissions, etc., and managing the information of interest. By using centralized software combined with numerous loosely coupled services that interact with one another to address the aforementioned issues, a web-based school management system will lessen the amount of manual work required. It will also improve communication between administration and the student/guardian through notifications sent via email, SMS, and push messages.



# Introduction

- ❑ Massive amounts of digital visual information are everywhere in the modern world. Tracking analysis tools are an absolute necessity to organise and evaluate this terrible ocean of visual data.
- ❑ The project is based on the students' growth. The student data is stored on a website that is also used to analyse and track it.
- ❑ The development of a system enables the storing and analysis of student grades and marks. It can monitor student performance, analyse their grades, monitor their attendance, and provide notifications.

# The Problem Statement

Teachers currently prepare and track students' learning outcomes through report cards using manual labor. This is the national standard practise, which is carried out manually. In the present, it is impossible for teachers to pay close attention to every student and bring out the best in each individual student. In order to follow a student's performance in real time, including their academic development, solutions must be developed.

# Survey of Existing Systems

## Kahoot:



Kahoot is an online game based learning platform. It allows teachers, organizations and parents to set up fun web based learning for others. This could include your coaches, athletes or parents. Kahoot can be used as a fun trivia activity to do with members of your organization or coaches to use with their players about the sport or just a series of fun questions.

- ❑ **Advantages** :It develops interest in the student since they are keeping track using course-related quizzes and puzzles.
- ❑ **Disadvantages**: Sometimes students may cheat and give the answer to the question, in which case they get extra marks in the progress report.

# Survey of Existing Systems

## Google Sheets:



## Google Sheets

Google Sheets is a web-based application that enables users to create, update and modify spreadsheets and share the data online in real time. Google's product offers typical spreadsheet features, such as the ability to add, delete and sort rows and columns.

- ❑ **Advantages:** It is the easiest way of storing and manage the data.  
We get everything on spreadsheet.
- ❑ **Disadvantages:** Sometimes teachers need to give access to students to fill in the details in spreadsheets.

# Survey of Existing Systems

## ClassDojo :



# ClassDojo

**ClassDojo** is digital sharing platform that allows teachers to document the day in class and share that with families via a web browser so that nearly any device can access the content - from a simple smartphone to a laptop computer. As long as it has a browser, photos and videos can be viewed.

- ❑ **Advantages:** It is a good website since the teacher can give feedback on the performance of the student and can also communicate with their parents.
- ❑ **Disadvantages:** There is no such system for storing the data . Here the teacher gives feedback on the skills only.



# Survey of Existing Systems

## Google Classroom:



Google Classroom

Google Classroom is a suite of online tools that allows teachers to set assignments, have work submitted by students, to mark, and to return graded papers. It was created as a way to get eliminate paper in classes and to make digital learning possible.

- ❑ **Advantages:** Paperless Teachers and students won't have excessive amounts of paper to shuffle since Classroom is completely paperless. When teachers upload assignments and assessments to Classroom, they are simultaneously saved to Drive.
- ❑ **Disadvantages:** Because of the need for an individual Google account, it's possible (although not likely) that parents may opt-out of their child creating a student account.

# Survey of Existing Systems

## Google Forms:



Google Forms

Google Forms allows you to create online tests , surveys, questionnaires, and other forms of information crowdsourcing. This program is part of the Google Workspace and serves solutions, particularly for your survey administration and form needs. Google Forms is equipped with drag-and-drop features, ready-made templates, question customization, and other tools needed to create surveys and forms.

- ❑ **Advantages :** It is a free online tool, that allows you to collect information easily and efficiently.
- ❑ **Disadvantages:** There are certain limitations regarding the capabilities of this tool. It accepts texts up to 500 Kb; images up to 2 Mb; and for spreadsheets the limit is 256 cells or 40 sheets.

# Objectives

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- To manage students' performance in academics throughout their academic education.
- To manage student information.
- And to reduce unnecessary paper work to manage record of the student

# Requirement Analysis

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## **Requirement Analysis :**

### **Functional Requirements:**

#### **1.Log in Module (LM)**

The Login Module must be able to load in the web browser for users (admin, students, and teachers). The LM must assist the user with system login. User name and password boxes must both be present on the login screen. When a user types, the password field should be covered by symbols.

Additionally, a button marked "Login" must be present.

Only the user will be able to utilise the system features when the database administrator has confirmed the user's username and password after the user clicks the Login button.

# Requirement Analysis

## **2. Registered Users Module (RUM)**

The user will be able to continue exploring the website and access detailed information about the school or college after successfully logging in.

Users (admin, students, and teachers) will be able to edit and manage their profiles after successfully logging in, including updating their password and personal information.

## **3. Server Module (SM)**

Between the various modules and the DB, SM should be. All requests must be sent to SM, who will then format the pages for display properly. All requests from the other modules must be validated and carried out by SM.

# Requirement Analysis

## 4. Administrator Module (AM)

The system will reveal administrative features after a successful login.

The administrative tasks displayed must be add and update.

Administrators can add new student details, delete any that are no longer needed, and do many other things when they click the "add" button.

The system will display a section where the administrator can update the student information and lecture schedule that are currently kept in the database when the administrator hits the update button.

The AM module will submit the request to the Server Module, which will make the necessary modifications to the DB, when an administrator adds, modifies, or deletes a record.

# Requirement Analysis

## Non-functional Requirements:

### 1.Performance

The Student Management System will be created using web development methods and posted online on a web server.

The server and the system must be able to handle real-time error functionality that is experienced by the specified users.

The system also needs to be safety-critical. To ensure user and system security, any failures reported by the server side must be handled immediately.

### 2.Reliability

System safety is crucial. If it departs from regular operation mode, the server must be shut down or dropped, fixed as quickly as feasible, and then reopened. There must be a good justification for this emergency behaviour.

# Requirement Analysis

## **3. Maintainability**

Design documents must include how to maintain the software and database that store user information as well as how to update and modify the system on a daily basis.

The administrator will have access to the control system so they can properly manage it both at the front and back ends.

## **4. Portability**

As far as our system is concerned, there is a necessity for portability because it is both an online and offline (local server based) system that we can use from any location with an internet connection.

Additionally, we need to keep up with the database copy of the stored data.



# Solution proposed

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Our problem statement states that teachers must conduct manual effort in order to prepare and monitor students' academic progress via report cards. Since there is no technology that can keep track of both academics and extracurricular activities, we developed a website to do so.

The administrator and the student both benefit from this system's time savings. It entails procedures including registering the student's information, allocating the department in accordance with their course, and maintaining the record.

The cost and labour force needed for this job are reduced by this system. Since the system is online, everyone may access the information. This makes the method simple to use and practical for simultaneously updating and finding the omission.

# Solution proposed



Additionally, the system will notify the student of any information, tests, and attendance here.

Regarding the current system, they manually update their records, which exposes it to security risks. If a search or update query is submitted manually, it will take a long time to process the query and create a report, which is a laborious task.

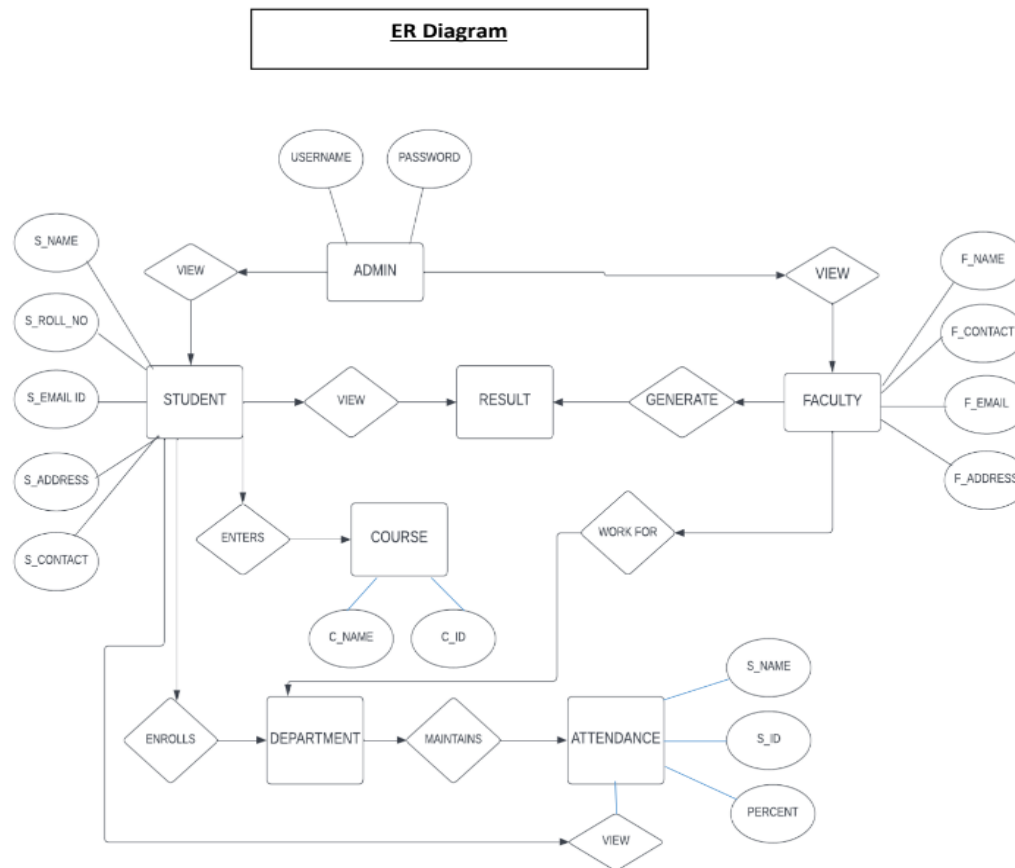
# Models/Diagrams

Use case Diagram :



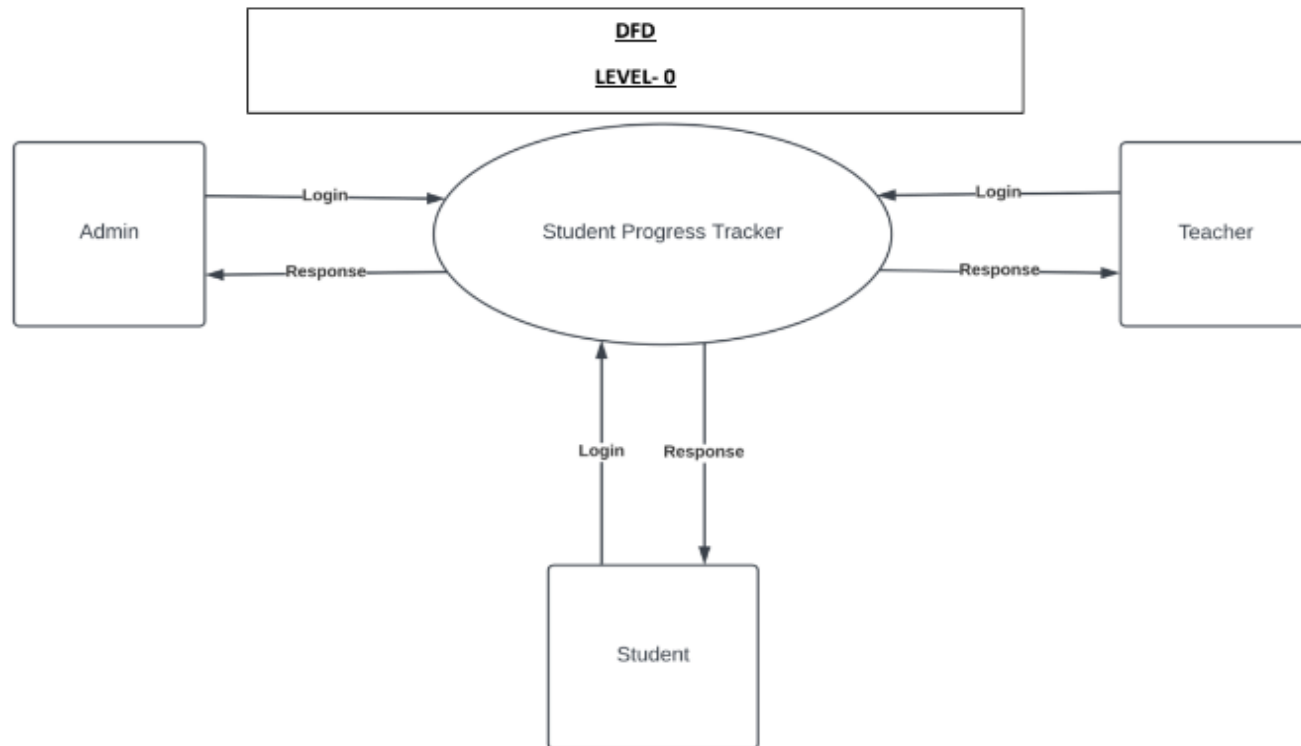
# Models/Diagrams

## ER Diagram:



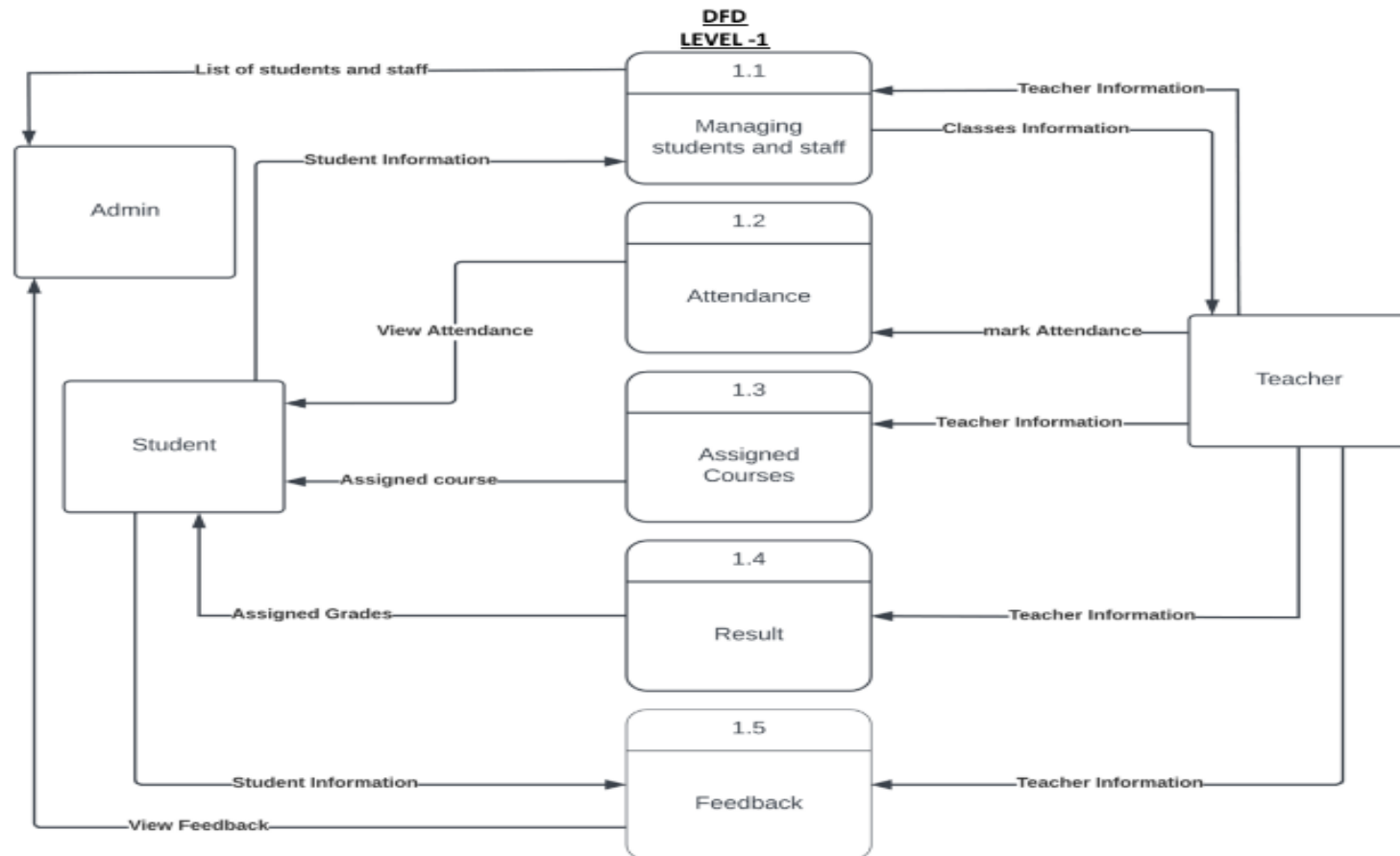
# Models/Diagrams

DFD Level -0:



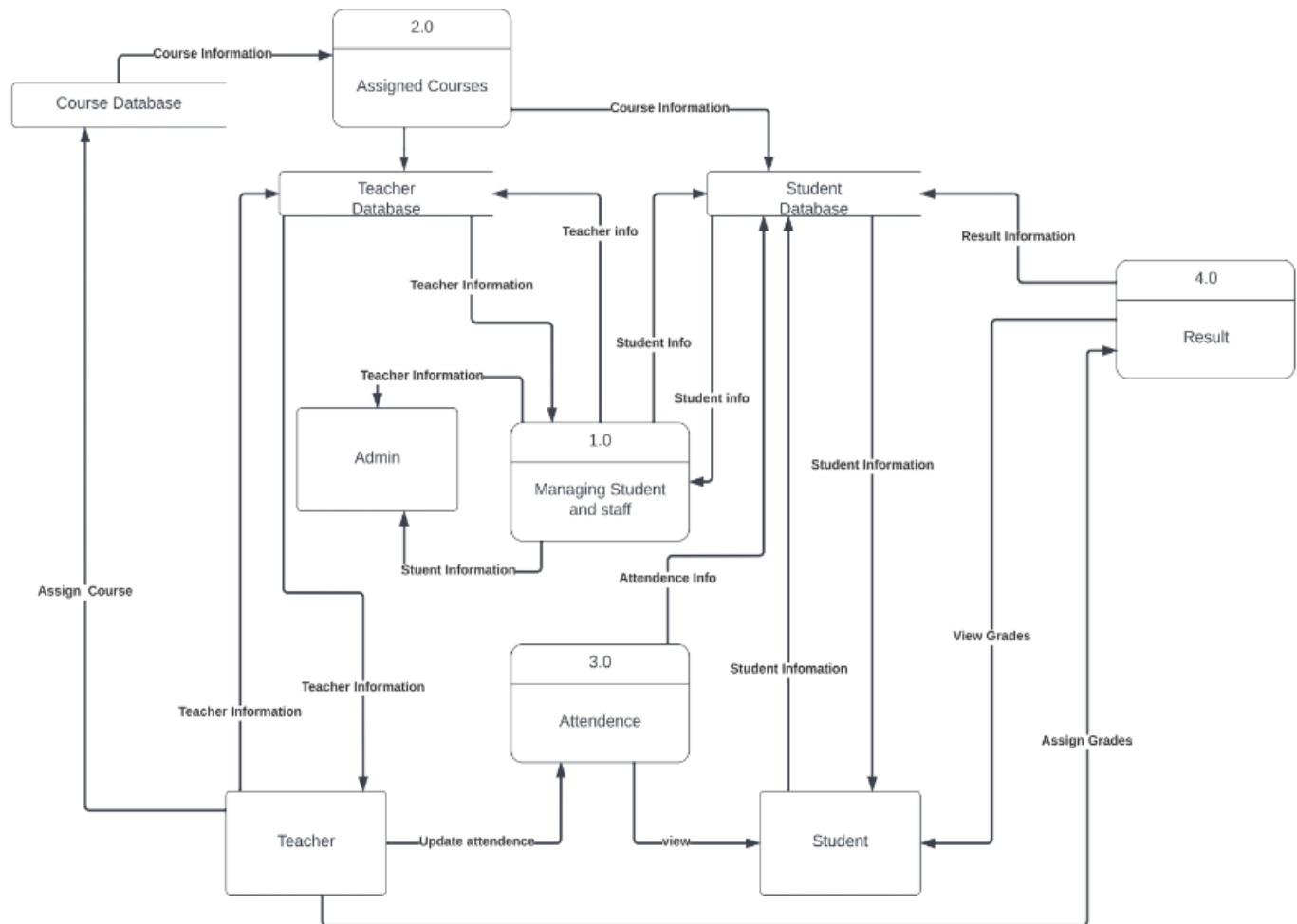
# Models/Diagrams

## DFD Level -1:



# Models/Diagrams

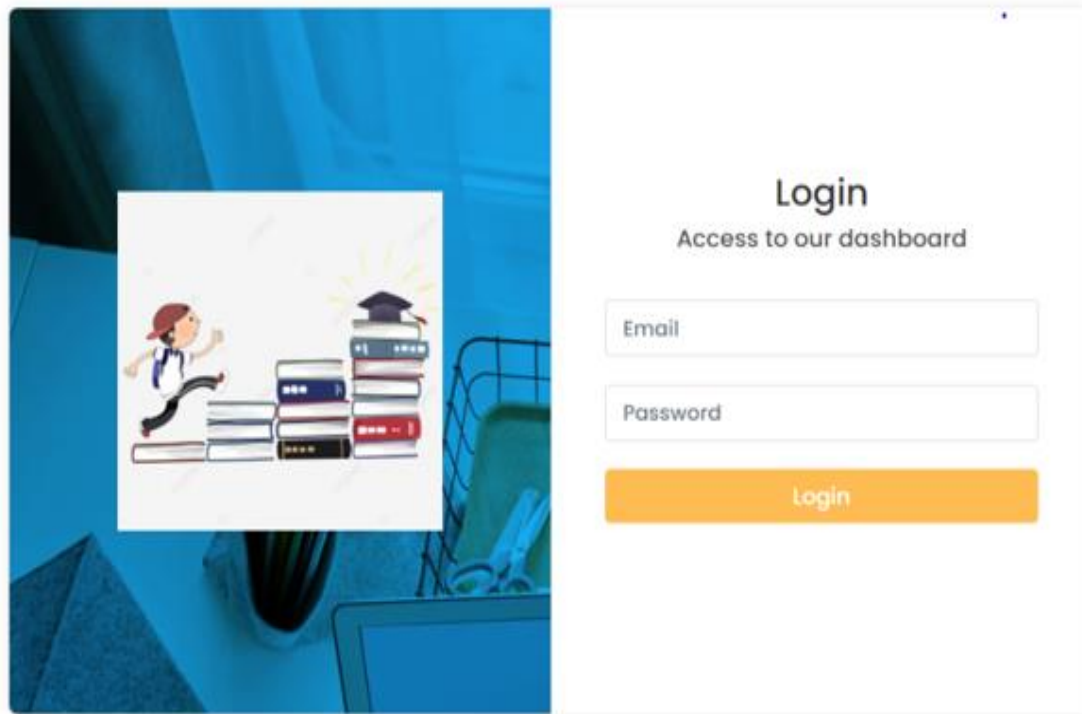
## DFD Level -2:



# Implementation

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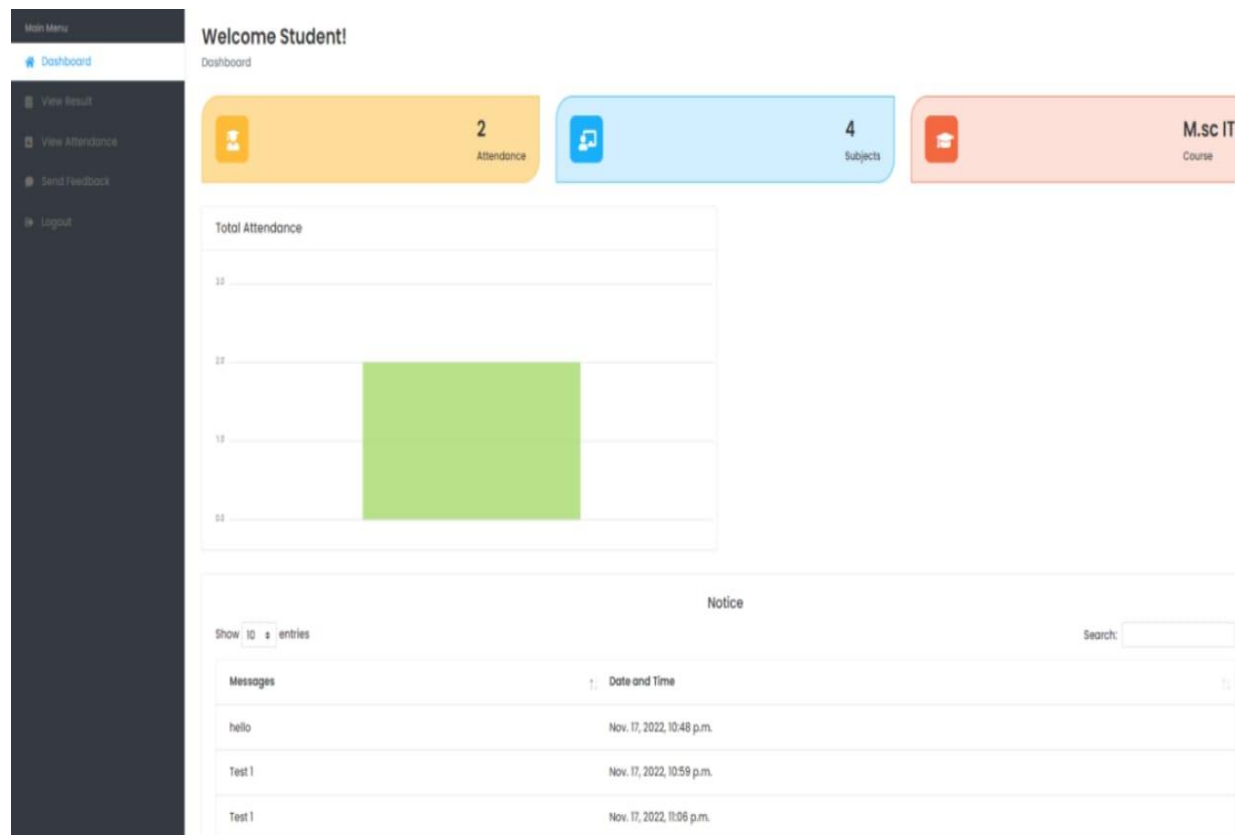
- Login page:





# Implementation

## ❑ Student DashBoard:



# Implementation

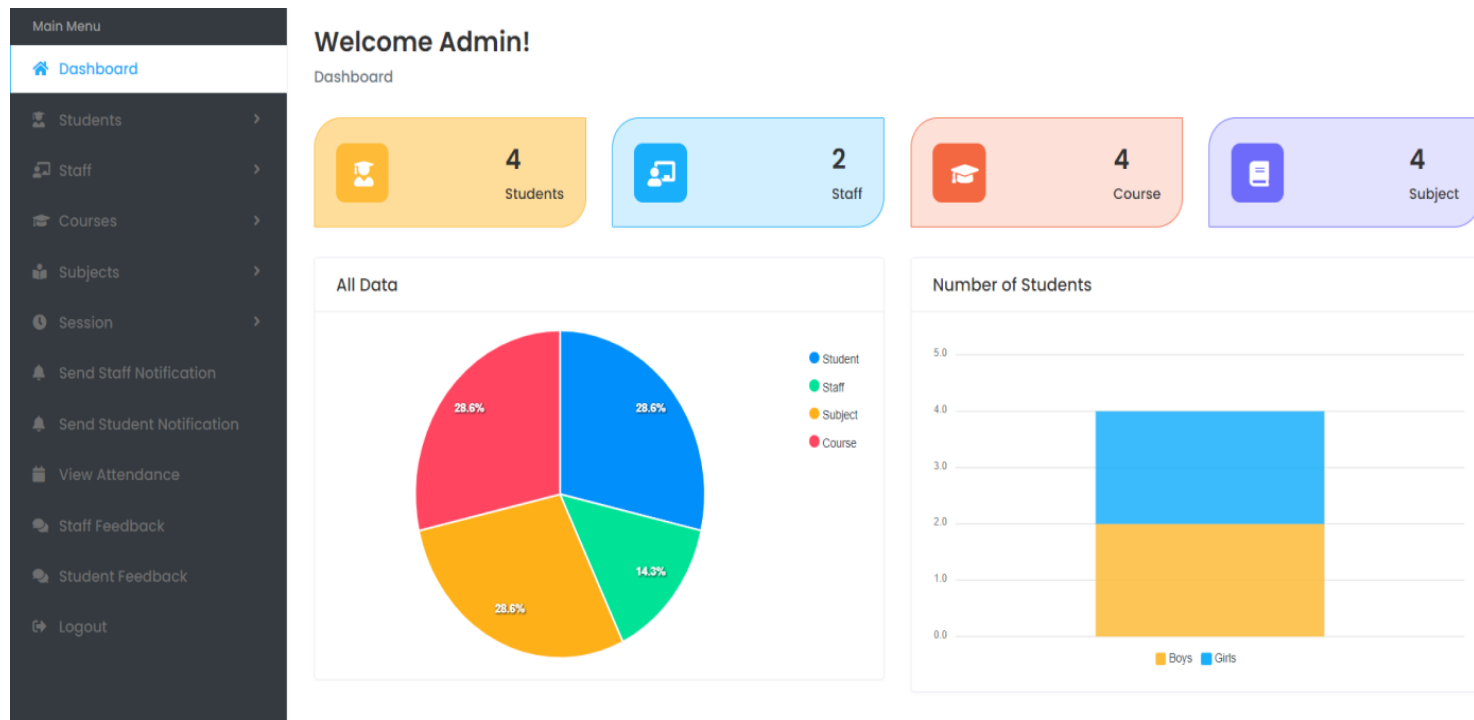
## ❑ Staff DashBoard:

The screenshot displays the Staff Dashboard interface. On the left is a dark sidebar menu with the following items: Main Menu, Dashboard (highlighted with a blue icon), Take Attendance, View/Update Attendance, Add Result, Send Feedback, and Logout. The main content area is titled 'Staff Dashboard' and features a 'Notice' section. This section includes a 'Show 10 entries' dropdown and a search bar. Below is a table with two columns: 'Messages' and 'Date and Time'. The table contains two entries: 'hello' and 'Tomorrow is Holiday', both dated 'Nov. 13, 2022'. At the bottom, it shows 'Showing 1 to 2 of 2 entries' and navigation buttons for 'Previous', '1' (active), and 'Next'.

Messages	Date and Time
hello	Nov. 13, 2022, 9:31 a.m.
Tomorrow is Holiday	Nov. 13, 2022, 11:50 a.m.

# Implementation

## Admin Dashboard:



# Testing/ Test Cases

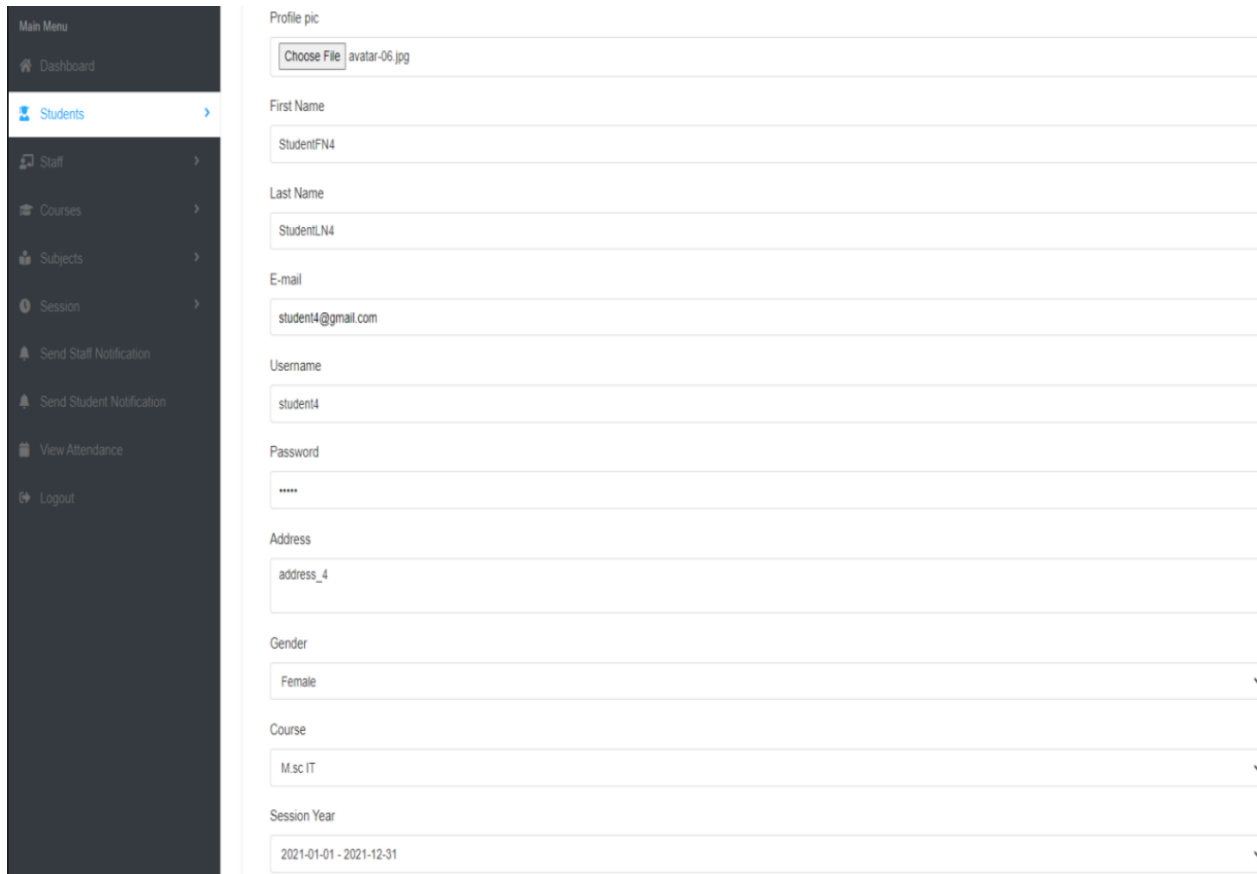
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## Test case 1:

Test Case ID	TC001
Test Case Summary	The information about the student can be edited and added by the administrator.
Expected Result	The administrator can easily and without any issues alter the student's details.
Actual Result	The admin is capable of doing so.

# Testing/ Test Cases

Test case 1 output:



The screenshot displays a web application interface. On the left is a dark sidebar menu with the following items: 'Main Menu', 'Dashboard', 'Students' (highlighted in blue), 'Staff', 'Courses', 'Subjects', 'Session', 'Send Staff Notification', 'Send Student Notification', 'View Attendance', and 'Logout'. The main content area on the right contains a form for a student profile. The form fields are as follows:

- Profile pic:** A button labeled 'Choose File' followed by the text 'avatar-06.jpg'.
- First Name:** A text input field containing 'StudentFN4'.
- Last Name:** A text input field containing 'StudentLN4'.
- E-mail:** A text input field containing 'student4@gmail.com'.
- Username:** A text input field containing 'student4'.
- Password:** A text input field containing five asterisks '\*\*\*\*\*'.
- Address:** A text input field containing 'address\_4'.
- Gender:** A dropdown menu with 'Female' selected.
- Course:** A dropdown menu with 'M.sc IT' selected.
- Session Year:** A dropdown menu with '2021-01-01 - 2021-12-31' selected.

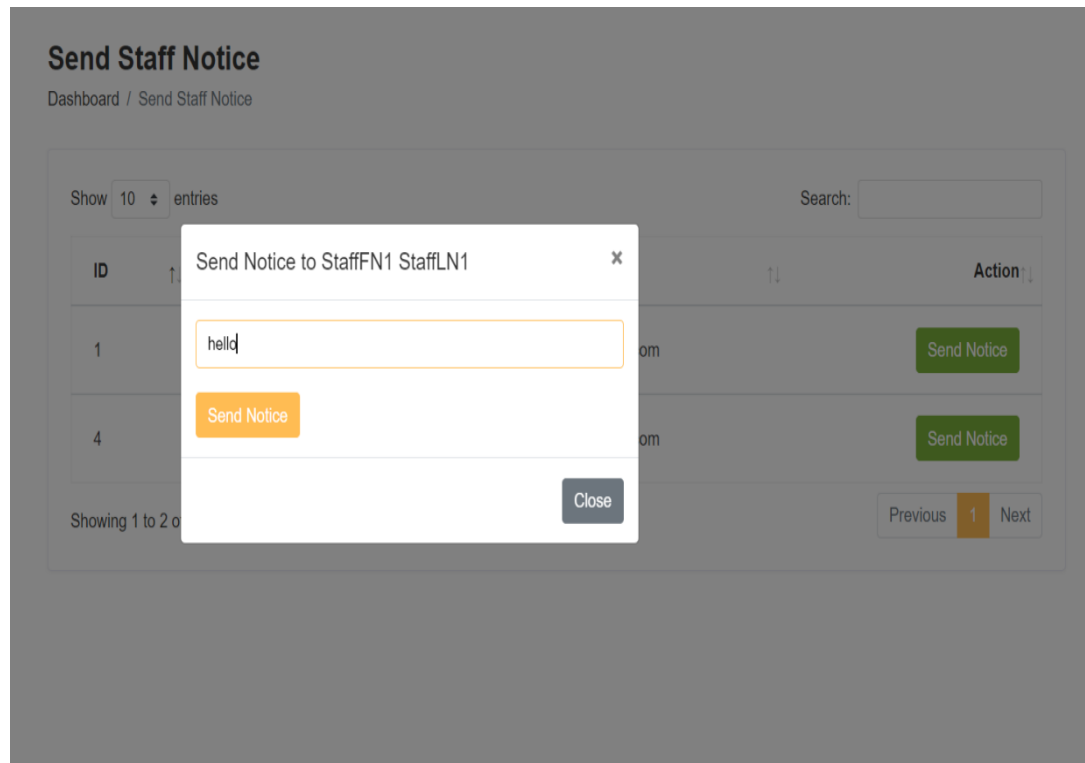
# Testing/ Test Cases

## Test case 2:

Test Case ID	TC002
Test Case Summary	Staff notice was sent by administration.
Expected Result	The administrator can easily send notices to staff.
Actual Result	The admin is capable of doing so.
Status	Pass

# Testing/ Test Cases

Test case 2 output:



# Testing/ Test Cases

## Test case 3:

Test Case ID	TC003
Test Case Summary	Staff Add Result
Expected Result	Staff is able to add result and student is able to view the result
Actual Result	The staff is capable of doing and student is able to view the result.
Status	Pass



# Testing/ Test Cases

## Test case 3 Output:

Main Menu

Dashboard

Take Attendance

View/Update Attendance

Add Result

Logout

Add Result

Dashboard / Add Result

Add Result

Subject

Session Year

Student List

Assignment Marks

Exam Marks

Subject1

2021-01-01-2021-12-31

ID9: StudentFN4 StudentLN4

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Add Result

# The Outcome discussion

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- ❑ The website is used to monitor a student's entire progress so they can become better all around. We are establishing this website because there are times when teachers find it difficult to keep up with the content, which will have an impact on the final grades.
- ❑ Teachers must therefore create their own IDs on this website and use a unique code or password to see and update the entire report.
- ❑ Additionally, students must create an ID because they can only view the report. They can also provide the relevant HOD with comments. Activities or subjects might be assigned by teachers based on the class.
- ❑ And the student needs to complete the exercise before the teacher may assign a grade out of 100. If, however, the teacher forgets to assign a grade, the website will notify both the student and the teacher, ensuring that there is no room for error.
- ❑ Additionally, the website will notify the student of their activities and attendance.

# The Outcome discussion

## Comparison & Benefits:

- ☐ Managing student data properly Numerous apps or websites are not required to store a variety of data.
- ☐ Real-time monitoring of students .
- ☐ Online and anytime attendance is used to determine if a student is in class or not.
- ☐ Review of student performance on an ongoing basis.
- ☐ Other activities, such as athletics, dance, drawing, etc., can also be tracked

# Conclusion and Limitation

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- ❑ Monitoring student progress Educational establishments can easily retain their student records by using the system. This system aids in preserving the organization's students' academic success.
- ❑ It keeps track of students' progress and is simple for teachers and students to access. The manual system makes it difficult to accomplish this goal because the information is dispersed, often redundant, and gathering pertinent data might take a lot of time.
- ❑ This project resolves each of these issues.

# Acknowledgment

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An individual may have some limitations , but with the association and cooperation from thought provoking people he can achieve his otherwise difficult dreams . Exchange of ideas generates a new object to work in better way . Whenever a person is helped or co-operated by others , his heart is bound to pay gratitude to them .

I would like to express my heart full thanks and high level respect to my project guide **Prof. Ronak Jain**, whose constant support ,vast knowledge and experience have been a tremendous source of strength in my endeavor.