St. Thomas' College of Engineering and Technology
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Abstract

for Student Performance Tracker

Under the supervision of
Prof. Sanghamitra De and Prof. Debashis Chakraborty

Prepared By

Anwesha Chakraborty (17)
Swarnava Chakraborty (20)
Suman Guchait (41)
Sandipan Hatai (43)
Samir Jana (47)

Abstract

The continuous advancement in the field of high-speed online services has opened the door for various social services. One such area is education. There are many underprivileged persons in the world who do not have access to quality education. Online Student Performance Tracking System provides a interface for college maintenance. It can used by educational institutes or coaching classes to analyse the student performance easily. The creation, analysation, up to date information regarding academic career of a student is critically very important in an institution. Online student performance tracking system deals with all kinds of student details, class details and academic related marks details and reports. It keeps track on all details of a student from the day one to the end of the academic which can be used for all reporting purpose and tracking performance. Different reports, assignment, exam, feedback and queries can be generated based on vast option related to student, teachers. Course and even for entire college. In this paper, we discuss the architecture of such a system and the methodology used in developing such a system and later describes the results achieved through using it.

Online Student Performance Analysis System provides an interface for school maintenance. It can used by educational institutes or coaching classes to analyze the student performance easily. The creation, analyzation, up to date information regarding academic career of a student is critically very important in an institution. Online student performance analysis system deals with all kinds of student details, course details, class details and academic related marks details and reports. It keeps track on all details of a student from the day one to the end of the academic which can be used for all reporting purpose. I also facilitate all student's details in all aspects the various academic email notification to the parents about the performance updated by administration. Different reports, feedback and queries can be generated based on vast option related to student, teachers. Course and even for entire college

St. Thomas' College of Engineering and Technology

Software Requirement Specifications

Online Student Performance Tracker

Prepared by

Anwesha Chakraborty (17)

Swarnava Chakraborty (20)

Suman Guchait (41)

Sandipan Hatai (43)

Samir Jana (47)

Version 1.0 approved

Date: 12/05/2021

Contents

Revision History

Name	Date	Change	Version
Baseline	05-May-2021	12-May-2021	1.0

Abstract

The continuous advancement in the field of high-speed online services has opened the door for various social services. One such area is education. There are many underprivileged persons in the world who do not have access to quality education. Online Student Performance Tracking System provides a interface for college maintenance. It can used by educational institutes or coaching classes to analyse the student performance easily. The creation, analysation, up to date information regarding academic career of a student is critically very important in an institution. Online student performance tracking system deals with all kinds of student details, class details and academic related marks details and reports. It keeps track on all details of a student from the day one to the end of the academic which can be used for all reporting purpose and tracking performance. Different reports, assignment, exam, feedback and queries can be generated based on vast option related to student, teachers. Course and even for entire college. In this paper, we discuss the architecture of such a system and the methodology used in developing such a system and later describes the results achieved through using it.

Online Student Performance Analysis System provides an interface for school maintenance. It can used by educational institutes or coaching classes to analyze the student performance easily. The creation, analyzation, up to date information regarding academic career of a student is critically very important in an institution. Online student performance analysis system deals with all kinds of student details, course details, class details and academic related marks details and reports. It keeps track on all details of a student from the day one to the end of the academic which can be used for all reporting purpose. I also facilitate all student's details in all aspects the various academic email notification to the parents about the performance updated by administration. Different reports, feedback and queries can be generated based on vast option related to student, teachers. Course and even for entire college.

1. Introduction

The potential importance of creating effective parent-school partnerships is made clear by studies that have shown strong linkages between parent involvement in their children's education and student academic achievement [1]. Students whose families are more knowledgeable, supportive, and involved in their education perform better academically and exhibit more positive attitudes toward school, have higher expectations, and exhibit more positive behaviours [2]. Students are the main asset for various universities. Universities and students play an important role in producing graduates of high qualities with its academic performance achievement. Academic performance achievement is the level of achievement of the students' educational goal that can be measured and tested through examination, assessments and other form of measurements. However, the academic performance achievement varies as different kind of students may have different level of performance achievement. The student academic performance is usually stored in student management system, in different formats such as files, document, records, images and other formats. These available students' data could be extracted to produce useful information. However, the increasing number of students' data becomes hard to be analysed by using traditional statistic techniques and database management tools [3]. Thus, a tool is necessary for universities to extract the useful information. This useful information could be used to predict the students' performance.

1.1 Purpose

The purpose of this SRS document is to specify software requirements of the Student Performance tracker for the university. It is intended to be a complete specification of what functionality the performance tracker provides. The main purpose of the system is to automate the task carried out by different peoples in the organization to analyse the student performances.

1.2 Intended Audience and Reading Suggestions

The document is intended for, developers, project managers, marketing staff, users, testers, and documentation writers for the Student Performance Tracking software. The rest of this SRS contains and how it is organized. Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.

1.3Project Scope

The aims of this project is to develop web based application that is a proposed solution to solve the problems faced by the school and parents as there is less communication between parents and teachers, parents have limited updates regarding their children's academic performance because of time and distance that barrier hinders parents to involve actively in their children's schooling. Apart from that, this mobile application provides parents with examination records, attendance records and also disciplines records of their children. This Student Performance Tracking can facilitate two ways of communication between parents and teachers.

2.Overall Description

2.1 Product Perspective

1) The web pages (XHTML/JSP) are present to provide the user interface on customer client side. Communication between customer and server is provided through HTTP/HTTPS protocols.
2) The Client Software is to provide the user interface on system user client side and for this TCP/IP protocols are used.
3) On the server-side web server is EJB and database server is for storing the information.

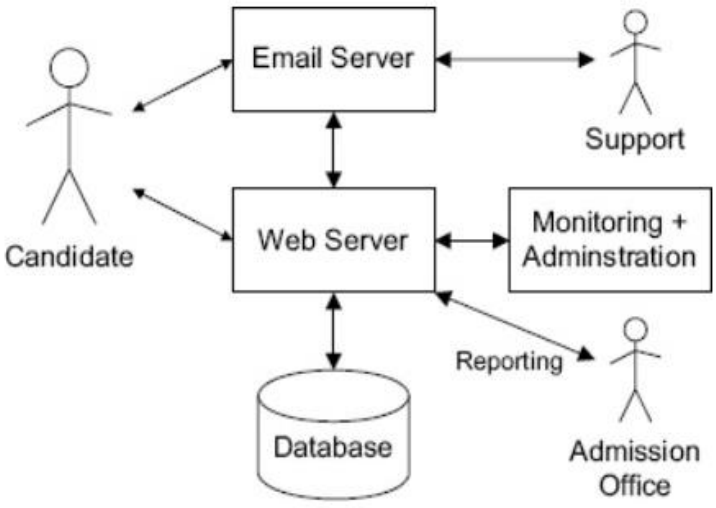


Figure 1: Model of the System

2.2 Product Features

1. Admin, Faculty, Parent Portal
2. Viewing of Grades and Attendance using Graphs
3. Calculation of Grades was based on the Latest K-12 grading system.

4. Printing and Downloading of Report of Grades and Attendance.
5. Uploading grades, student/student info, attendance using excel
6. Posting of News and events
7. Finance Statement Management by Admin
8. Attendance Monitoring for Faculty

Notes:

1. Upload database in phpmyadmin. You need the studenttracker.sql inside the studenttracker.rar
2. Default employee Id and password for admin is: admin - admin
3. For the fonts to run, you need an internet connection. Because it uses CDN from fontawesome.

2.3 User classes and Characteristics

Some of the users identified for this system through use case analysis are listed below:

1) Students
2) Teacher
3) Admin

2.4 Design and Implementation Constraints

Some of the design and implementation constraints identified are listed below:

1) Student are required to register for more than one course.
2) Student not has any rights to edit any data in the system.
3) The student can only view ta attendances and grade.
4) Student can only submit and attend the exam.
5) Teacher can only modify the attendance and marks in portal.
6) System is limited to HTTP/HTTPS Protocols.

2.5 User Documentation

Online documentation facility is available for the students to assess them for the easy use. A specific document should be prepared for the maintenance of the system.

2.6 Assumptions and Dependencies

1) Users with administrator access should be careful in deleting or modifying any information knowingly or unknowingly which will lead to inconsistency of the database.
2) The end users of this software are assumed to have basic level of computer knowledge i.e. point and click.

3.System Requirements

3.1 Language used to develop

1. HTML5
2. CSS3
3. JQUERY/AJAX/JSON
4. PHP7
5. MySQLi Procedural
6. JS

3.2 Framework used

1. Materialize CSS

3.3 Plugins

1. Font awesome
2. JSPDF
3. CANVAS.JS

3.4 Environment

1. MongoDB
2. Java

3.5 Supported Operating System

1. macOS X with macOS 10.9 or later
2. Windows 7 or later

3.6 Supported Mobile devices

1. iOS and Android devices

3.7 Supported Browsers

1. Windows: Internet Explorer 11+, Edge 12+, Firefox 27+, Chrome 30+
2. macOS: Safari 7+, Firefox 27+, Chrome 30+
3. Linux: Firefox 27+, Chrome 30+

3.8 Developing System Requirements

OS–Windows/macOS/Linux/Ubuntu
Architecture – x64
RAM – 8GB

4.Functional Requirements

4.1 Admin

4.1.1 Student Details

4.1.1.1 Description and Priority:

Admin will get all the details of student like registered information, attendance, academic performance and result. Admin will have the access to add/remove any student. Admin will have the access to monitor all the student through this portal.

Priority of the feature is Moreover High (8).

4.1.1.2 Stimulus/Response Sequences:

- Open student portal.
- Search student details with the student's name, academic year, class roll no etc.
- View student information.
- View merit list of students.

4.1.2 Teacher Details

4.1.2.1 Description and Priority:

Admin will get all details of the teacher like the teaching subjects, teaching classes, teachers contact details etc. Admin will have the access to monitor teachers class time to adjust class time.

Priority of the feature is Moreover High (8).

4.1.2.2 Stimulus/Response Sequences:

- Open teacher portal.
- Search with teacher's name, unique id etc.
- View teacher's details.

4.2 Student:

4.2.1 Attendance:

4.2.1.1 Description and Priority:

Students can check their attended class in graph format. It'll help them to keep tracking on attendance, so that they can improve their attendance if needed. Also, they can save themselves from getting warning, penalty or year lack.

Priority of the feature is High (9).

4.2.1.2 Stimulus/Response Sequences:

Viewing Attendance:

- Students will login on student user id.
- Will Click on Attendance portal.
- Now each student will get attendance graph sheet of subject wise.
- So, students can improve their attendance if needed on any subjects.

4.2.2 Assignments & Exams:

4.2.2.1 Description and Priority:

Student can get access to the assignments or exam's questions papers assigned to them. So, they can complete assignments or question papers on time and do submit. Also, they can check their old submitted assignments & answer sheets for future reference.

Priority of the feature is High (9).

4.2.2.2 Stimulus/Response Sequences:

Viewing Question Paper/Assignment:

- Students will login on student user id.
- Will Click on Assignment or Question Paper portal.
- Now students will take part on assignments or question papers from list accordingly.

Submit Answer Sheet/Assignment:

- Students will login on student user id.
- Will Click on Assignment or Question Paper portal.
- Students will upload their Assignment or Answer sheet accordingly on portal.

4.2.3Result:

4.2.3.1 Description and Priority:

Student will get their result in marks, grade & percentile basis on their performance on exam. Also, they will get an analysis on basis of performance & marks which will help them to

understand on which subject they are doing excellent and on which subject they need to do improvement.
Priority of the feature is High (9).

4.2.3.2 Stimulus/Response Sequences:
Viewing Score:

- Students will login on student user id.
- Click on Result portal.
- Check the result of all subjects.

4.2.4 Merit List:

4.2.4.1 Description and Priority:
Students will get overall Merit list and also will get their Performance and Quality Feedback; these comments will be a part of student's continuous improvement process.
Priority of the feature is Moreover High (8).

4.2.4.2 Stimulus/Response Sequences:
Merit List:

- Students will login on student user id.
- Click on Result portal.
- Click on Merit List.
- Check over all Merit List.

Feedback:

- Students will login on student user id.
- Click on Result portal.
- Check all Comment on performance.

4.3 Teacher:

4.3.1 Attendance:

4.3.1.1 Description and Priority:
Teacher can take attended class for each students easily in a table format where list of checkbox exists for each student. Also they can entry attendance details later as their choice anytime anywhere.
Priority of the feature is High (9).

4.3.1.2 Stimulus/Response Sequences:
Taking Attendance:

- Teacher will login on teacher user id.
- Will Click on Attendance portal.
- Now teacher will easily entry attendance by tick the checkbox one by one.

4.3.2 Task: Assignments & Exams:

4.3.2.1 Description and Priority:

Teacher can post assignments or exam's questions papers assigned to them by uploading the task in the format of forms or local file (pdf, txt, doc) or third party link (Google Docs) into System database.

Priority of the feature is High (9).

4.3.2.2 Stimulus/Response Sequences:

Posting Task: Question Paper/Assignment:

- Teacher will login on teacher user id.
- Will Click on Assignment or Question Paper portal.
- Teacher upload file or mention any link.
- Now teacher will post assignments or question papers by targeting student semester wise & branch wise.

4.3.3 Result:

4.3.3.1 Description and Priority:

Teacher will declare result of each student in marks or grade or percentile basis on their performance on task(exam/assignment). There is a list of Text Box for each student where teacher correspondingly entry marks with comments.

Priority of the feature is High (9).

4.3.3.2 Stimulus/Response Sequences:

Viewing Score:

- Teacher will login on teacher user id.
- Click on Result portal.
- Giving the marks with comments of all subjects for each student.
- Finally, teacher click Declare Button.

5.External Interface Requirements

5.1 User Interfaces

The user interface for this system will have to be simple and clear. Most importantly, the pages must be easy to read, easy to understand and accessible. The server will be accessible through any internet browser, the major ones being Google Chrome and Internet Explorer.

5.2 Hardware Interfaces

The hardware interfaces are as follows:

- Windows 7/8/8.1/10
- 2GB RAM
- 1.2 GHz Processor
- Intel i5

5.3 Software Interfaces

Front-end :

1) HTML
2) CSS
3) JS

Back end:

1) PHP
2) My SQL

5.4 Communications Interfaces

1) Client on Internet will be using HTTP/HTTPS Protocol.
2) Client on intranet will be using TCP/IP protocol.

6. Nonfunctional Requirements

6.1 Performance Requirements

1. The information is refreshed depending upon whether some updates have occurred or not in the application.
2. The system shall be allowed to take more time when doing large processing jobs. Responses to view information shall take no longer than 5 seconds to appear on the screen.
3. The software shall support use of 500 users at a time.
4. All failures reported by the server side must be handled instantaneously to allow for user and system safety.

6.2 Security Requirements

1. All users should be authenticated before granting the access.
2. All users should have access according to their respective authorization privileges.
3. Student should be enrolled in a course before accessing its materials and attempting its assignments and exams.
4. Assignments should be uploaded before being graded.
5. Exam should have been attempted before being graded.

7.Other Requirements

7.1 Portability Requirements

1. The design of the system should allow the application to run on all widely used browsers.

2.The design of the system should cater for different screen sizes (desktop, laptop, tablet, and smartphones) and input mediums (touch screen vs keyboards and mice).

3.The design of this site should be able to run on different operating systems.

7.2 Maintainability

There shall be design documents describing maintenance of the software and database used to save the user details as well as the daily updated and modification done in system. There shall be an access on the control system by the admin to maintained it properly at the front end as well as at back end.

7.3 Reliability

Some of the attributes identified for the reliability is listed below:

a) All data storage for user variables will be committed to the database at the time of entry.

b) Data corruption is prevented by applying the possible backup procedures and techniques.

7.4 Availability

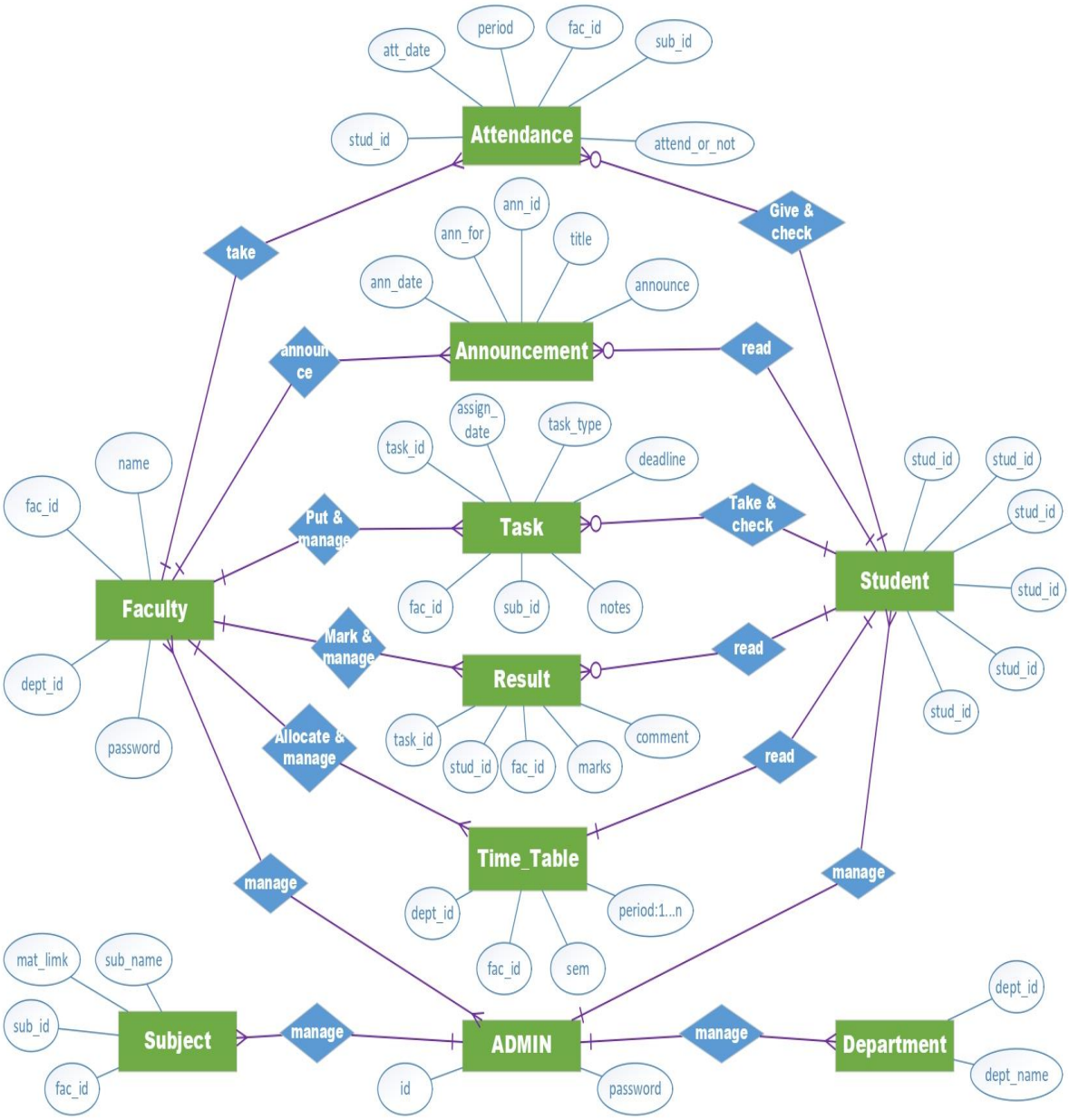
When in normal operating conditions, request by a user for an online system shall be handled within 5 second. The system shall be operational for 24*7 and available 100% for the user.

7.5 Usability Requirement

The system shall allow the users to access the system from the phone, Laptop/Desktop using any web browser.

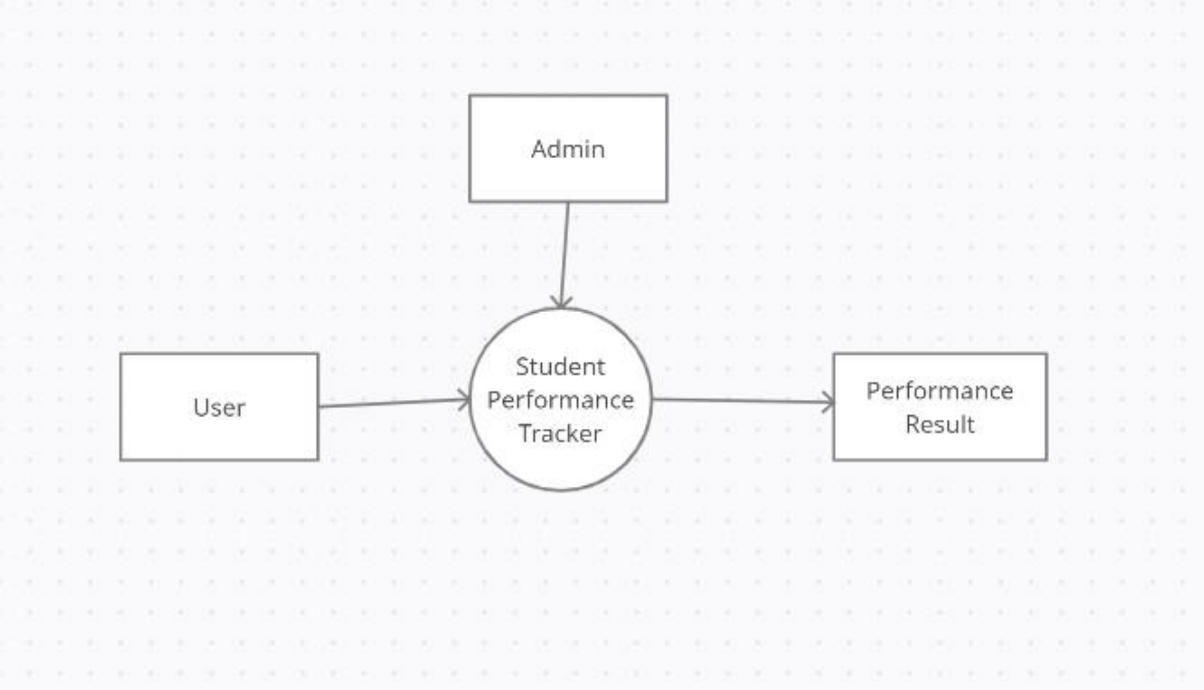
8.Diagrams

8.1 ER Diagram

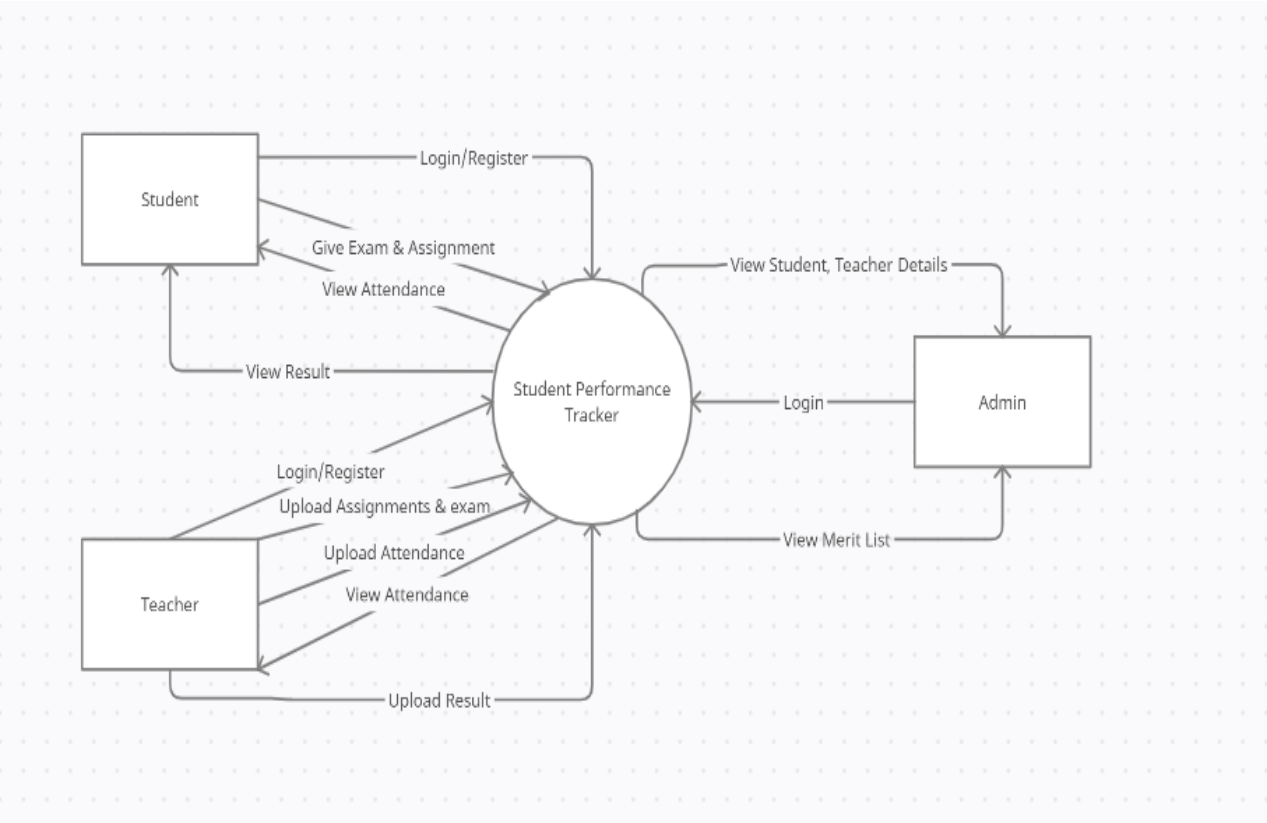


8.2 Data Flow Diagram

8.2.1 DFD Level 0



8.2.2 DFD Level 1



Software Design Document

for

Student Performance Tracker

Version 1.0

Prepared by

Anwesha Chakraborty (17)
Swarnava Chakraborty (20)
Suman Guchait (41)
Sandipan Hatai (43)
Samir Jana (47)

Under the supervision of
Prof. Sanghamitra De and Prof. Debashis Chakraborty

St. Thomas' College of Engineering and Technology

12th May, 2021

Table Of Contents-

I. Introduction-

I.I. Purpose-

The purpose of our project is to develop a online portable system which can track student's performance in academic career. The intention of this project is to visualize student's growth and make a transparent tracking system.

The main purpose of the system is to automate the task carried out by different peoples in the organization to analyze the student performances.

I.II. Product Scope-

The aims of this project is to develop web based application that is a proposed solution to solve the problems faced by the academic institution and parents as there is less communication between parents and teachers, parents have limited updates regarding their children's academic performance because of time and distance that barrier hinders parents to involve actively in their children's schooling. Apart from that, this online application provides parents with examination records, attendance records and also disciplines records of their children. This Student Performance Tracking can facilitate two ways of communication between parents and teachers.

I.III. Intended Audience and Reading Suggestion-

The project is intended for, developers, project managers, marketing staff, users, testers, and documentation writers for the Student Performance Tracking software. The rest of this document contains how it is organized. Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.

I.IV. Reference-

a. Development of Student Performance Tracking Apps. (January 2020).Thesis for: Bachelor of Computer ScienceAdvisor: Ts Syahrul Nizam.
b. How Can Student Tracking System Help in Improving Student Performance? -Gaurav Somani

II. Design Consideration-

This section describes many of the issues which need to be addressed or resolved before attempting to devise a complete design solution.

II.I. Assumptions and Dependencies-

1) Users with administrator access should be careful in deleting or modifying any information knowingly or unknowingly which will lead to inconsistency of the database.

2) The end users of this software are assumed to have basic level of computer knowledge i.e. point and click.

II.II. General Constrains-

Some of the design and implementation constraints identified are listed below:

1) Student are required to register for more than one course.
2) Student not has any rights to edit any data in the system.
3) The student can only view attendances and grade.
4) Student can only submit and attend the exam.
5) Teacher can only modify the attendance and marks in portal.
6) System is limited to HTTP/HTTPS Protocols.

II.III. Goals and Guidelines-

a) Low Response Time: The main functionality of the system involves updating and reading the data from the database for different entities such as exam marks, roll, attendance etc. Thus, the time required to retrieve/ update/ add data to the database should be minimum and preferably should be in the range of 2-5 seconds or less.

b) High Robustness: The system should constantly check the user input at all instances that could generate errors in the program. For instance,
a. The system should be able to check input values for the number of products required for the marks and should make sure the user enters a numeric value in the input box and the system shows an error and asks the user to re-input if in a perfectly validated field an improper data type is inputted.
b. The System should have validated input data fields and must put a constraint on the inputted attendance, user credential etc. to ensure no duplicate entries are added in the database. This ensures the robustness of the maintained database. c. The system should verify all the inputs by the user by using a confirmation dialog box before processing and making changes to the data.

c)High Reliability: The reliability of the system depends upon its ability to replicate the specified behavior. The safekeeping of the data is essential so as a result a backup of the levels is generated and stored in the Database. There are numerous factors on which reliability can be defined as for example, the specifications mention that the updating of database or the notification of a successful update must be carried out within 2-5 seconds of initiation and the system must adhere to these specifications to be called a reliable system. Similarly, the system should be able to achieve performance in lieu with the specifications mentioned.

d) Security: The system must provide login functionality to the Admin as the Admin is the authenticated controller of the system and only Teacher is permitted to use the system functionality and make changes in the database. Thus proper user authentication should be necessary before system launch.

e) Low Adaptability: The system is designed to work on the domain of performance tracker and management for academic institution. The functioning of this project is limited only to these particular school or college.

f) High Readability: The system code should be properly commented so as to explain the functionality of the code fragments. The code comment should explain the function or task the code fragment performs and the result and the return value of the corresponding function or task should also be mentioned.

g) High Traceability: The coding scheme of the system should be such that it could be traced back to its requirements specifications. This will enable high traceability of the code of the system.

II.IV. Development Methods-

Hardware Interfaces-

OS–Windows/macOS/Linux
Architecture – x64
RAM – 8GB or more

Software Interfaces-

Windows: Internet Explorer 11+, Edge 12+, Firefox 27+, Chrome 30+ 2.
macOS: Safari 7+, Firefox 27+, Chrome 30+ 3.
Linux: Firefox 27+, Chrome 30+

Technologies Used-

Language Used	PHP7
Database	MYSQL
User Interface Design	HTML5, CSS3
Software	Virtual Studio Code, XAMPP

III. System Architecture-

III.I. Subsystem Architecture-

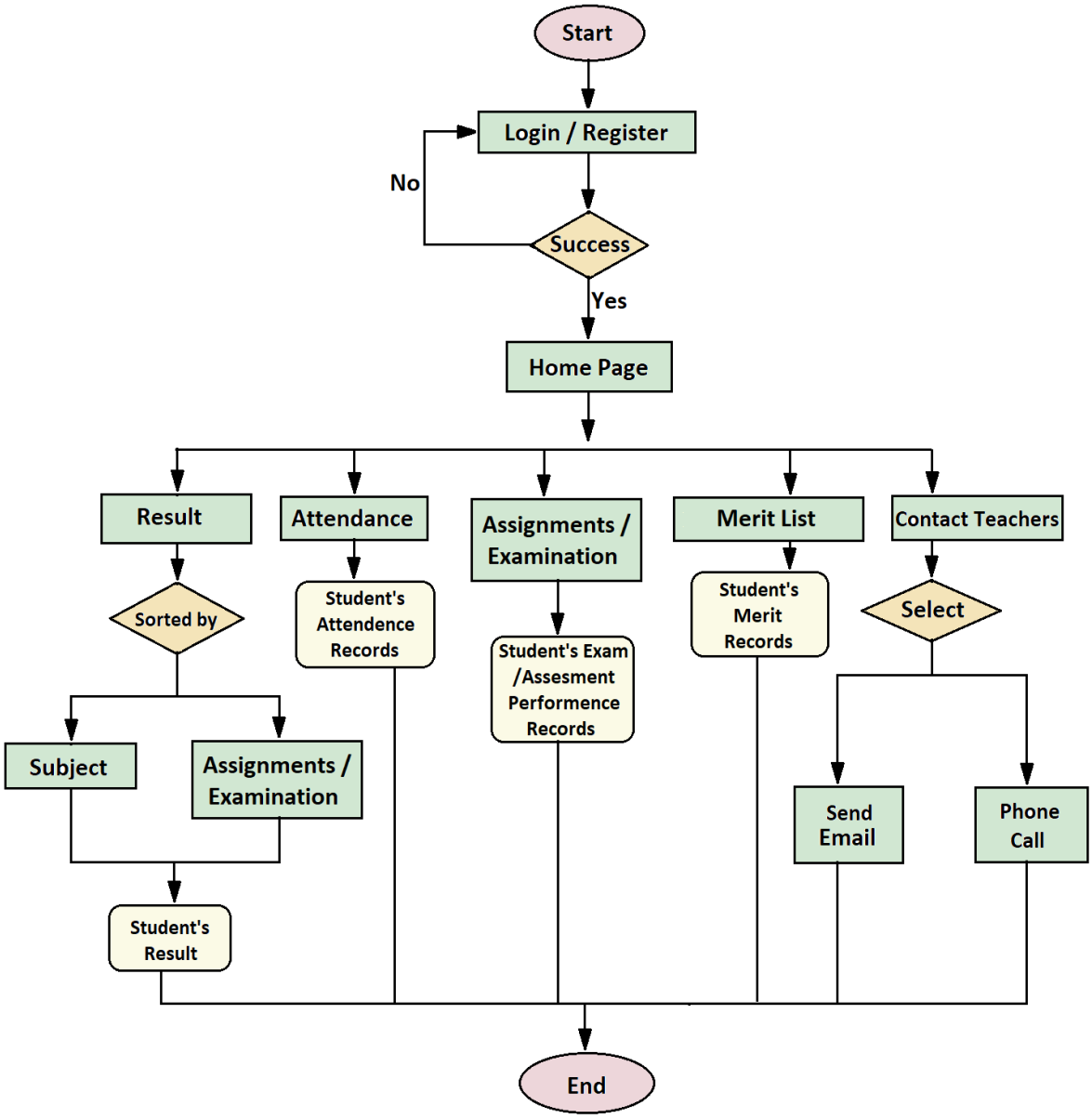


Fig.1 Flow Chart of Student performance Tracker

Above figure describe the workflow for the Student performance tracking System. It's shows how our system will response to an action performed by individual user. If user has login credential he can successfully log in if not he can register or sign up for id password. If user gave wrong credential, he can't be able to access our system. Student or parent user can see overall progress of a student teacher user can access other features like edit attendance, result and other things.

III.II. Sequence Diagram-

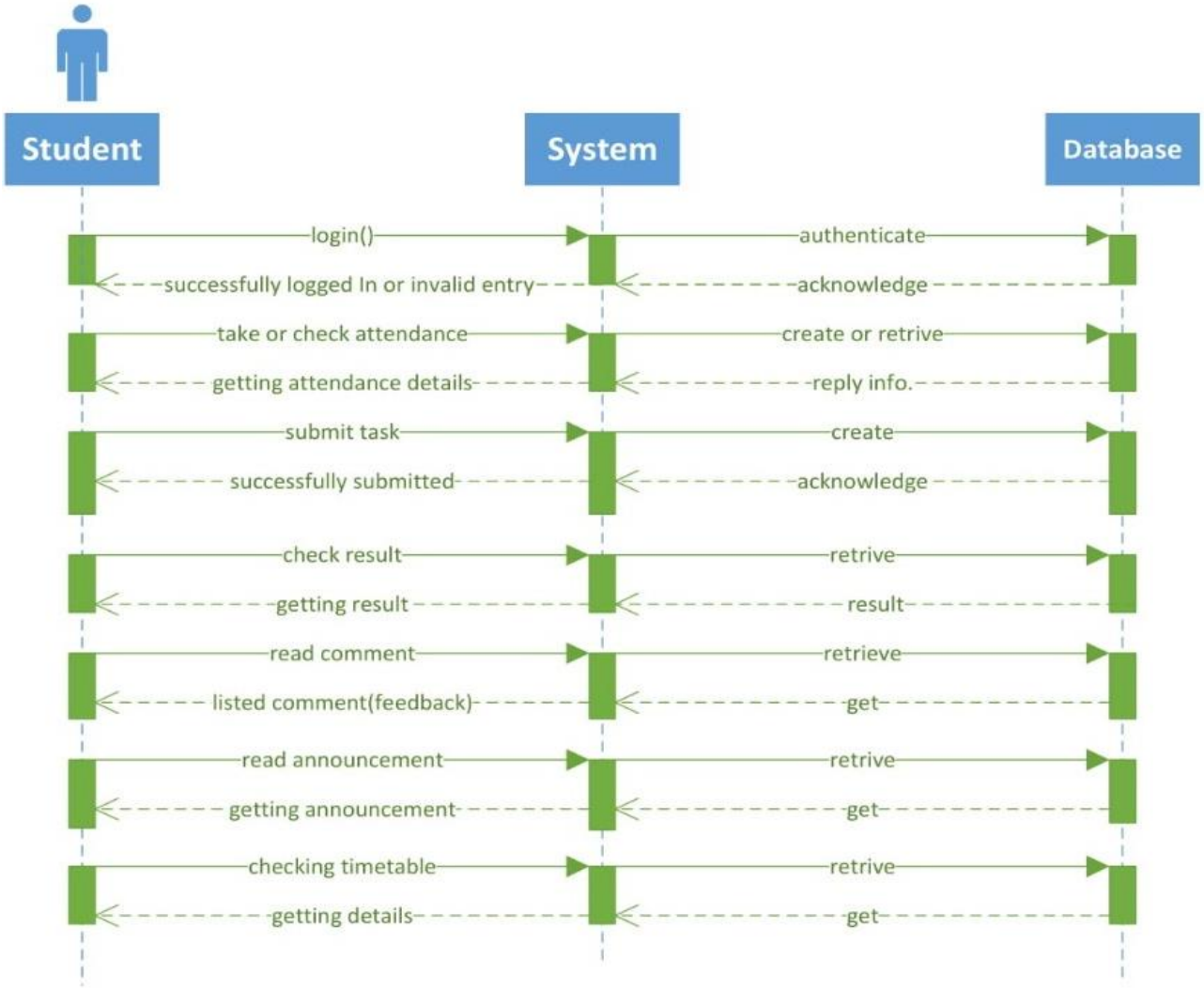


Fig.2. Sequence Diagram(student)

Fig.2. shows sequence diagram for student performance tracker. Its shows when student user Will access this system how this will operate all working procedure. Student can get all the tracking details from this portal or system.

IV. Policies and Tactics-

Coding guidelines and conventions:

When we develop our system, we follow some guidelines. Those are:
a. Use single and double quotes when appropriate. If you're not evaluating anything in the string, use single quotes.

b. If you have a really long block, consider whether it can be broken into two or more shorter blocks, functions, or methods, to reduce complexity, improve ease of testing, and increase readability.
c. Your indentation should always reflect logical structure. Use real tabs and not spaces, as this allows the most flexibility across clients.
d. Always use spaces after commas, and on both sides of comparison, logical, string and assignment operators.

Plans for ensuring requirements traceability:

"Student Performance Tracker" provides us a simple interface for maintenance of student information. It can be used by any school, colleges or educational institutes to maintain the records of students in a easy way.
Achieving this tracking goal in a manual way is too difficult, also collecting relevant information may be very time consuming and there is a possibility of Information scattering. This load of issues is solved using this project. Throughout the project we tried to present information in an easy and understandable way. The project provides managements, admins to manage student's profile, records etc. This will reduce the paperwork's and do automate the record generation and store of record. Teachers can modify students academical data like marks, attendance, assignments etc.

Plans for testing the software:

A Test Plan is a detailed document that describes the test strategy, objectives, schedule, estimation, deliverables, and resources required to perform testing for a software product. We follow some basic steps as follows:
a. Analyze the product
b. Design the Test Strategy
c. Define the Test Objectives
d. Define Test Criteria
e. Resource Planning
f. Plan Test Environment
g. Schedule & Estimation
h. Determine Test Deliverables

Plans to build and/or generate the system's deliverables:

a. Student Performance Tracker, helps us to track student performance and academical activity of students. Also, it allows admins to edit or correct data.

b. We can get a graphical representation of every data whether it's student attendance or marks or number of assignments submitted.

V. Detailed System Design-

V.I. Definition-

- Login system
- Register system
- View attendance
- Search by ID
- Edit attendance
- Student details
- Teacher details
- Add Task

Input-

- Registration details
- Attendance details
- User ID and Password

Process of module-

- Authentication of user credential
- Store or edit attendance details
- Show database details
- Show Graphical representation of data.

Output of module-

- Attendance Details
- Student and Teacher Details

Hardware Requirements-

- Any Computer device with Pentium 166 or higher CPU
- 128 Mb RAM or higher

Software Requirements-

- Any Browser
- Virtual Studio Code
- XAMPP

Scope of the work-

- Registration for new user
- Authentication for user credential
- Edit data and manage database
- View database

V.II Responsibilities-

- Develop a performance tracking system which can provide student's growth.
- Easily track low attendant students.
- Edit all details of the students.
- Show Graphical representation of data.

V.III. Constraints-

- in this project we are unable to view or manage tsk and exam facilities and marks as well.
- Interfaces for the end user have to be kept in mind while interacting with any external third-party software.

V.IV Composition-

1)Admin Login-
Admin can access all the student and teacher details through his/her predefined user credential. Admin can manage system's users.

2) Teacher Register-
Teacher can register himself by providing the necessary information like username, email address, password etc. Teacher can thereafter add and manage the student's details.
a) Correct data should be entered during registration.
b) A user can register only once with a single email id. Multiple accounts cannot be made with a single email id.

3) Teacher Login-
Teacher can use his/her user id, password to login to the system. After login he/she can edit or manage student details and can view student's previous details.
a) Teacher has to enter the correct username and password.
b) On entering wrong details, the client will not be allowed to access tracking system.

4)Student Register-
Student can register himself by providing the necessary information like username, email address, password etc. Student can thereafter check his/her details by entering his subject code and other details.
a) Correct data should be entered during registration.
b) A user can register only once with a single email id. Multiple accounts cannot be made with a single admission registration ID.

4)Student Login-
Student can use his/her user id, password to login to the system. After login he/she view his/her performance details.
a) Student has to enter the correct username and password.
b) On entering wrong details, the student will not be allowed to access performance details.
5)Add Details-

Teacher can add student attendance details after entering valid credential. Admin can manage student and teacher user details.

6)View Details-

After valid login teacher, student and admin can view all details of the student and view graphical view of student performance.

V.V Uses/Interactions-

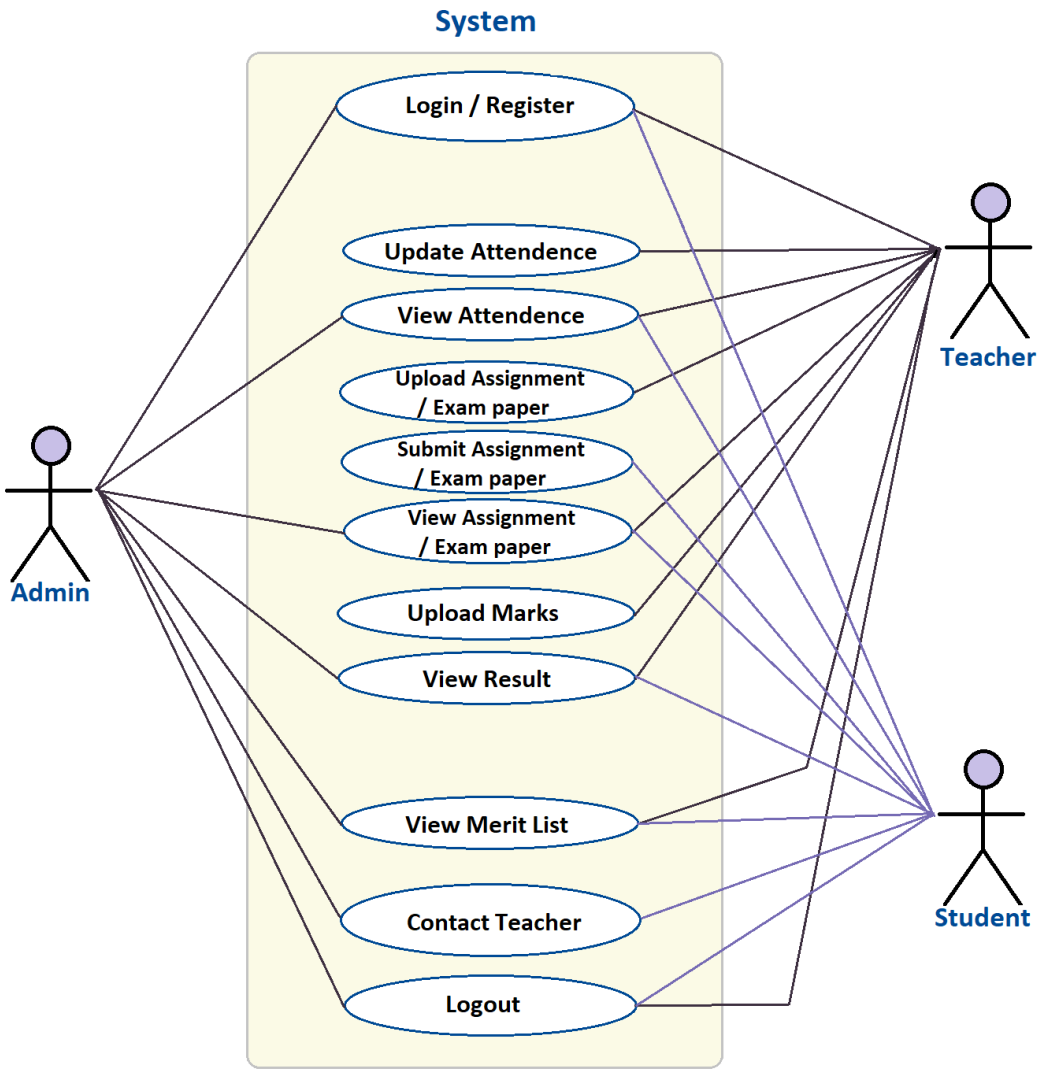


Fig.3 Use Case Diagram for "Student Performance Tracker"

Fig.3 shows use case diagram of our system. It explain the possible interaction between all type of user with system.

V.VI. Resources-

OS–Windows/macOS/Linux/Ubuntu
RAM – 128GB or more

Language Used-PHP7
Database-MYSQL
User Interface Design-HTML5, CSS3
Software-Virtual Studio Code, XAMPP

V.VII. Interface-

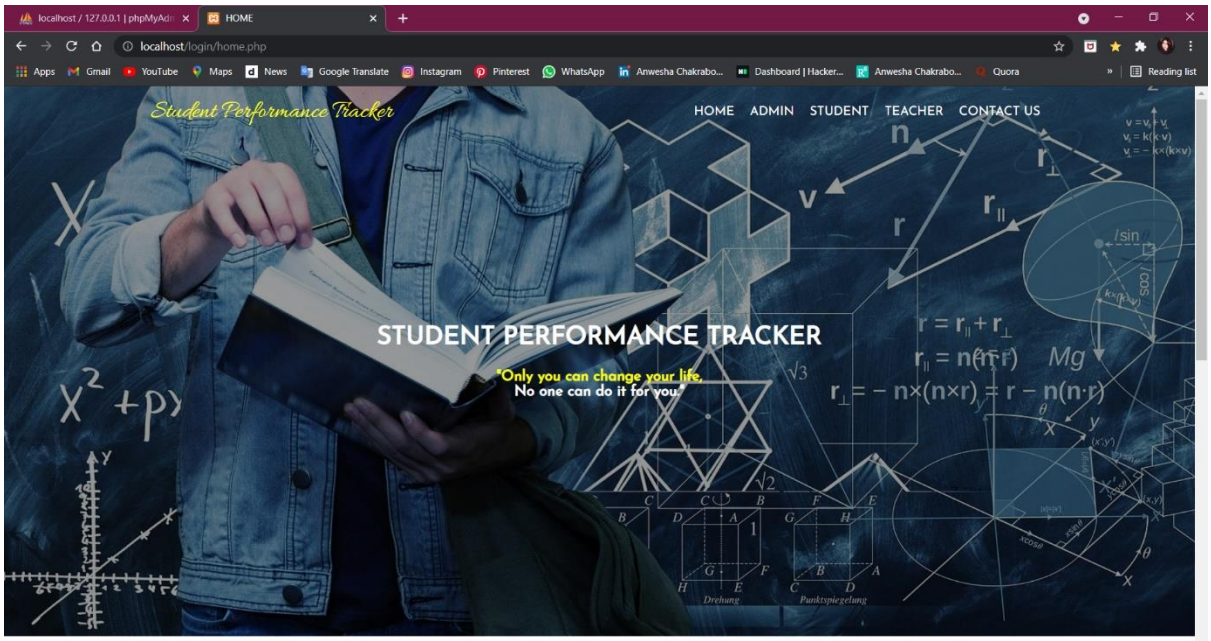


Fig.4.Home Page

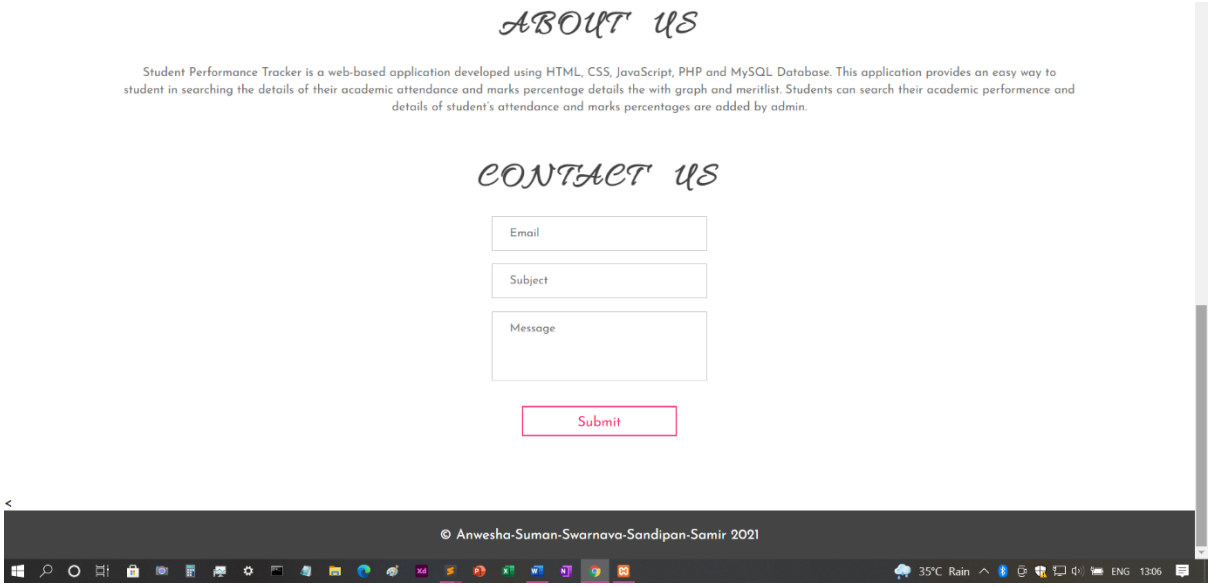


Fig 5: Contact Us Page

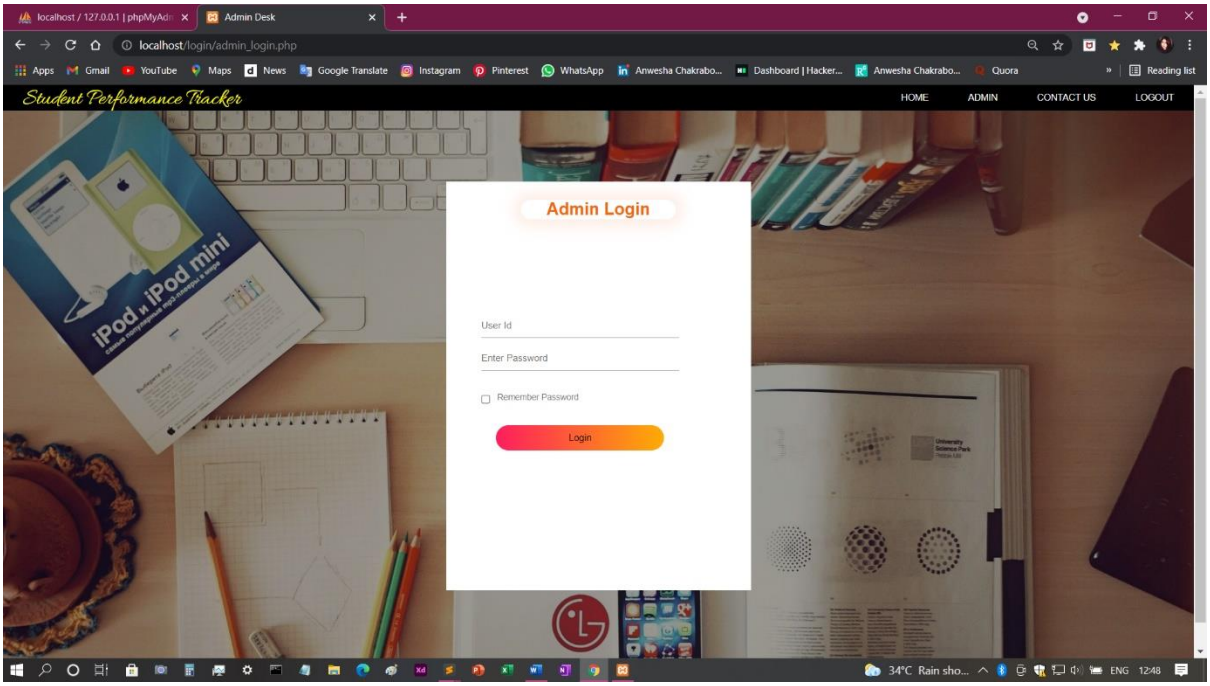


Fig 6: Admin Login

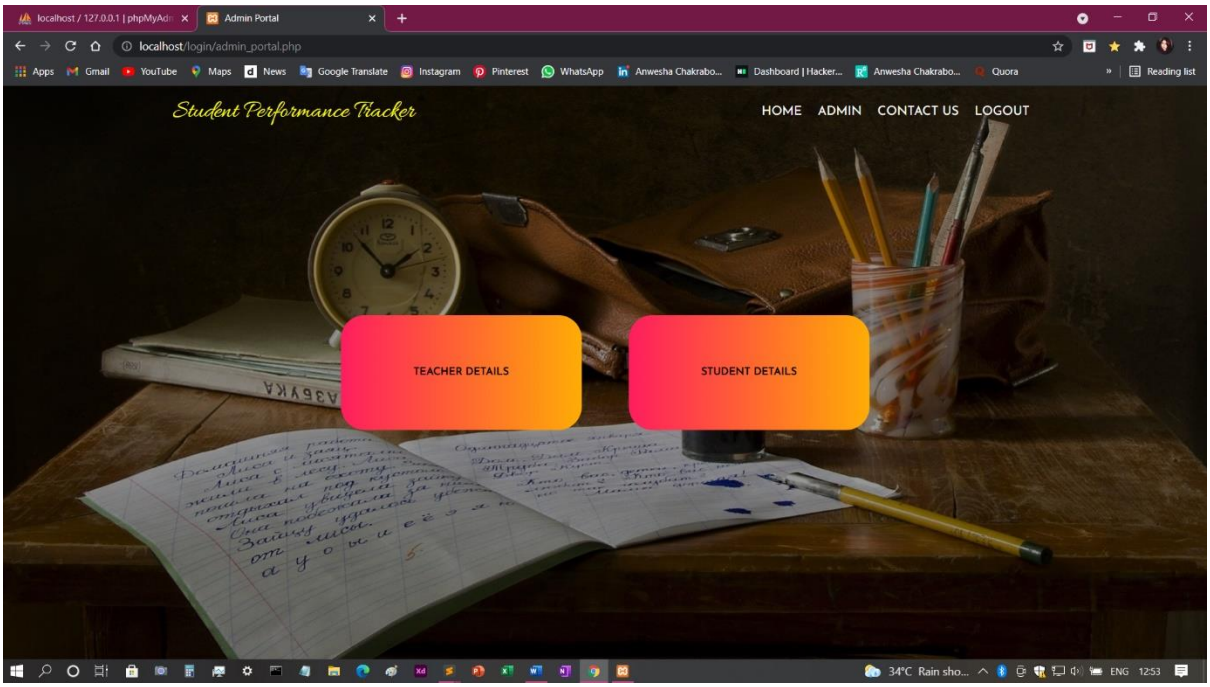


Fig.7 Admin Portal

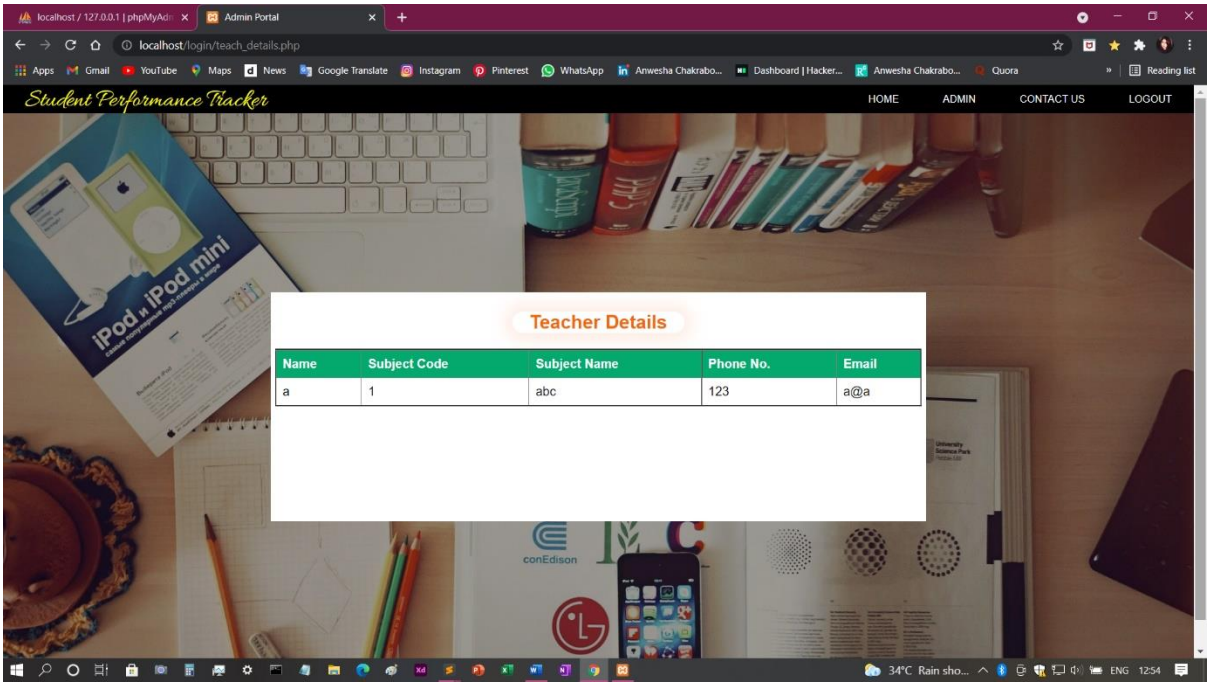


Fig.8View teacher details

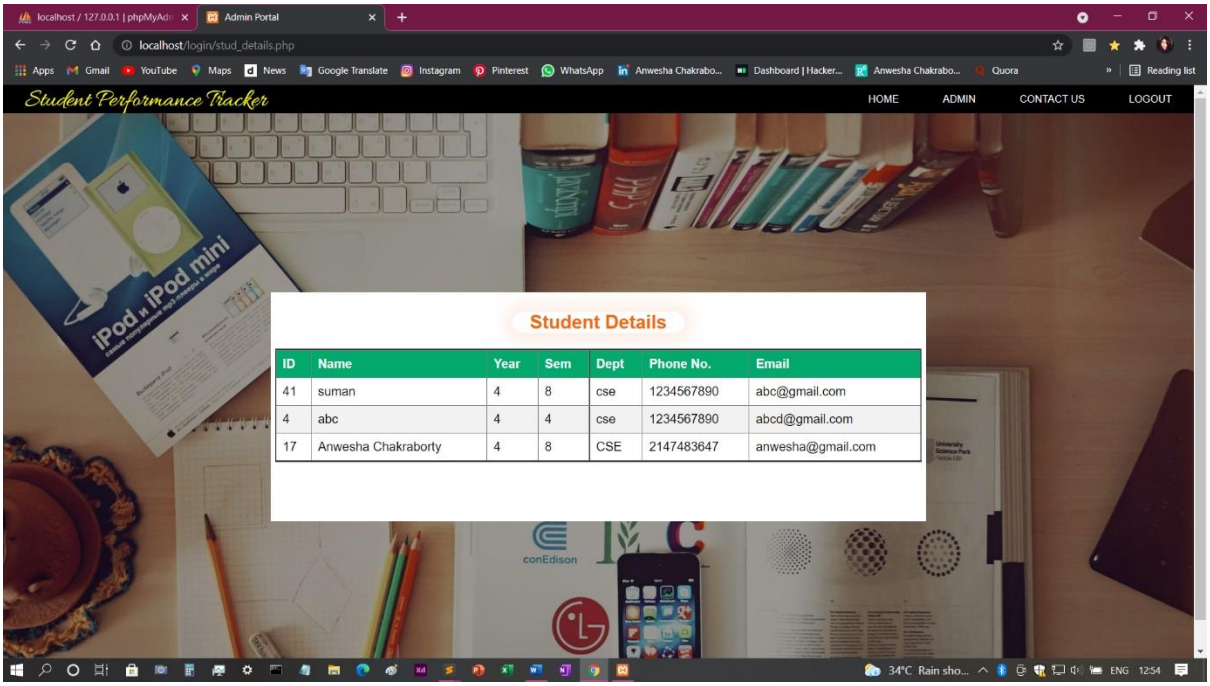


Fig.9 View student details

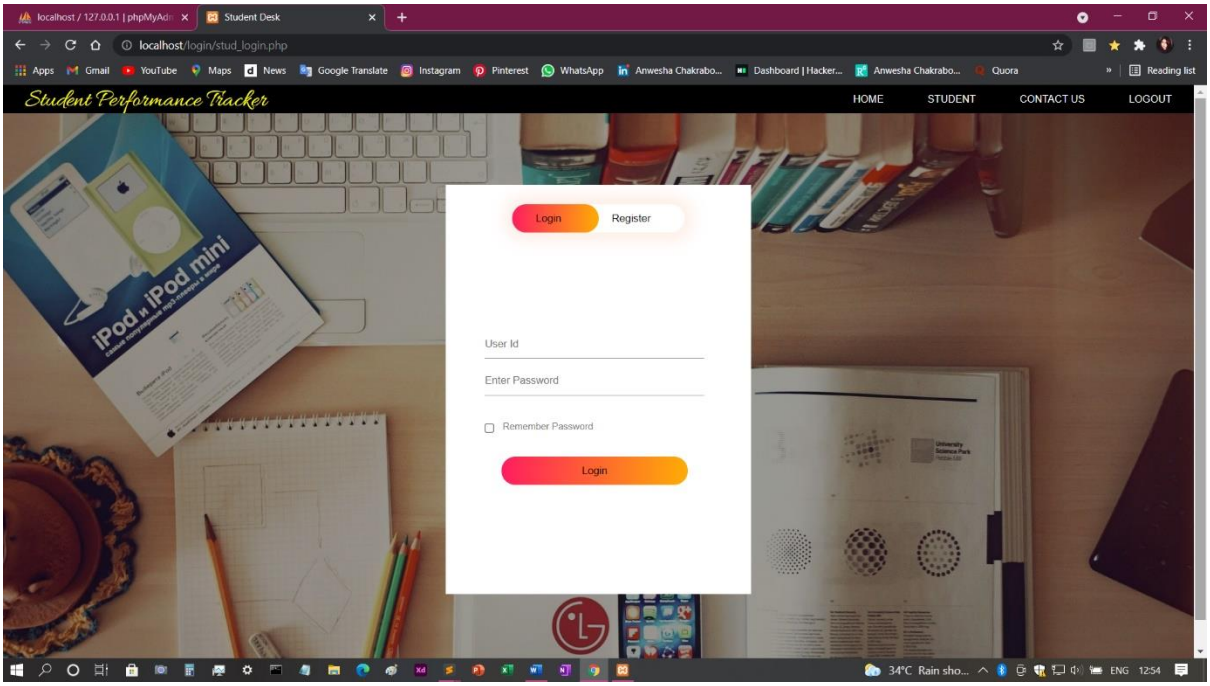


Fig.10 Student Login Page

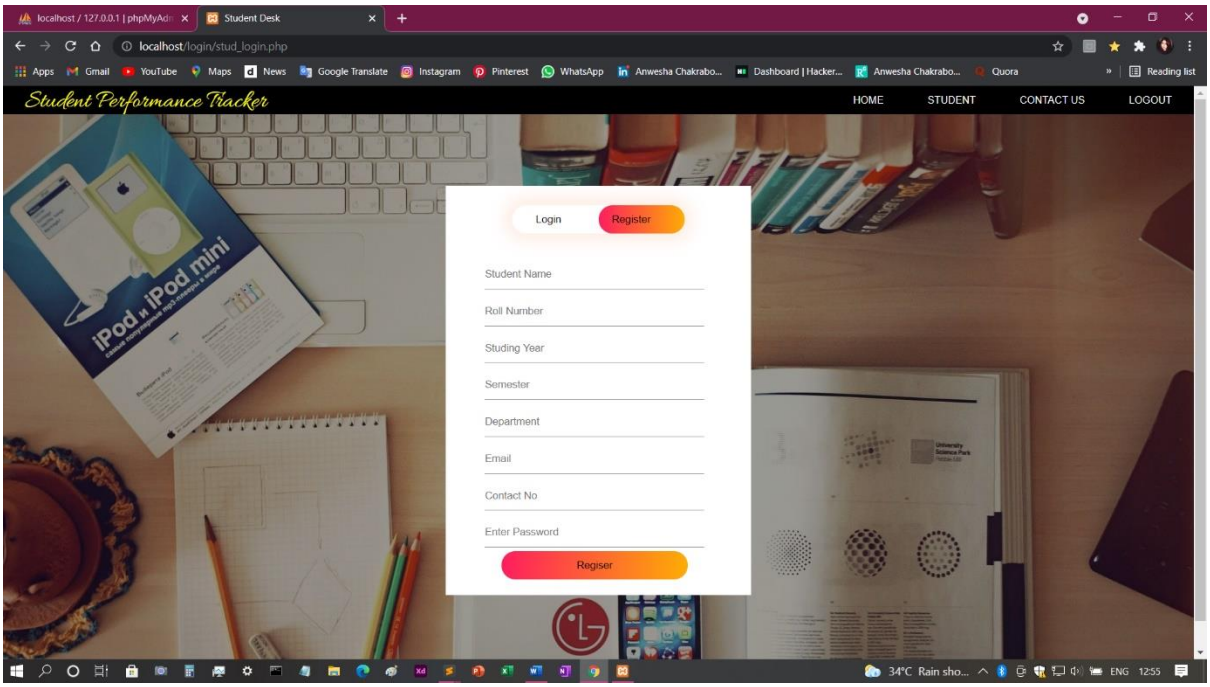


Fig.11 Student Register Page

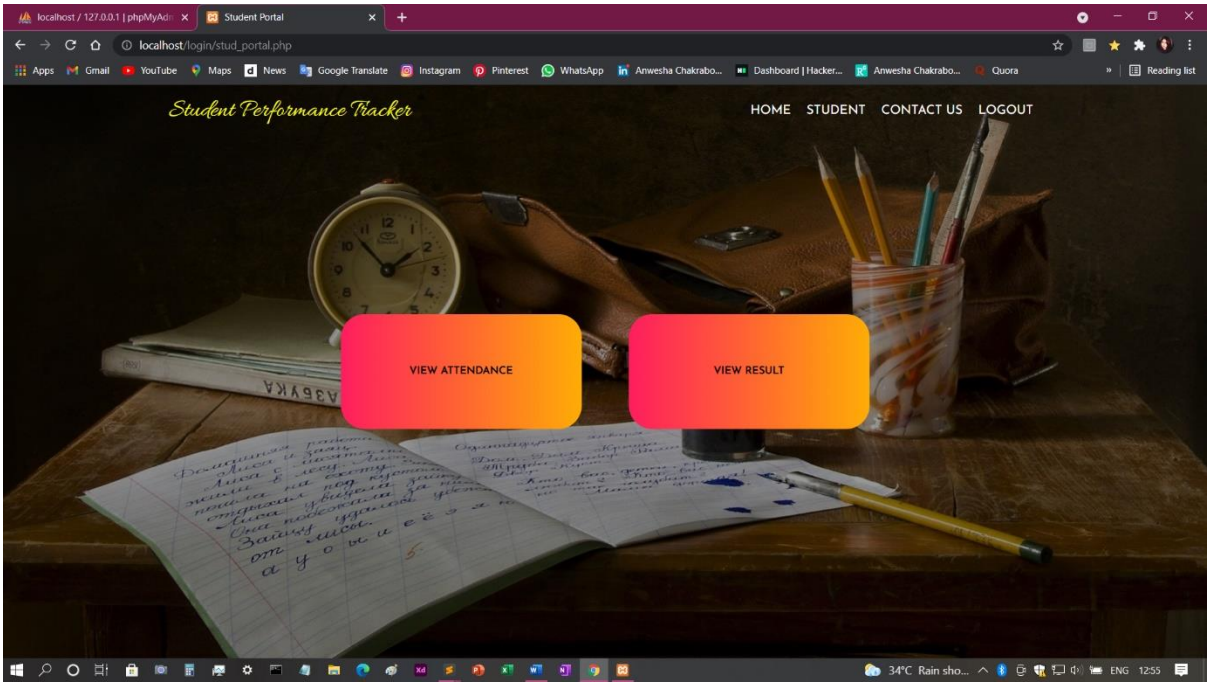


Fig.12 Student Home Page

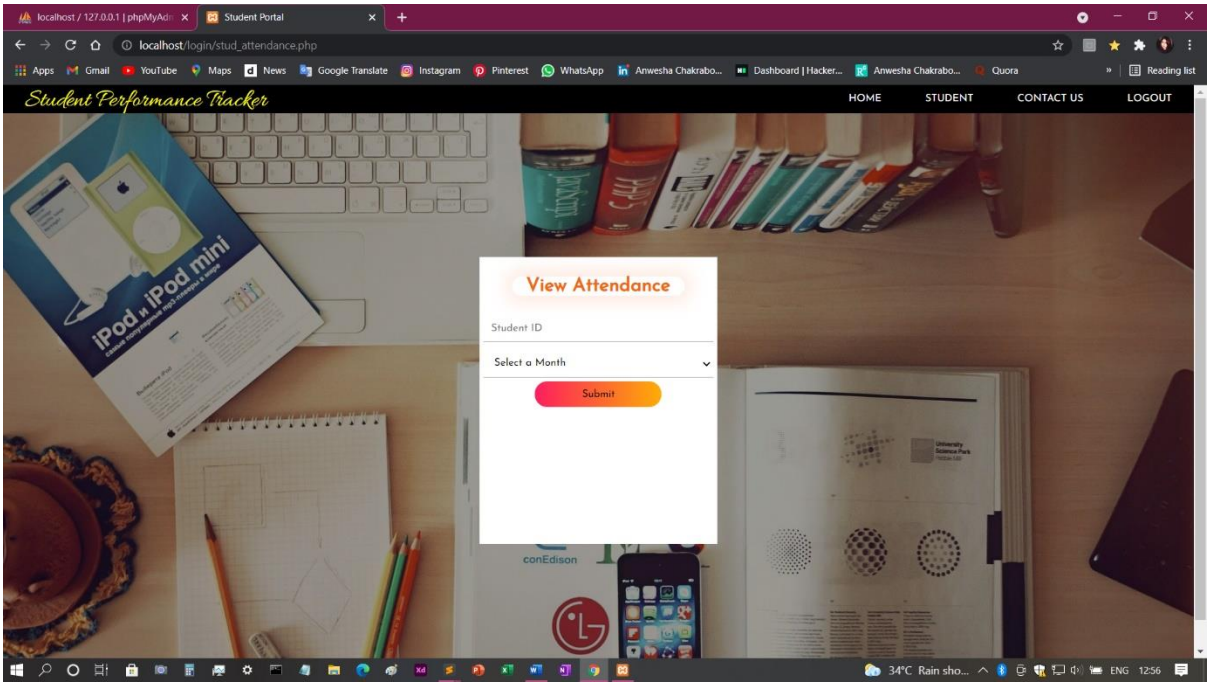


Fig.13 Search Attendance Page

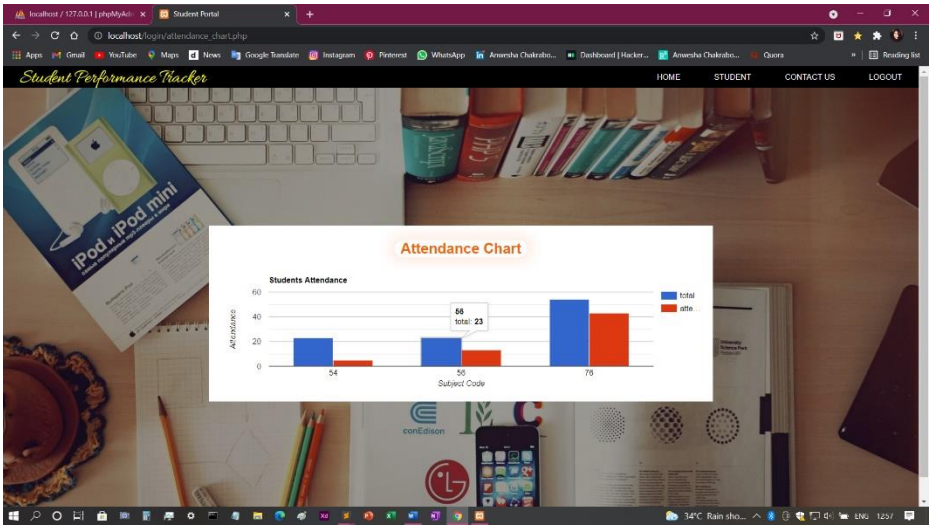


Fig.14 Attendance View Page

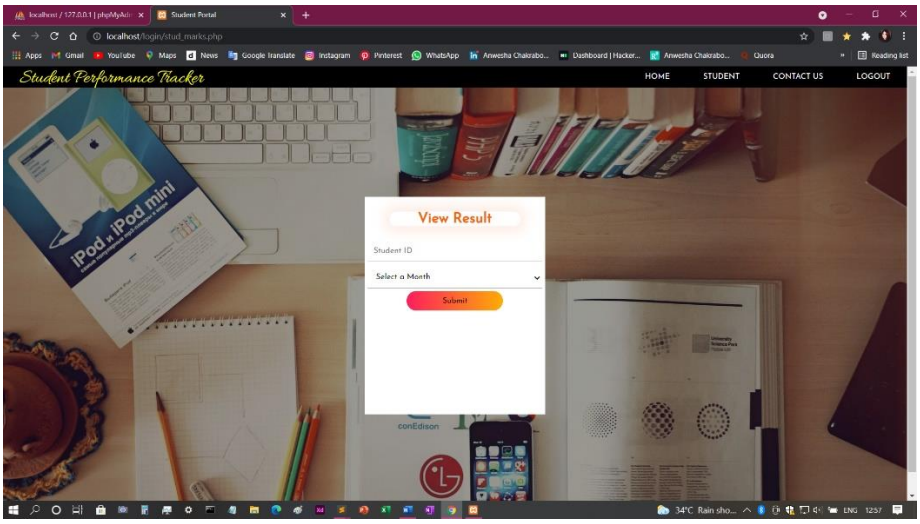


Fig.15 Search Marks Page

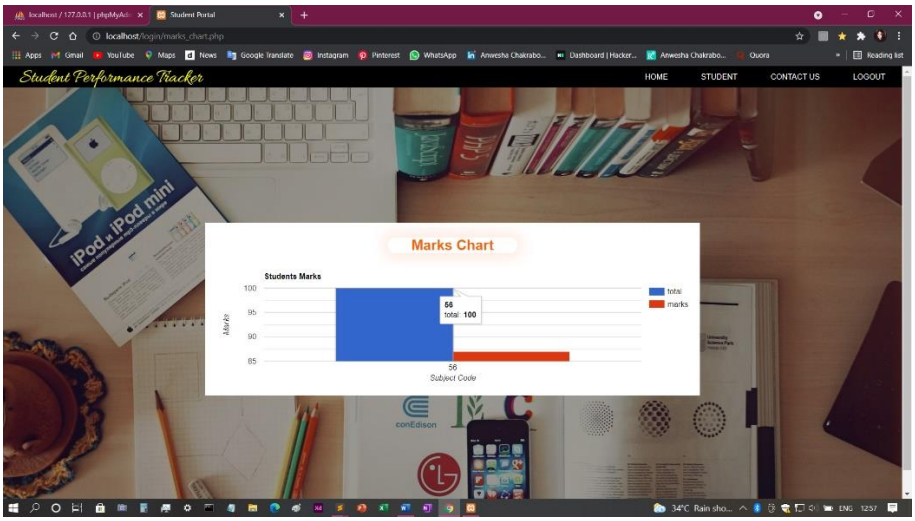


Fig.16 View Marks Page

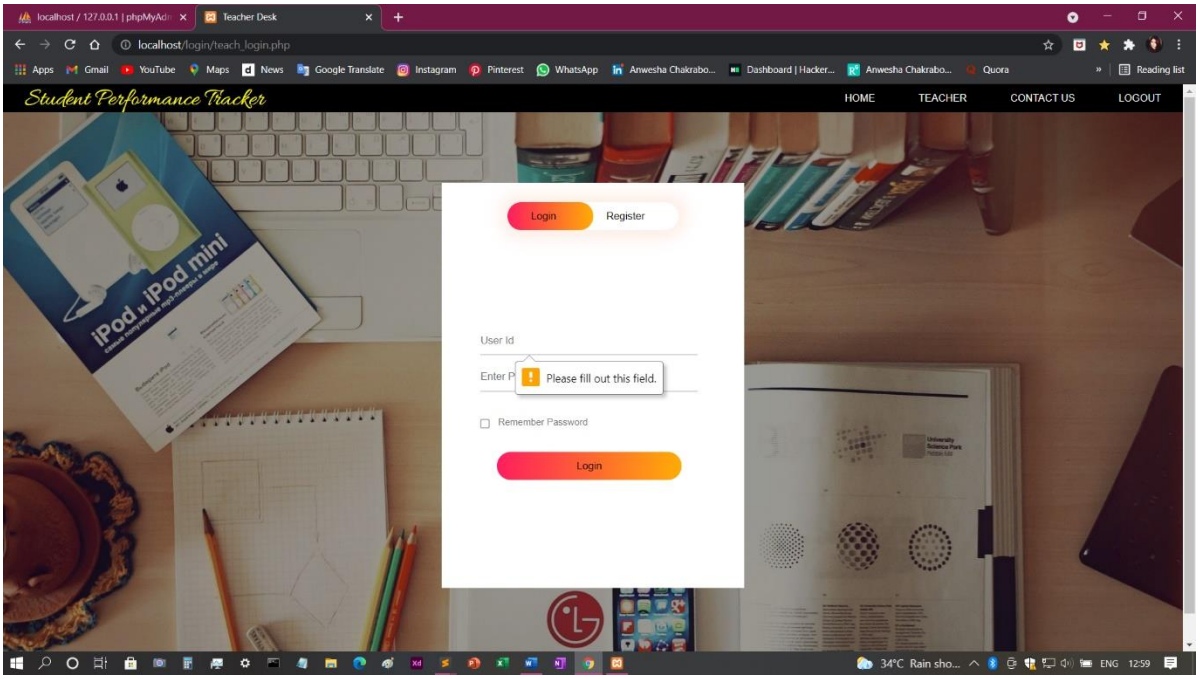


Fig.16 Teacher Login Page

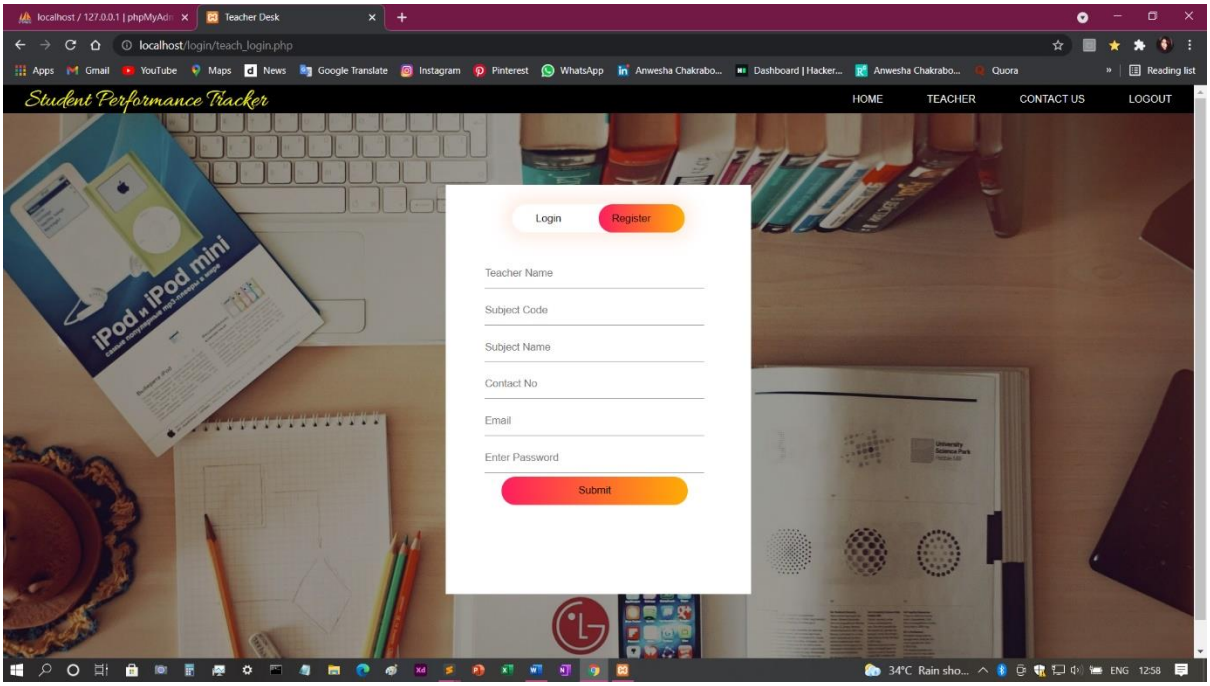


Fig.17 Teacher Register Page

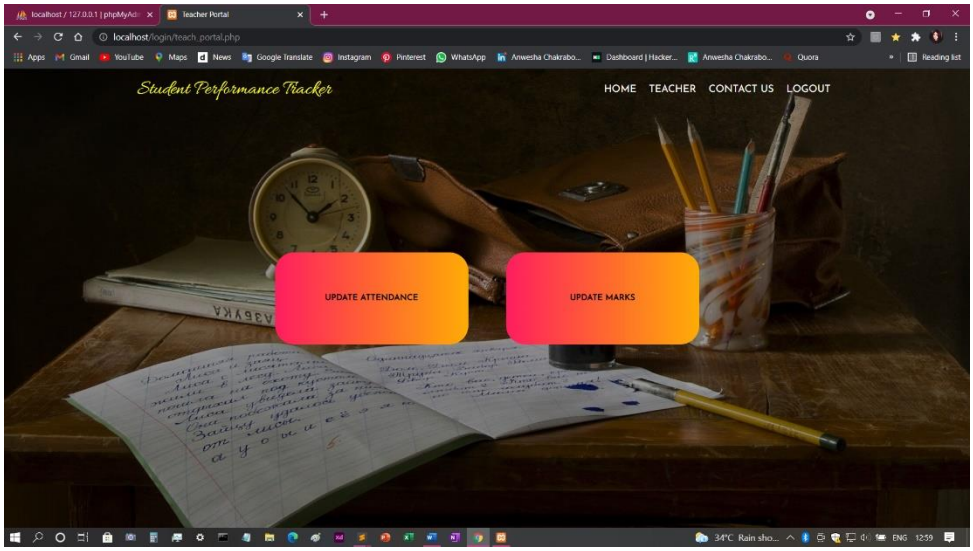


Fig.18 Teacher Home Page

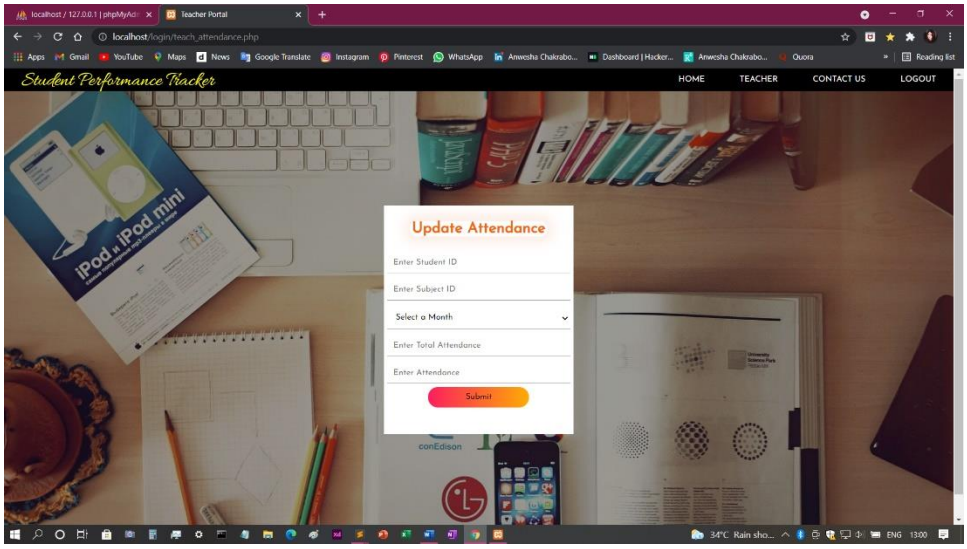


Fig. 19 Update Attendance Page

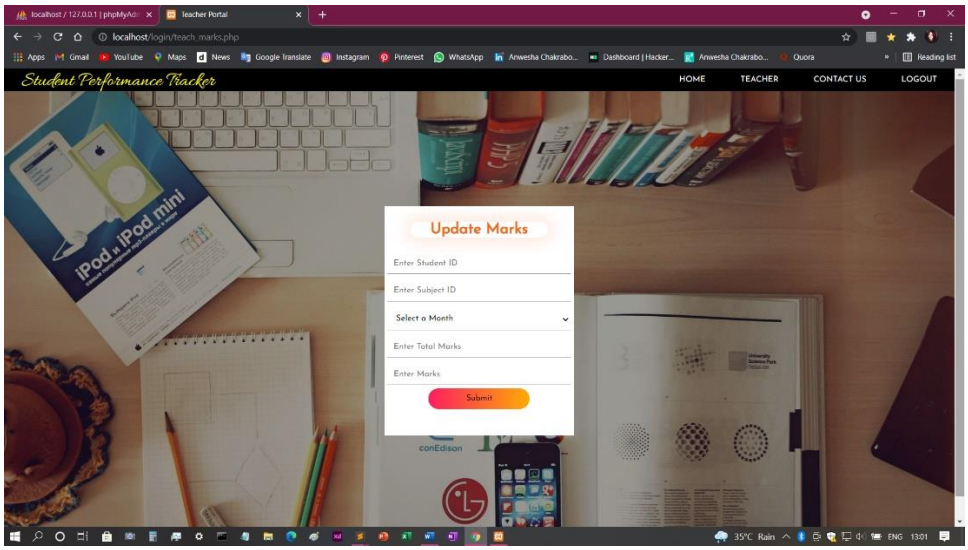


Fig.20 Update Marks Page

VI. Glossary-

1.Database
a. A server medium size or according to students' number for storing data
b. With subsets, columns and fields data can be searched for read, written and filtering.

2.GUI
a. Graphical User Interface
b. This interface will be displayed on Screening Hardware.
c. Refers to the layout of interface, Dialog boxes, Menu elements etc.

3.Internet
a. A global network connectivity which provides various types of information & communication facilities consistent interconnected networks using standard communication protocols.

4.SRS
a. Software Requirements Statement
b. Statement clarifying what a software project is supposed to do.
c. Clarify about the limits, optimization problem, in future big picture, basic plan of the software engineering.

5.HTML
a. Hypertext Markup Language
b. Widely used Language for developing web pages.

6.SQL
a. Structured Query Language
b. A programming language used for setting, retrieving data from and making queries to a database.

7.PHP
a. Hypertext Preprocessor also known as Personal Homepage
b. A programming language used for server-side scripting. that is used to develop Static websites or Dynamic websites or Web applications.

8.Interface
a. A shared boundary across which two or more separate components of a computer system exchange information.
b. The exchange can be between software, computer hardware, peripheral devices, humans, and combinations of these.

9.GNU
a. An extensive collection of free software, which can be used as an operating system or can be used in parts with other operating systems.
b. GNU operating system is a continuously evolving, complete operating system made entirely of free software

10.RDMS

a. Relational Database Management System
b. An information management system which is oriented on a data model

11.Tracker
a. Tracker refers to the data of students that a institution holds for the ultimate goal of analysis, understanding the issuing parts or performance of students.
b. An performance tracking system which is oriented on a data model.

UML-

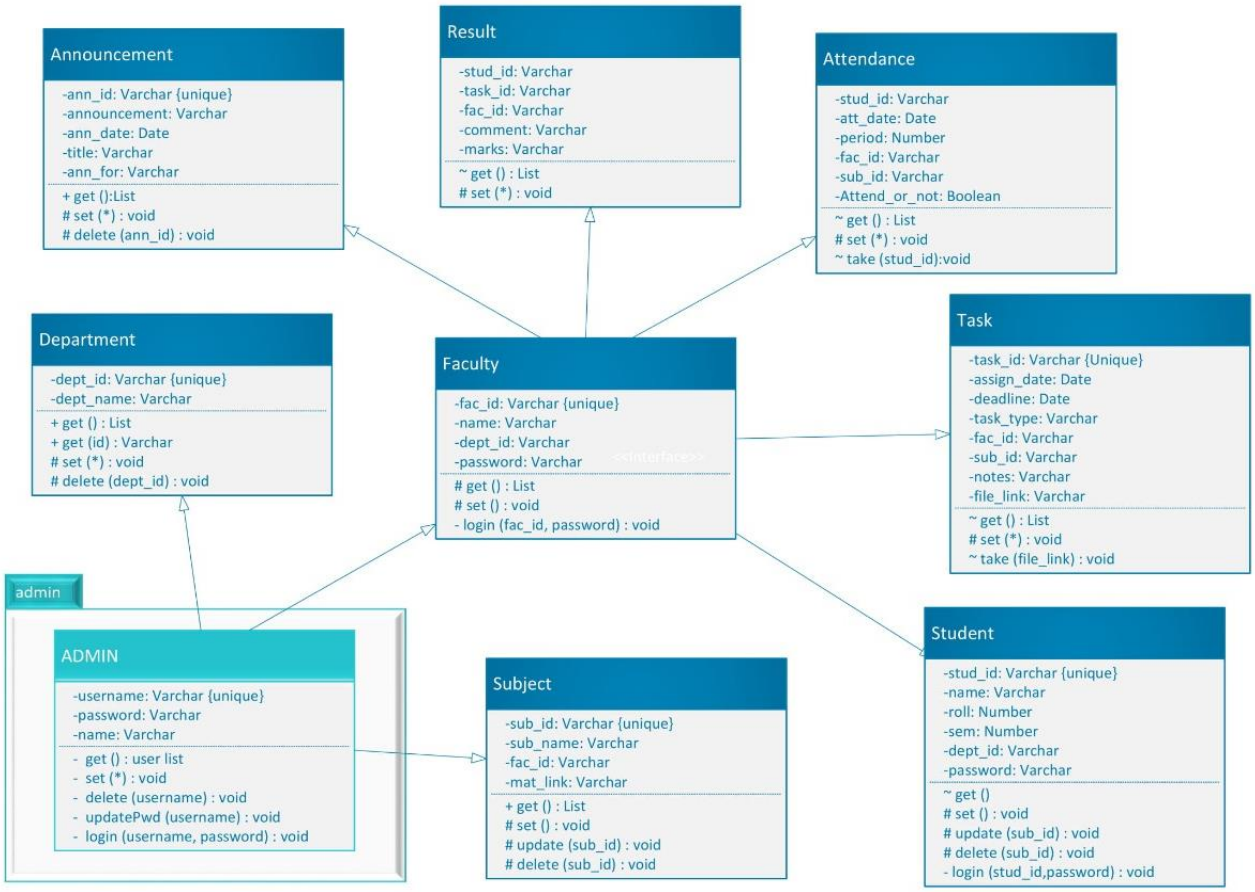


Fig-21 Class Diagram

Activity Diagram-

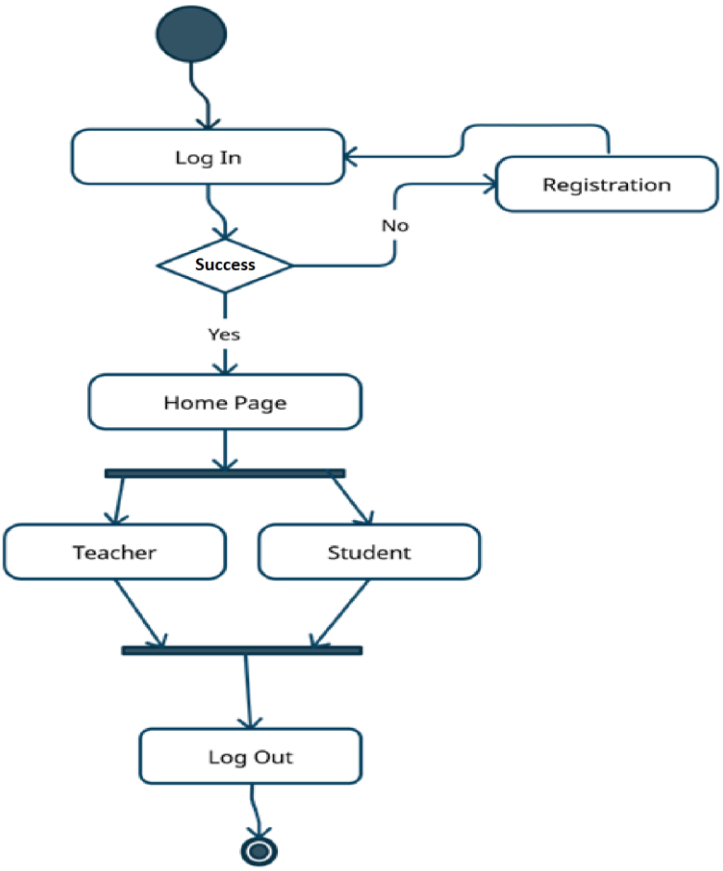


Fig-22 Admin Activity Diagram

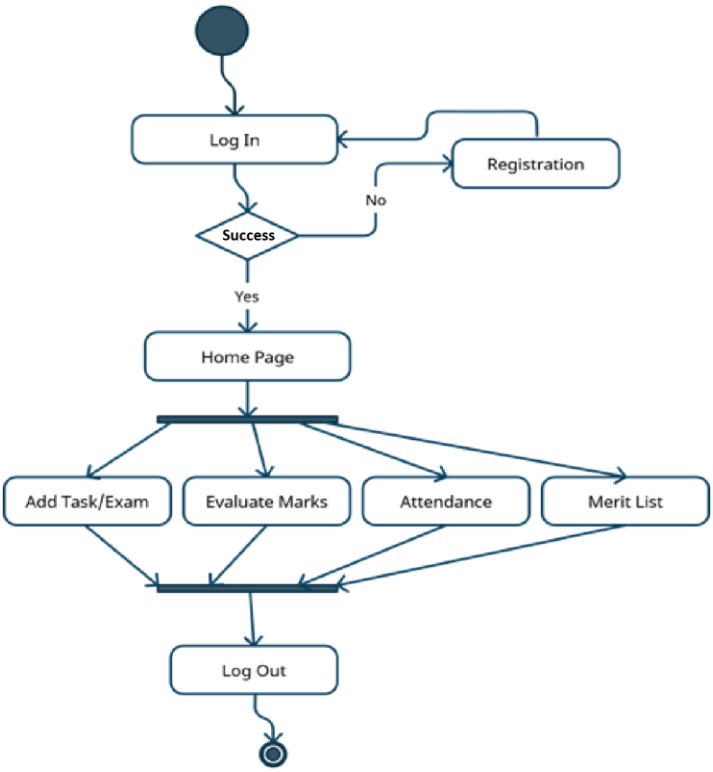


Fig-23 Teacher Activity Diagram

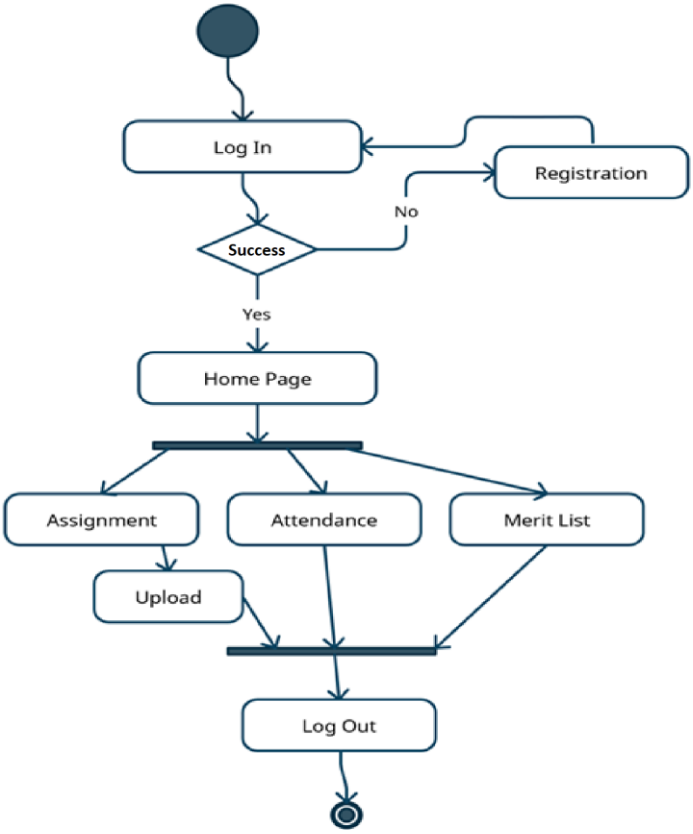
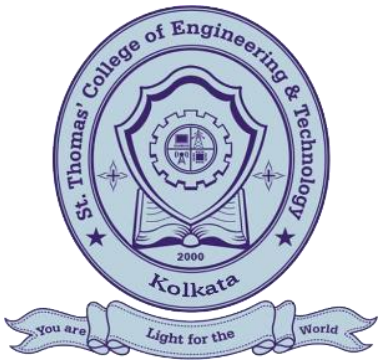


Fig-24 Student Activity Diagram

VII. Bibliography

a. Development of Student Performance Tracking Apps. (January 2020).Thesis for: Bachelor of Computer ScienceAdvisor: Ts Syahrul Nizam.
b. How Can Student Tracking System Help in Improving Student Performance? -Gaurav Somani



St. Thomas' College of Engineering & Technology

Student Performance Tracker

Unit Test Plan Document
Version 1.0

Introduction

This document is used to define the details of the unit test plan. Once the test plan is outlined, the document must be reviewed and approved by the lead technical representative on the project as well as the lead business representative on the project. If anything related to the test plan changes during the execution and testing phase of the project, this document should be updated and re-approved by both parties.

Test Scope

This test plan will test all the requirements for System. A release 1.1 with the exception of all requirement, which will be tested by the design-15 team for testing reasons. This Test Plan covers unit testing, which will be performed by group members. It will not include Acceptance, Integration and System testing.

Test Features

This is a description of the features that will be tested within the scope of the test plan. The list represents what will be tested as well as the individuals/groups involved with the testing activities.

SL No.	**Feature**	**Responsible party or groups**
1	Register (Teacher & Student)	Group-15
2	Login (Admin, Teacher, Student)	Group-15
3	Add/Update Attendance	Group-15
4	Add/Update Marks	Group-15
5	View Attendance (Graphical Representation)	Group-15
6	View Marks (Graphical Representation)	Group-15
7	Admin Check Details (Student, Teacher)	Group-15

Test Inputs/Outputs

Steps	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)
1.	Admin Login (Email, Password)	suman@gmail.com, xxxxxxx	Admin should be able to Login	Admin was able to Login	Pass
2.	Admin check teacher details	-	Admin should be able to check all registered teacher's details	Admin was able to check details	Pass
3.	Admin check student details	-	Admin should be able to check all registered student's details	Admin was able to check details	Pass
5.	Teacher Registration (Name, Subject code, subject name, phno, Email, Password)	ABC, CS403, DS, 1234567890, abc@gmail.com, xxxxxx	Teacher should be able to register	Teacher was able to register	Pass
6.	Teacher Login (Email, Password)	abc@gmail.com, xxxxxx	Teacher should be able to Login	Teacher was able to Login	Pass
7.	Teacher Add/Update Attendance	-	Teacher should be able to add/update student's attendance	Teacher was able to add/update attendance	Pass
8.	Teacher Add/Update Marks	-	Teacher should be able to add/update student's marks	Teacher was able to add/update marks	Pass
9.	Student Registration (Name, Roll, year, sem, Dept, Phno, Email, Password)	XYZ, 41, 4, 8, CSE, 1234567890, xyz@gmail.com, xxxxxx	Student should be able to register	Student was able to register	Pass
10.	Student Login (Email, Password)	xyz@gmail.com, xxxxxx	Student should be able to Login	Student was able to Login	Pass

11.	Student Checks Attendance	Student id/roll, month	Student should be able to see the graphical representation of his/her attendance in that selected month	Student was able to see the graphical representation of his/her attendance in that selected month	Pass
12.	Student Checks Marks	Student id/roll, month	Student should be able to see the graphical representation of his/her marks in that selected month	Student was able to see the graphical representation of his/her marks in that selected month	Pass

Test Strategy

This is a description of the recommended testing approach for this project. This describes"how" the test items and features will be tested.

Test Type	**Description**	**Comment**
Unit Test	*This type tests all functionalities start to end.*	

Test Environment (tools, system, databases)

Tools	**Description**	**Version**
XAMPP Server	Web server solution	8.0.7
Sublime Text	Text Editor	3.2
Language		
HTML	Frontend language	5
CSS	Styles the HTML	2.1
PHP	Backend Language	7.2
Database		
stcet_db	Test database	
spt	Product database	

Test Roles and Responsibilities

Resource	***Role***	***Responsibility***
Suman Guchait	*Test Manager/Project Manager*	• *Provides technical direction.* • *Acquires testing resources.* • *Assigns tasks to testing resources.* • *Communicates test results to management.*
Anweswa Chakraborty	*Test Designer*	• *Documents test plan.* • *Identifies, documents and prioritizes test cases.* • *Evaluates effectiveness of test effort.*
Swarnava Chakraborty, Samir Jana	*Tester*	• *Executes test cases, logs defects, and documents test results.*
Sandipan Hatai	*Test System Administrator*	• *Ensures test environment and assets are installed, managed and maintained.* • *Includes administration of testing ids.*

Test Milestones

Task	Milestone Date
Setup Test Environment	20/06/21
Testing for Module A(Admin)	21/06/21
Testing for Module B (Teacher)	22/06/21
Testing for Module C (Student)	23/06/21
Testing for Module D (Graphical representation)	24/06/21
Complete Unit Testing	25/06/21

Document Approval

The signatures below acknowledge that the test plan outlined above is complete and accurate. Upon receiving written approval, the project team will proceed to the next step of the project.

If anything changes during the execution of the project, the test plan will be updated and re-approved accordingly.

Approved by: Printed name	Approved by: Title	Approved By: Signature/Date
	Business Representative	
	IT Representative	