A
Project Report
on

Classroom Management Program Related to NEP-2020

Submitted to

Sant Gadge Baba Amravati University, Amravati

Submitted in partial fulfilment of
the requirements for the Degree of
Bachelor of Engineering in
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Certificate

This is to certify that the project report entitled **"Classroom Management Program Related to National Education Policy - 2020"** is hereby approved as a creditable study carried out and presented by

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in a manner satisfactory to warrant of its acceptance as a pre-requisite in a partial fulfillment of the requirements for the degree of Bachelor of Engineering in Electronics & Telecommunication Engineering of Sant Gadge Baba Amravati University, Amravati during the Session 2022-23.

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Contents

Abstract

The year 2020 has been an exceptional year for countries across the globe. In India, apart from Covid-19, one of the important changes that took place in India was the development of the New Education Policy (NEP) 2020. Time by time, various committees have recommended to increase the allocation of the budget for education to 6% of the GDP, this has led to the interests of researchers. This paper aims to make a Technology based Management system program which will be a need in the upcoming days.

Present higher education system in India faces many lacunas of fragmented, compact metallized learning with rigid curriculum structure and little emphasis on skill development. Teaching-learning and research are integral part of higher education, but compared to many developing countries research in Indian in higher education shows a dismal picture. AISHE report 2018-19 says only 2.5% colleges run Ph. D programme in India and total Ph. D enrolment is less than 0.5% of total higher education enrolment in India. Maximum numbers of Ph. D students were enrolled in Science stream followed by engineering and technology compared to humanities and social sciences. Compared to teaching-learning, there is inadequate focus on research in higher education institutes. There are insufficient resources and facilities, as well as limited numbers of research supervisors to guide Ph. D students. Most of the research scholars are without fellowships or not getting their fellowships on time which directly or indirectly affects their research. Moreover, Indian Higher education institutions having limited exposure or they are poorly connected to research centers and to industries. This paper highlight details regarding twin objectives, first one related to the current issues, trends and state wise analysis of research programmes offered in various higher educational institutions in India. And second one related to the future prospects of research in Indian Universities in the light of National Education Policy 2020. The methodology adopted in the present study is analytical one and data set includes various issues of AISHE reports, official documents from MHRD, UGC, Centre and State governments. The Study captures research aspects of practical issues in the achieved functioning of HEI and suggestions to transform HEI to ensure full access, equity, and inclusion.

To make the formulation of the NEP a smoother process for the Students, Teachers, and the governing bodies it is very necessary that there should be a platform that gives a quick access to each of these agents.

This platform makes it simple for a College to carry out their annual proceedings according to the NEP 2020.

Managing the result sheets using traditional approach is a cumbersome process. The person must maintain the result records in registers and files using pen and paper. The problem with this approach is, it requires lot of paperwork which is the part of our non-renewable natural resources. We are in the age, where we must think about sustainable development. The manual method of students' academic result processing was found to be tedious, especially when carried out for many students, this makes the entire process time-consuming and error prone.

Managing the results using mobile phones, provide an alternative way in this direction. The aim of the project is to provide the evaluation result to the student in a simple and accurate way. The application will provide summary report regarding students' performance report and semester wise marks list. The whole result analyzer will be under the control of the local and global evaluator, and they will have full privileges to read, write and execute the result. The system presents a single platform that will be used to manage the processing of all examination records within the institution. It gives the privileges to the Teacher and students to access the result and the student can also download his result.

The web application will be designed using HTML, CSS, JavaScript & developed using visual Studio code. For Front End of this web application, we use Bootstrap is a free and open-source CSS framework directed at responsive, front-end web development. It contains CSS- and JavaScript-based design templates & the backend of application we used PHP & MYSQL.

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List of Figures

Abbreviations

HEI	- Higher Education Instituions
MHRD	- Ministry of Human Resource and Development
UGC	- University Grants Comission
NEP	- National Education Policy
AISHE	- All India Survey Of Higher Education
GDP	- Gross Domestic Product
CBCS	- Choice Based Credit System
DNEP	- Draft New Education Policy
ULBs	- Local Urban bodies
SDG	- Sustainable development Goals
NAAC	- National Assessment and Accreditation Council
NDEAR	- National Digital Education Architecture
NBA	- National Board Of Accreditation
NRIF	- National Institutional Ranking Framework
QS	- Quacquarelli Symons
THE	- Times Higher Education
IOE	- Institution of Engineering
CSS	- Cascading Style SheetPHP
HTML	- Hypertext Processor
XAMPP	-Cross Platform Apache Server, MySQL, PHP, Perl Programming Language

Chapter 1

Introduction

Nowadays most of the education system are going to practice online learning mechanism rather than using the traditional teacher centered teaching mechanism to enhance the learning ability of the students by making a student-centered learning mechanism. The teachers must evaluate the student's performance. And as per NEP-2020 it is going to be a need to have and interactive platform for teaching in every college.

Student performance evaluation system is a web-based application that mainly focuses on providing the evaluation to the student. The student gets their respective evaluation report of that semester. The student can access their evaluation through a web application is more convenient and the faculty can easily analyze the performance of student. The system is divided into three modules- Student, Faculty and Administrator. The student using his login credentials view his report similarly faculty using their login credentials evaluate students respectively. The administrator can add new users in faculty and student sections, it can also add new subjects, classes as per the sessions. The admin is provided with the privileges to modify the student and faculty information by updating their details in web application. The update of any current session or previous one is done by the administrator. Information about the grades obtained in various semesters. Information regarding evaluation of each semester of a student. Visualization of evaluation report that conveys the overall student's performances in a particular subject. The main objective of this system is to provide the student a convenient and simpler way to check their results and for evaluating the semester results available. It assists the faculty and student to analysis his/her and the whole class performance in a subject. The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus, by this all it provides it is user-friendly. Student performance evaluation system, as described above, can lead to error free, secure, reliable, and fast networking system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources.

1.1 Motivation

- Traditional method of learning is going to be changed.
- Need for an interactive platform and making use of technology in education system.
- In educational institutions it is difficult to trace whether every student had completed their work/assignments/tasks on time.
- It is difficult for the teacher to give equal attention to every student for the queries they are facing in a given task.

1.2 Objectives

a) The main objective of this project is to make the one single platform that is automated to managing student information in an institute.

b) The system bridges the gap between the students , Teachers and the Admin / managers by providing centralized control over the entire system.

c) Different departments utilize the system for sequencing different processes that are isolated apart.

d) Technology in Education

e) Reimaging Vocational Education and Skill Building

f) Standard Setting and Accreditation for School.

1.1. System Overview

There are 3 modules. They are 1. Admin Module 2. Faculty Module 3. Student Module. The system may be developed victims net technologies HTML, CSS, PHP and victims the info MySQL. The face will carries with its user registration with the several university registered range and therefore the countersign by the user. the scholar will read his ends up in the tabular format with the several aggregate and proportion ofthat semester. the info supported the roll range of the scholar all the info may be retrieved back to the table and displayed as results. The PHP may be used for image of knowledge. Primarily the info may be collected from the school administration. This information includes university registered range of each student presently collected is then classified and tabulated into helpful and intelligible manner.

1.2. Background

The NEP 2020 replaces the National Policy on Education of 1986. In January 2015, a committee under former Cabinet Secretary T. S. R. Subramanian started the consultation process for the New Education Policy. Based on the committee report, in June 2017, the draft NEP was submitted in 2019 by a panel led by former Indian

Space Research Organization (ISRO) Chief Krishnaswamy Kasturirangan. The Draft New Education Policy (DNEP) 2019, was later released by Ministry of Human Resource Development, followed by a number of public consultations. The Draft NEP was 484 pages. The Ministry undertook a rigorous consultation process in formulating the draft policy: "Over two lakh suggestions from 2.5 lakh gram panchayats, 6,600 blocks, 6,000 Urban Local Bodies (ULBs), 676 districts were received."

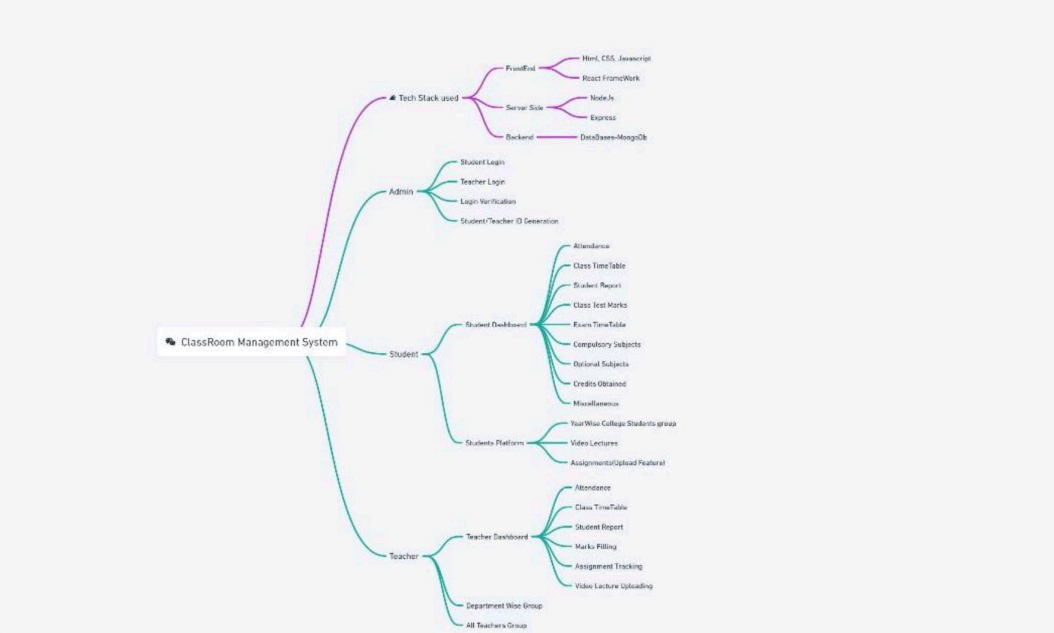


Figure 1.1: System Overview

Chapter 2

Literature review

"Improve student's academic performance" was proposed by Ekaterina Pechenkina et al International Journal of Educational Technology in Higher Education (2017). Developing of that app to achieve multiple goals, including improving engagement and measuring academic performance. In order to do that, we designed the app to include multiple-choice quizzes, push notifications, digital leaderboards and badges."[5]

"School information management system" is proposed by Bondad, Shaina Jessa B. School information management system is enhanced into a web based or database rec- or d which can be observed to most of the universities and colleges. The aim of this re- search study is to implement an efficient database for student information management system of Lipa Adventist Academy (LAA) through Microsoft Access as the database, Visual Studio for the development platform, and Visual Basic as the programming language. It limits only on an admin interface navigating student profiles in a system as an application only. The system is proved to be more secured, reliable, efficient, accurate, and relevant especially in this time when schools are pursuing distance education. Adapting an integrated student information database management system will not only be beneficial for the administrator, but also favorable for other teachers, students, and even parents. Still, more features are bound to be improved.[6]

"Web-Based Student Result Management System" is presented by Mohammad Gul- am Lorgat .The technological development and impact of computers and internet on our lives that has been verified over time affected various sectors of activity. And al- most every task today is being run through computers. Getting information and quickly turning it into a product that consumers want is the essential key to staying in

business and all of this is done nowadays using computers and applications or information systems. The current research aims at creating a web based student result management system, reducing time, effort and improving security. The methodology ad-opted for the elaboration of the research is based on qualitative study. The research results in the development of a multi-user system based on web technology with MV-C (Model-View-Controller) architectural pattern and developed using Java programing language with Apache Tomcat Server and MySQL Database Management System support.[7]

Jared Harem Q. Celis, Andres C. Pagatpatan, Jr. introduced a *Web-Based Faculty "Evaluation with Recommendation Support"* Module in International Journal of Innovative Technology and Exploring Engineering (IJITEE).The performance appraisal sys-tem including methods and procedures used in Colleges and Universities are continuously re-examined, reviewed, and revised to fit their purposes and effective-ness in promoting faculty development, productivity, giving of incentives and decisions on personnel actions. This study aims to develop and offer an alternative system of evaluation process for faculty members. Specifically, this study focused on the development of the Web-based Faculty Evaluation.[8]

Poonam Sawant, Sachin Gupta, Yogesh Sharma, Anamika Singh introduced a "*Classification Approach for Evaluating Students Performance in Covid 19 Pandemic in international Journal of Engineering and Advanced Technology "*(IJEAT).Student performance evaluation and analysis is a necessary task for improving students' quality now a days. The main aim of this research is to analyze students' performance during Covid-19 pandemic. Covid-19 pandemic impact has been extensive, affecting the education sector in India as well as world. In attempt to reduce the spread of Covid-19 government decided to temporarily close educational institutions. In response to schools and colleges closures, UNESCO recommended the use of distance learning programs and online platforms to reach learners remotely and limit the disruption of education. This impacts not only on students' phycology, on their performance too. Although there are many systems that have been implemented predictive analytics till date, better advancements is needed. Machine learning classifiers and related technologies can be used efficiently in performance evaluation. At the end of this

paper, we have proposed an Architecture of Student's Performance Evaluation System with classification International Journal for Engineering Applications And Technology February 2013.[9]

1.3. School Education

The "10 + 2" structure will be replaced with "5+3+3+4" model. This will be implemented as follows: Foundational Stage: This is further subdivided into two parts: 3 years of preschool or anganwadi, followed by classes 1 and 2 in primary school. This will cover children of ages 3–8 years. The focus of studies will be in activity-based learning. Preparatory Stage: Classes 3 to 5, which will cover the ages of 8–10 years. It will gradually introduce subjects like speaking, reading, writing, physical education, languages, art, science and mathematics.

Middle Stage: Classes 6 to 8, covering children between ages 11 and 13. It will introduce students to the more abstract concepts in subjects of mathematics, sciences, social sciences, arts and humanities. Secondary Stage: Classes 9 to 12, covering the ages of 14–18 years. It is again subdivided into two parts: classes 9 and 10 covering the first phase while classes 11 and 12 covering the second phase. These 4 years of study are intended to inculcate multidisciplinary study, coupled with depth and critical thinking. Multiple options of subjects.

1.4. College Education

It proposes a 4-year multi-disciplinary bachelor's degree in an undergraduate programme with multiple exit options. These will include professional and vocational areas and will be implemented as follows:

- A certificate after completing 1 year of study
- A diploma after completing 2 years of study
- A Bachelor's degree after completion of a 3-year programme.
- A 4-year multidisciplinary Bachelor's degree (the preferred option)
- MPhil (Masters of Philosophy) courses are to be discontinued to align degree education with how it is in Western models.

Chapter 3

Technology Used

3.1. Front-end Design: HTML, CSS, Bootstrap

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML.CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content. Bootstrap is a free and open-source front-end library for designing websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation, and other interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only.

3.1.1 Why to use Html?

Website is a collection of pages, publications, and documents that reside on web server. While these pages publications and a document as a formatted in a single

format, you should use HTML for home page and all primary pages in the site. This will enable the millions of web users can easily access and to take advantage of your website.HTML is considered first for formatting any new material you plan to publish on the web. HTML documents are platform independent, meaning that they don’t

confirm to any standard. If they are created properly, you can move home page to any server platform or you can access them with any complaint www browser.

3.1.2 Html layout:

An HTML document consists of text, which comprises the content of the document and tags, which, defines the structure, and appearance of the document. The structure of an HTML document is simple, consists of outer.

<HTML>tag enclosing the document header and body

<HTML>

<HEAD>

<TITLE>the title of HTML document</TITLE

</HEAD>

<BODY>

This is where the actual HTML documents Text lies, which is displayed in the browser

</BODY>

</HTML>

Each document has a head and body delimited by the <HEAD> and <BODY> tag. The head is where you give your HTML document a title and where you indicate other parameters the browser may use when displaying the document. This includes the text for displaying the text. Tag also references special and indicates the hot spots that link your document to other documents

3.1.3 Html forms:

Creating a form usually involves two independent steps: Creating the layout for the form itself and then writing a script program on the server side to process the formation you get back from a form.

To create a form, you use the <FORM> tag. Inside the opening and closing FORM tags are each of the individual form elements plus any other HTML content to create a layout for that form.

The opening tag of the FORM element usually includes the attributes: METHOD and ACTION. The METHOD attributes can be either GET or POST which determines how your form data is sent to the script to process it.

The ACTION attribute is a pointer to the script that processes the form on the server side. The ACTION can be included by a relative path or by a full URL to a script on your server or somewhere else.

3.2 Method Attribute:

The other required attribute for the <form> tag sets the methods by which the browser form's data to the server for processing. There are two ways: the POST method and GET method. With POST method, the browser sends the data in two steps: the browser first contacts the form-processing server specified in the action attributes, and once contact is made, sends the data.

3.3 Client-side validation: JavaScript, jQuery

JavaScript often abbreviated as JS, is a high-level, interpreted programming language. It is a language which is also characterized as dynamic, weakly typed, prototype- based and multi-paradigm. Alongside HTML and CSS, JavaScript is one of the three core technologies of the World Wide Web. JavaScript enables interactive web pages and thus is an essential part of web applications. The vast majority of websites use it, and all major web browsers have a dedicated JavaScript engine to execute it. jQuery is a cross-platform JavaScript library designed to simplify the client side scripting of HTML. It is free, open-source software using the permissive MIT License. Web analysis indicates that it is the most widely deployed JavaScript library by a large margin.

3.4 Server-side validation: Ajax

Ajax is not a single technology. Ajax is a set of Web development techniques using many Web technologies on the client side to create asynchronous Web applications. With Ajax, Web applications can send and retrieve data from a server asynchronously (in the background) without interfering with the display and behavior of the existing page. By decoupling the data interchange layer from the presentation layer, Ajax allows Web pages, and by extension Web applications, to change content dynamically without the need to reload the entire page.

3.5 Business logic: PHP

PHP: Hypertext Preprocessor (or simply PHP) is a server-side scripting language designed for web development but also used as a general-purpose programming language. It was originally created by 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 acronym PHP: Hypertext Preprocessor. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.

3.6 Database: MySQL

MySQL is an open-source relational database management system. For proprietary use, several paid editions are available, and offer additional functionality. In this project MySQL has been used to store, update, retrieve and delete related to user's data and other additional data about projects.

SQL, statements fall into one of three categories. (Types of SQL)

Data Definition Language (DDL) : DDL Consists of statements that define the structure and relationships of a database and its table.

These Statements are used to Create, drop, and modify databases and tables. Data Manipulation Language (DML): DML statements are related to altering and extracting data from a database.

These statements are used to add records to, update records in, and delete records from, a database; perform queries; retrieve table records matching one or more user specified criteria; and join tables together using their common fields.

Data Control Language (DCL): DCL statements are sued to define access levels and security privileges for a database.

You would use these statements to grant or deny user privileges; assign roles; change passwords; view permissions; and create rule sets to protect access to data.

The Syntax of SQL is quite intuitive. every SQL statement begins with an "action word", like DELETE, INSERT, ALTER etc.

It ends with a semicolon. whitespace, tabs, carriage returns are ignored. Some example of valid SQL statements:

CREATE DATABASE employee;

SELECT name FROM users where email ="anuj.lpu1@gmail.com"; DELETE FROM cars WHERE year_of_manufacture < 1980

3.6.1 PHP MySQL connectivity

Use the mysql_connect () function to established connection to the MySQL server. To access the database functionality, we have to make a connection to database using Php mysql_connect () function is used to establish the connection to MySQL server. four arguments need to be passed to mysql_connect () function.

- hostname: if you are working on local system, you can use localhost or you can also provide IP address or server name.
- username: if there is an existing user, you can provide username. default username is 'root'.
- password: by default, password is blank or null.
- dB name : it is an optional field . it is basically a name of the database that need to be connected.

- mysql_connect (host, username, password, dbname);
- host(Server name) Either a host name(server name) or an IP address
- username The MySQL user name
- password The password to log in with
- dbname Optional. The database to be used when performing queries

Note : There are more available parameters, but the ones listed above are the most important.

In the following example we store the connection in a variable ($con) for later use in the script.

```
<?php
// Create connection
$con=mysqli_connect("localhost","root","") or die(mysql_error());
?>
```

Here localhost is server name. root is MySQL default user name. default password is blank and database name is my_db. mysql_error( ) function provides mysql connectivity error message.

MySQL Close Connection

```
<?php
// Create connection
$con=mysqli_connect("localhost","root","","my_db") or die(mysql_error());
//code to be executed.
// Close connection mysql_close($con);
?>
```

after work with the database is done we have to close the connection using mysql_close() function

in which the connection to the database is passed.

3.6.2 Web Server: Apache

The Apache HTTP Server, colloquially called Apache, is a free and opensource cross-platform web server, released under the terms of Apache License 2.0. Apache is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation. The Apache HTTP Server is cross platform; as of

June 2017 92% of Apache HTTPS Server copies run on Linux distributions. Version 2.0 improved support for non-Unix operating systems such as Windows and OS/2. Old versions of Apache were ported to run on OpenVMS and NetWare.

3.7 Code editor: Visual studio code

Visual Studio is an Integrated Development Environment (IDE) developed by Microsoft to develop GUI (Graphical User Interface), console, Web applications, web apps, mobile apps, cloud, and web services, etc. With the help of this IDE, you can create managed code as well as native code. It uses the various platforms of Microsoft software development software like Windows store, Microsoft Silverlight, and Windows API, etc. It is not a language-specific IDE as you can use this to write code in C#, C++, VB (Visual Basic), Python, JavaScript, and many more languages. It provides support for 36 different programming languages. It is available for Windows as well as for macOS.

3.8 XAMPP:

XAMPP is the most popular software package which is used to set up a PHP development environment for web services by providing all the required software components. During the process of software deployment, most of the web servers use almost similar components, so use of XAMPP provides easy transition from local server to live server. XAMPP is a AMP stack which stands for Cross platform, Apache, MySQL, PHP, Perl with some additional administrative software tools such as PhpMyAdmin (for database access), FileZilla FTP server, Mercury mail

Server and JSP Tomcat server. Other commonly known software packages like XAMPP are WAMP, LAMP, and others.The XAMPP server is used to test PHP pages. It works as local server. It contains a MySQL database to manage or save data on a local server.

3.8.1. Advantages of XAMPP:

- It is free and easy to use and easily available for Windows, Linux, and Mac OS.
- It is a beginners friendly solution package for full stack web development.
- It is an open-source software package which gives an easy installation experience.
- It is very simple and lightweight to create set up for development, testing and deployment.
- It is a time-saver and provides several ways for managing configuration changes.
- It handles many administrative tasks like checking the status and security.

3.8.2. Software Components of XAMPP:

Apache plays the role of processing the HTTP request. It is the actual default web server application. It is the most popular web servers maintained by Apache Software Foundation.

MySQL The role of database management system in XAMPP is played by MySQL. It helps to store and manage collected data very efficiently. It is an open-source and most popular.

PHP is the server-side scripting language which stand for Hypertext Preprocessor. It is embedded with HTML code which interacts with the webserver. It is an open- source and work well with MySQL and has become a common choice for web developers.

Chapter 4

Analysis

4.1 Detailed Problem Statement

In the existing system the evaluation is done by manual process where faculties can give evaluation about the students by using paper and pen. But by our process, faculty can give evaluation through online system without wasting their time. In the manual system after when the feedback is given by all the faculties and the overall grade for each subject and each student is calculated. After that all those grade reports given by the faculties are checked by the University Authority. Hence the performance of students are estimated and counseling of the students can be done. So, the existing system requires more time to do a piece of work, for this reason the online system evaluation is implemented. This is the major limitation of the existing system for giving evaluation about the students and viewing report of the students.

4.2 Operating Environment

This application will be operating in webpages through browser. The student performance evaluation is a web application and can be operated through browser in web pages. The only requirement to use this website would be the internet connection and a device which can access high speed internet.

4.3 Assumptions and Dependencies

The assumptions are:

- The coding should be error free.
- The application should be user-friendly so that it is easy to use for the users.
- Valid information of every user must be stored in database that is accessible by the website.
- The system should provide more storage capacity and provide fast access to the database.
- The system should provide search facility and support quick transactions.

- The Student performance evaluation System is running 24 hours a day.
- Users may access from any browser that has Internet browsing capabilities and an Internet connection.
- Users must have their correct usernames and passwords to enter into their college campus accounts and do actions.

The dependencies are:

- The specific hardware and software due to which the product will be run.
- On the basis of listing requirements and specification the project will be developed and run.
- The end users should have proper understanding of the product.
- The information of all the users must be stored in a database that is accessible by the college campus system.
- Any update regarding the user's profile, posts and any other updating is to be recorded to the database and the data entered should be correct

4.4 Data Requirement

The inputs consist of the query to the database and the output consists of the solutions for the query. The output also includes the user receiving the details of their accounts. In this project the inputs will be queries as fired by the users like create an account. Now the output will be visible when the user requests the server to get details of their own account and also accounts of the other members in the form of time, date.

4.5 Performance Requirement

The proposed system that we have developed will be used as the chief performance system within the different college campus and also for users. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the college and also for the users.

The performance of the system should be fast and accurate.

Student performance evaluation System shall handle expected and non expected errors in way that prevent loss in information and long downtime period. Thus it should have inbuilt error testing to identify search or data check/fetch.

The system should be able to handle large amount of data. Thus it should accommodate large number of data entry of a particular college campus without any fault.

4.6 Security Requirement

- System will use secured database.
- Normal users can just read instruction and use this system but they cannot edit or modify anything except their personal and some other information.
- System will have two type of user and user has access constraints.
- Proper user authentication should be provided.
- No one should be able to hack user's details or any other information.
- There should be separate part for users that no users can access the database and only admin has the rights to update the database.

4.7 User Requirement

The users of the system are members of the "Student performance evaluation system". The users are assumed to have basic knowledge of the computers and internet browsing. The administrators of the system should have more knowledge of the internals of the system and is able to rectify the small problems that may arise due to disk crashes, power failures and other catastrophes to maintain the system. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems

4.8 Functional Requirements

USER LOGIN: This feature used by the user to login into system. They are required to enter user id and password before they are allowed to enter the system. The user id and password will be verified and if invalid id is there user is allowed to not enter the system.

User id is provided when they register -The system must only allow user with valid id and password to enter the system -The system performs authorization process which decides what user level can access to. -The user must be able to logout after they finished using system.

4.8.1 Hardware Requirements

Intel core i5 2nd generation is used as a processor because it is fast than other processors and provide reliable and stable and we can run our pc for long time. By using this processor we can keep on developing our project without any worries. Ram 4 GB and above is used as it will provide fast reading and writing capabilities and will in turn support in processing.

4.8.2 Software Requirements

- Operating system- Windows 7 is used as the operating system as it is stable and supports more features and is more user friendly
- Database MYSQL- MYSQL is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.
- Development tools and Programming language- HTML is used to write the whole code and develop webpages with css for styling work and php for sever side scripting.

Chapter 5

Design

5.1 Design Goals

Design is a meaningful engineering representation of something that is to be built. It can be traced to a customer's requirements and at the same time assessed for quality against a set of predefined criteria for good design. In the software engineering context, design focuses on four major areas of concern data, architecture, interfaces, and components. The design process translate requirement into representation of software that can be accessed for a quality before core generation. Design is the process through which requirement are translated to blue print for constructing into software. Initially the blueprint depicts the holistic view of software .This is the design represented at the high level of abstraction

During various stages of system development and design following goals have been setup for a complete architecture

- Analysis
- Design
- Implementation
- Testing
- Deployment
- Maintenance

Fig5.1 System design Architecture

5.2 Design Strategy

Software design is a process to conceptualize the software requirements into software implementation. Software design takes the user requirements as challenges and tries to find optimum solution. While the software is being conceptualized, a plan is chalked out to find the best possible design for implementing the intended isolation There are multiple variants of software design as follows

1. Structured Design:

Structured design is a conceptualization of problem into several well-organized elements of solution. It concerned with the solution design. It gives blesser understanding of how the problem is being solved.

2. Function Oriented Design:

In function-oriented design, the system is comprised of many smaller sub-systems known as functions. These functions are capable of performing significant task in the system.

3. Object Oriented Design:

Object oriented design works around the entities and their characteristics instead of functions involved in the software system. This design strategies focuses on entities and its characteristics.

There are two different software design approaches:

1. Top-Down design
2. Bottom-up design

5.2.1 Abstraction

Abstraction is used to construct solutions to problem without having to take account of the intricate details of the various component sub problems. Abstraction allows system designer to make stepwise refinement, which at each stage of the design may hide, unnecessary details associated with representation or implementation from the surrounding environment

5.2.2 Modularity

Modularity is concerned with decomposing of main module into well-defined manageable units with well-defined interfaces units. This enhances design in turn cases implementation, Debugging, Testing, Documenting and Maintenance of the software product. Modularity viewed in this seme is a vital tool in the construction of large software projects.

5.2.3 Verification

Verification is fundamental concept in software design. A design is verifiable if it can be demonstrated that the design will result in implementation that satisfies the customer's requirements. Verification is of two types namely.

- Verification that the software requirements analysis satisfies the customer's needs.
- Verification that the design satisfies the requirement analysis.

Some of the important factors of quality that are be considered in the design of software:

Reliability:

The software should behave strictly according to the original specification and should function smoothly under normal conditions.

Extensibility:

The software should be capable of adapting easily to changes in the specification

Reusability:

The software should be developed using a modular approach, which permits modules to be reused by other application, if possible.

The System Design briefly describes the concept of system design and it contains four sections. The first section briefly describes the features that the system is going provide to the user and the outputs that the proposed system is going to offer.

The second section namely Logical Design describes the Data Flow Diagrams, which show clearly the data movements, the processes and the data sources, and sinks, E-R diagrams which represent the overall logical design of the database, and high-level

process structure of the system. The process of design involves "conceiving and planning out in the mind and making a drawing pattern, or sketch of the system. In software design there are two types of major activities, Conceptual Design and Detailed Design.

Conceptual or logical or external design of software involves conceiving planning out and specifying the externally observable characteristics of a software product. These characteristics include user displays, external data sources, functional characteristics and high-level process structure for the product.

Details or internal design involves conceiving, planning out, and specifying the internal structure and processing details of the software product. The goal of internal design is to specify internal structure, processing details, blueprint of implementation, testing, and maintenance activities.

One of the important fundamental concepts of software design is modularity. A modularity system consists of interfaces among the units. Modularity enhances design clarity, which in turn cases implementation, debugging, testing, documentation, and maintenance of the software product.

The other fundamental concepts of software design include abstraction, structure, information hiding, concurrency and verification. The use of structuring permits decomposition of a large system into smaller, more manageable units with well- defined relationships to the other units. The system design is verifiable if it can be demonstrated that the design will result in an implementation that satisfies the customer's requirements.

Preliminary Design:

Preliminary design is basically concerned with deriving an overall picture of the system. Deriving entire system into modules and sub-modules while keeping Cohesion and Coupling factors in mind. Tools, which assist in preliminary design Data Flow Diagrams.

Code design:

The purpose of code is to facilitate the identification and retrieval for items of information A code is an ordered collection of symbols designed to provide unique

identification of an entity or attribute. To achieve unique identification there must be only one place where the identified entity or the attribute can be entered in the code, conversely there must be a place in the code for everything that is to be identified. This mutually exclusive feature must be built into any coding system.

The codes for this system are designed with two features in mind. Optimum human oriented use and machine efficiency. Length of the code range from length of one to length of five characteristics:

- The code structure is unique; ensuring that only one value of the code with a single meaning may be correctly applied to a given entity or attributes.
- The code structure is expansible allowing for growth of its set of entities and attributes.
- The code is concise and brief for recording communication, and transmission and storage efficiencies.
- They have a uniform size and format.
- The codes are simple so that the user can easily understand it.
- The codes are also versatile i.e., it is easy to modify to reflect necessary changes in condition, chart eristic and relationships of the encode entities.
- The codes are also easily storable for producing reports in a predetermined order of form.

5.3 Collaboration Diagram

Collaboration is a society of classes, interfaces, and other elements that work together to provide some cooperative behavior that's bigger than the sum of all its parts.

Collaboration is also the specification of how an element, such as a classifier or an operation, is realized by a set of classifiers and associations playing specific roles used in a specific way.

5.4.1 Admin Collaboration

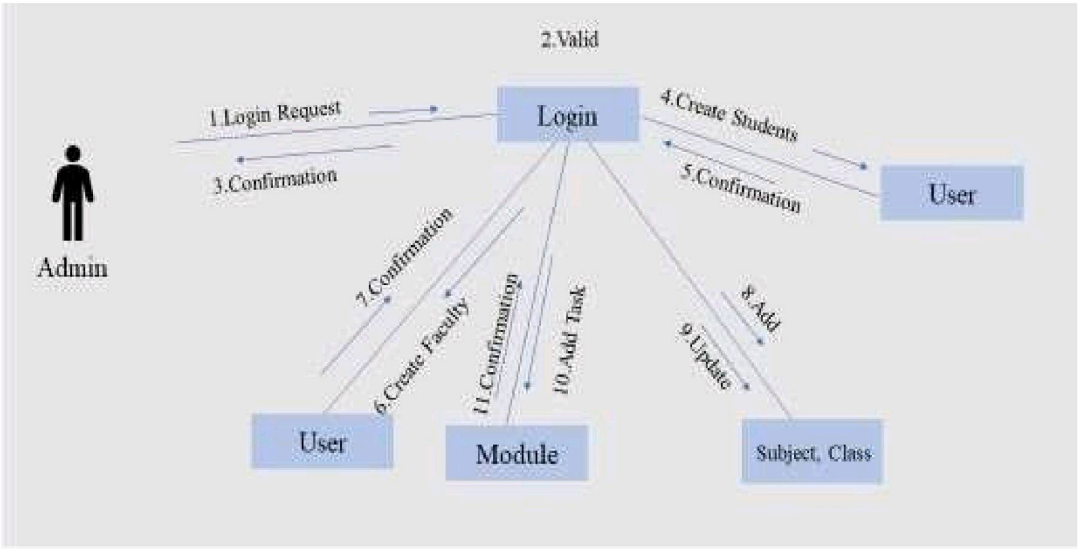


Fig 5.3.1: Admin Collaboration

5.4.2 Student Collaboration

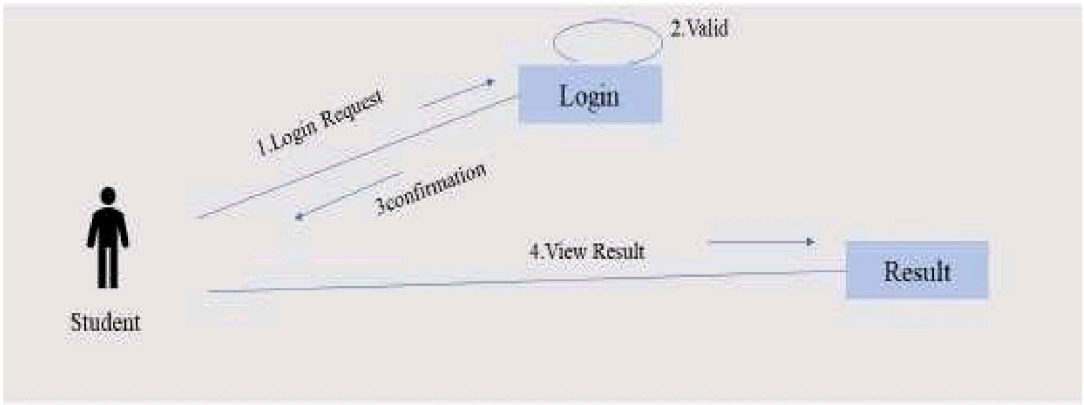


Fig 5.3.2: Student Collaboration

5.4.3 Faculty Collaboration

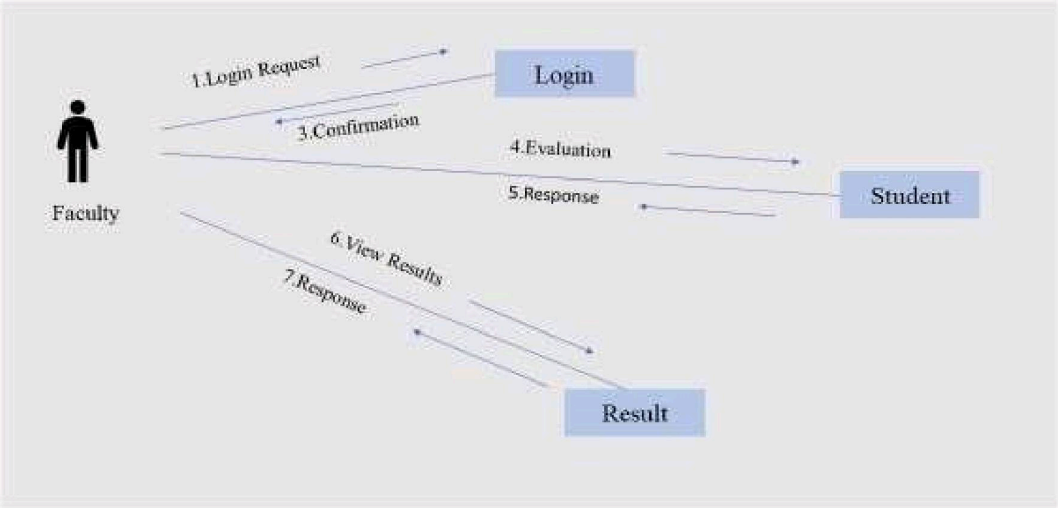


Fig 5.3.3: Faculty Collaboration

5.5 Interaction Diagram

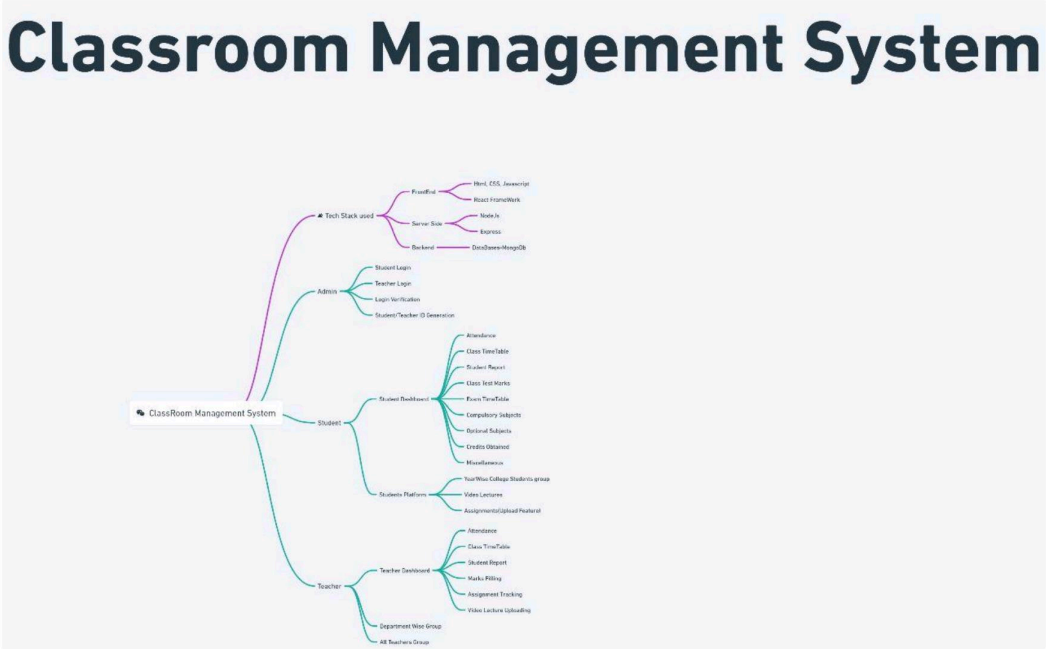


Fig 5.4: Interaction Diagram

Chapter 6

Implementation

Implementation is the process of building the web according to its design. A web implementor uses hypertext markup language (HTML), Cascading Style Sheets (CSS) to develop structure and design of web. PHP has been used as server-side scripting language, were as sql is used to communicate with the data base. These make it possible for a web to be dynamic so that it could interact with the user.

The implementation process resembles web development because it involves using a specific syntax for encoding web structures or a programming language in a formal language in computer files.

6.1 Home Page

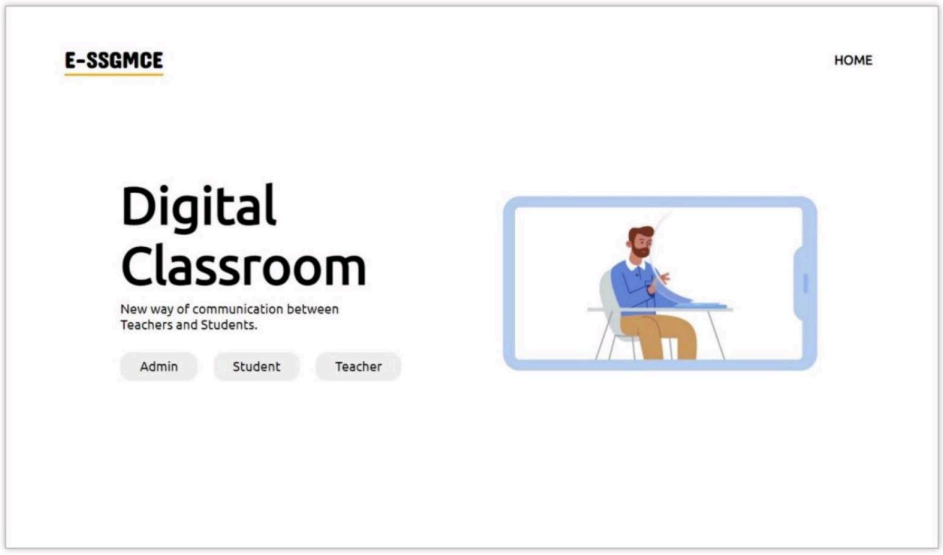


Fig 6.1 Home page

Home page consist of login form through which all the three portals of admin, faculty and student can be accessed. All the three users has been assigned with credentials of email id and password by which they can login to student performance evaluation system.

6.2 Admin Login

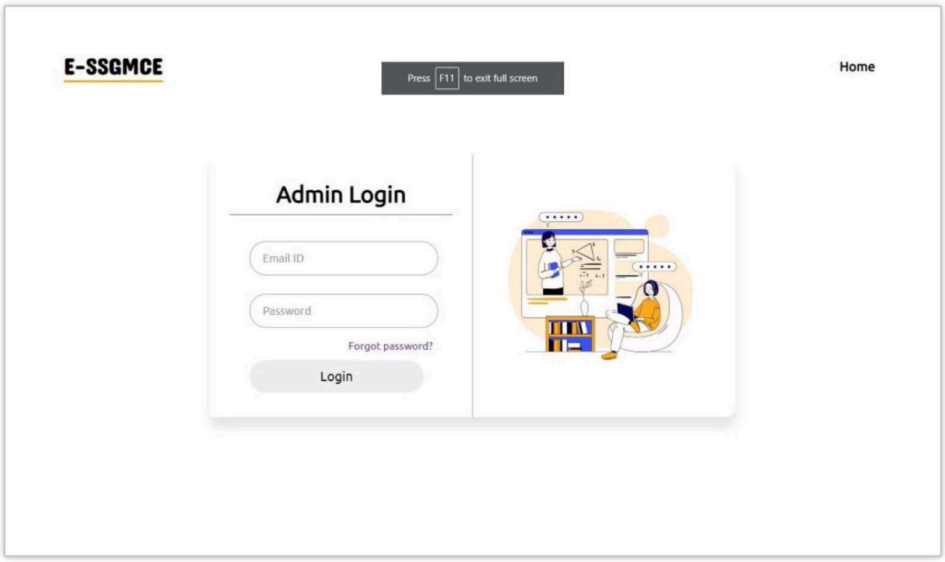


Fig 6.2 Admin Login

After logging in as admin, it has different controls to manage the system. Admin can can different subjects present in current academic year.

6.2.1 Teachers Login

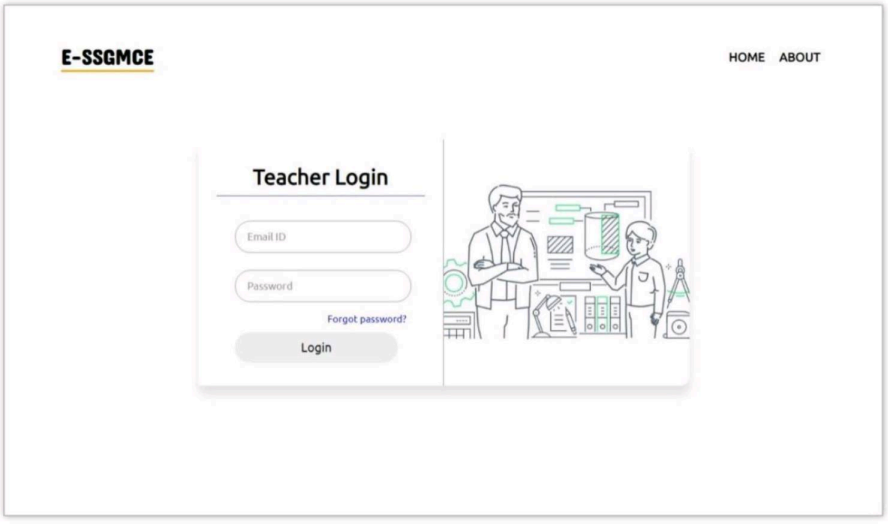


Fig 6.2.1 Teacher Login

6.2.2 Teacher Dashboard

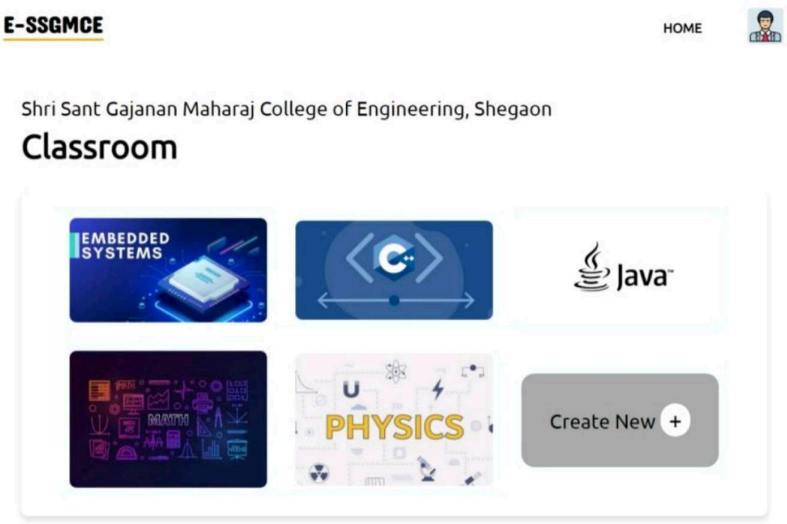


Fig 6.1.1 Student Profile

6.2.3 Add Students

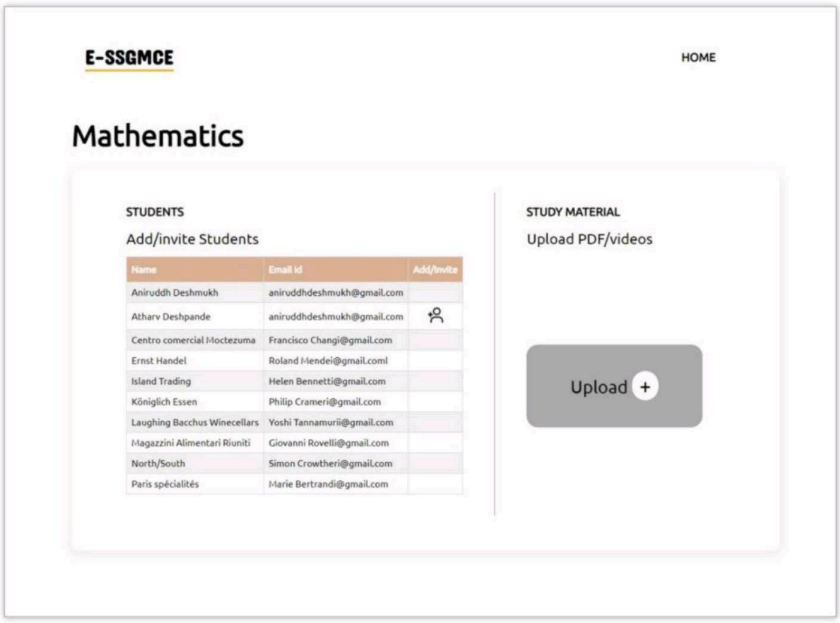


Fig 6.2.3 Add Student

6.2.4 Create New Class

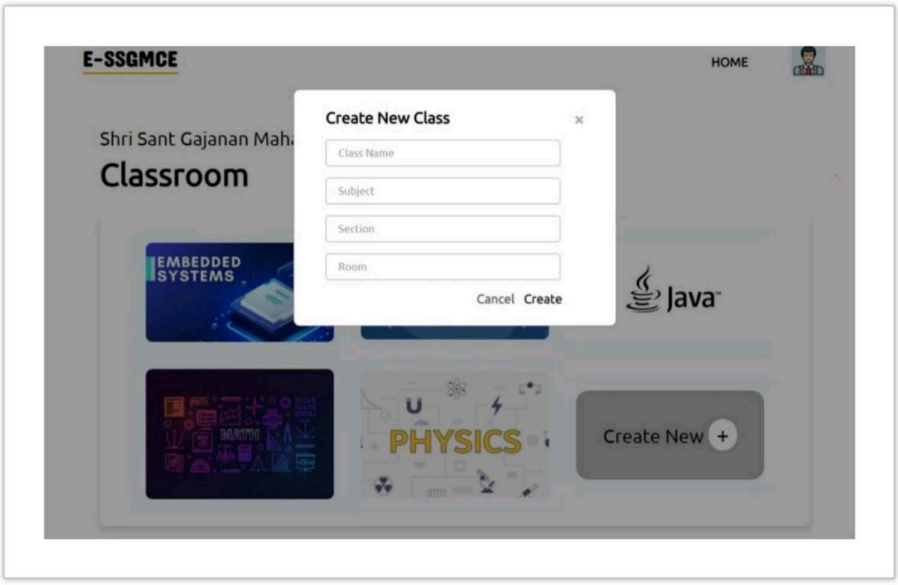
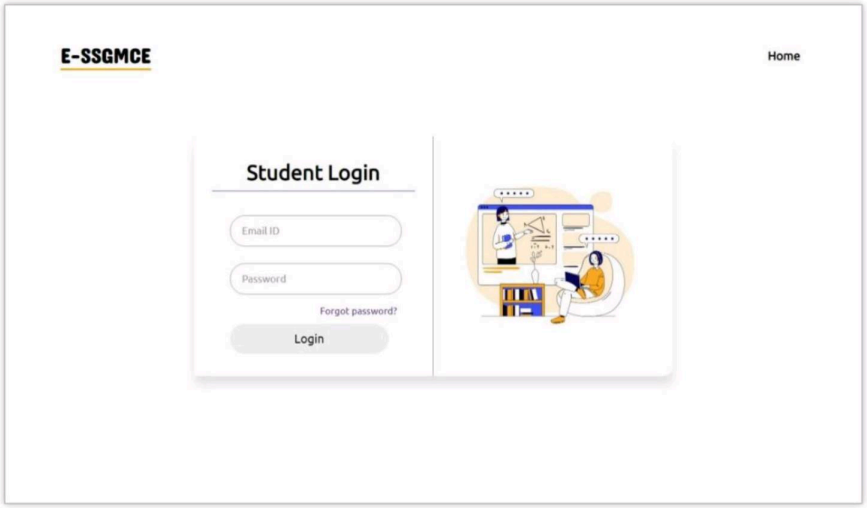


Fig 6.2.4 Create New Class

6.2.5 Faculty Profile

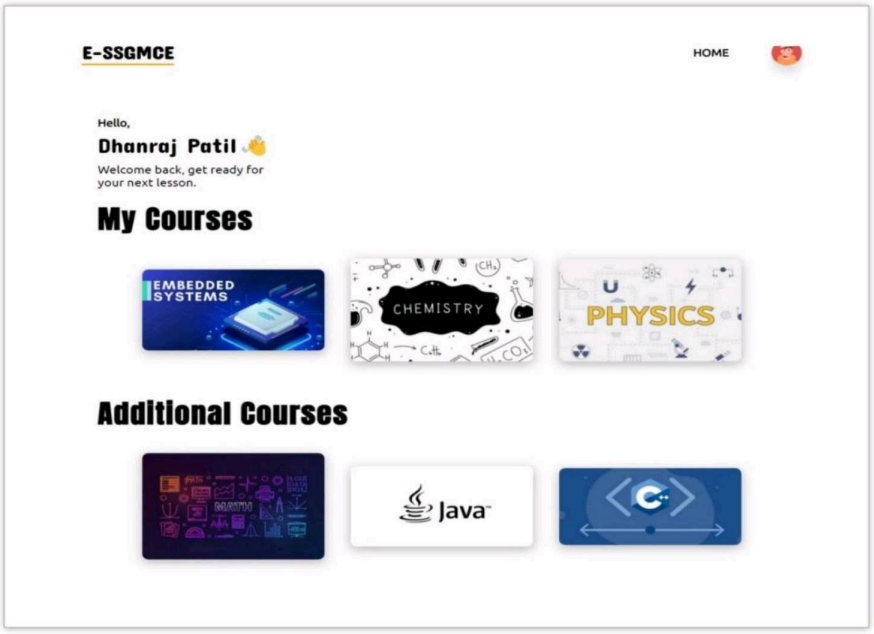
Fig 6.2.5 Faculty Profile

6.2.6 Student Login

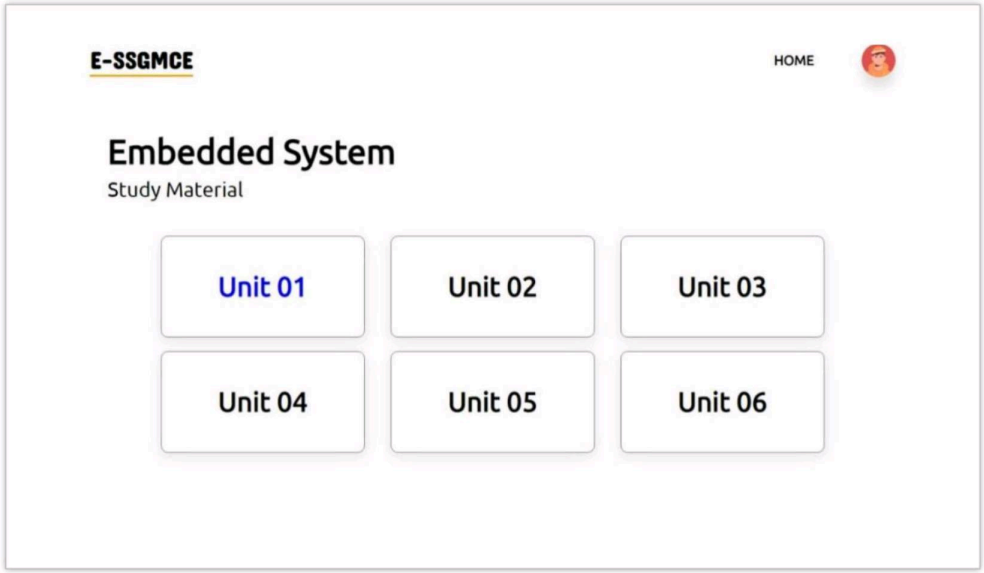


6.2.6. Student Login

6.2.4 Student Portal

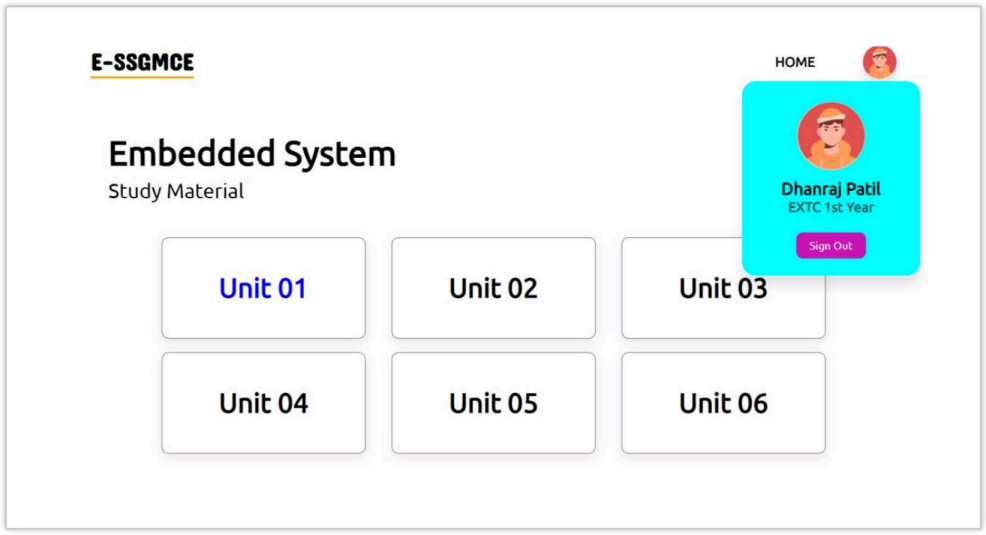


6.2.6. Student portal



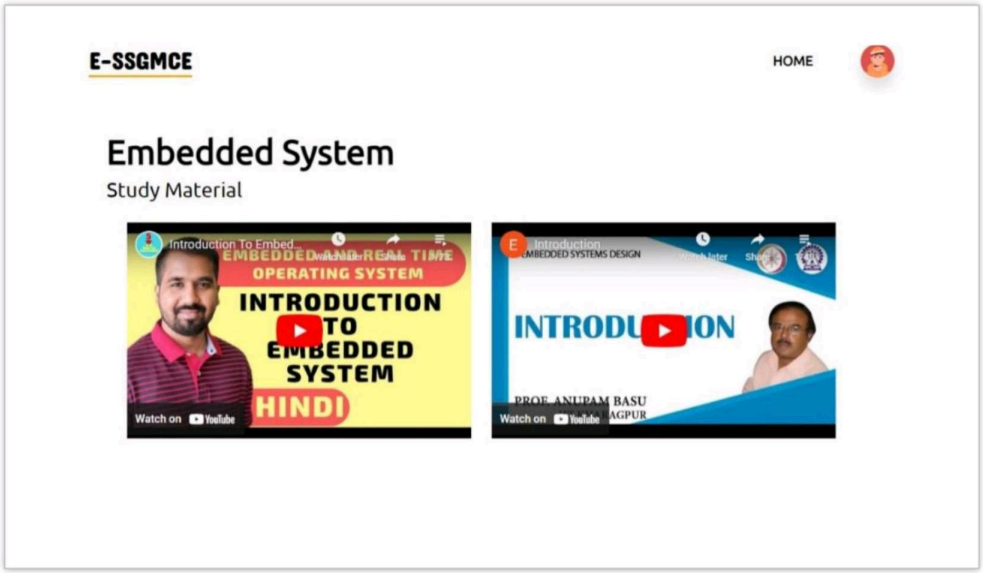
6.2.5 Study Dashboard

Fig 6.4.2 Study dasboard



6.2.6 Student Profile

Fig 6.4.2 Student Profile



6.2.7 Study Material

Fig 6.4.2 Study Material

6.3 Database `

Create a Database Table Using MySQL. Now, start your SQL Xampp server and select admin. This will direct you to the phpMyAdmin webpage. Now, log in with your username and password.Now, on the MyPHPAdmin, create a new database by clicking "New" on the left-hand side of a webpage.

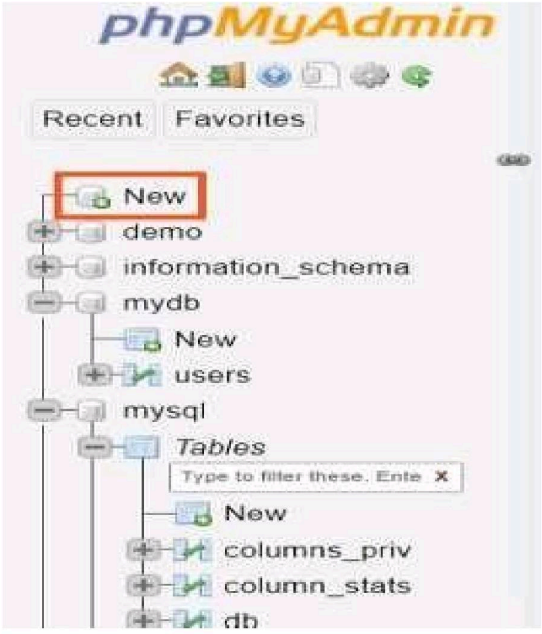


Fig 6.3 php my admin page

Next, enter a name for the database where it says "Create database.

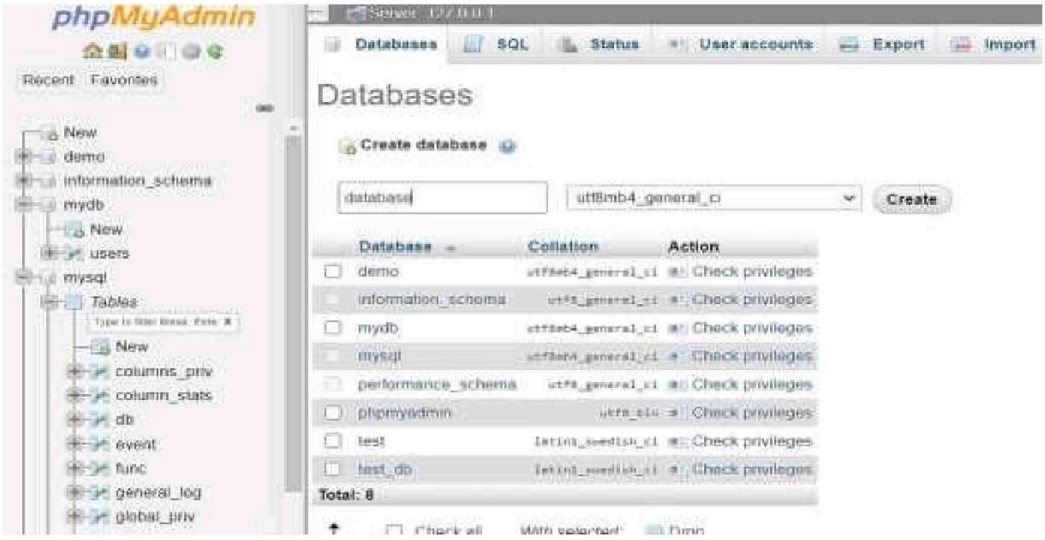


Fig 6.5.a Database creation

Then, you will be directed to the next page where you will create a new table. Now, enter the desired table name.

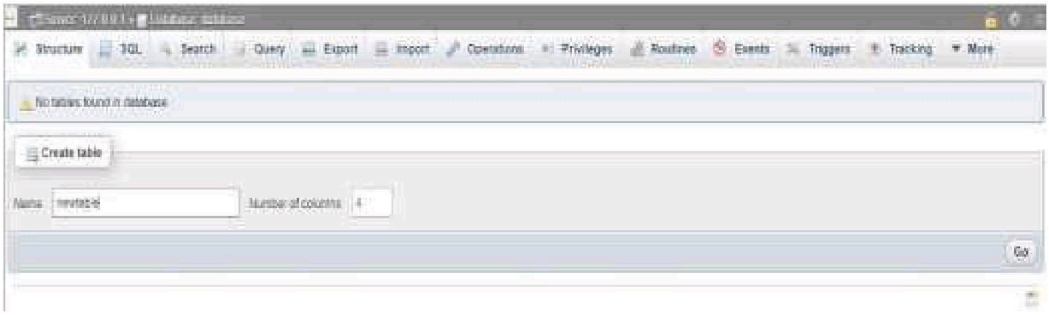
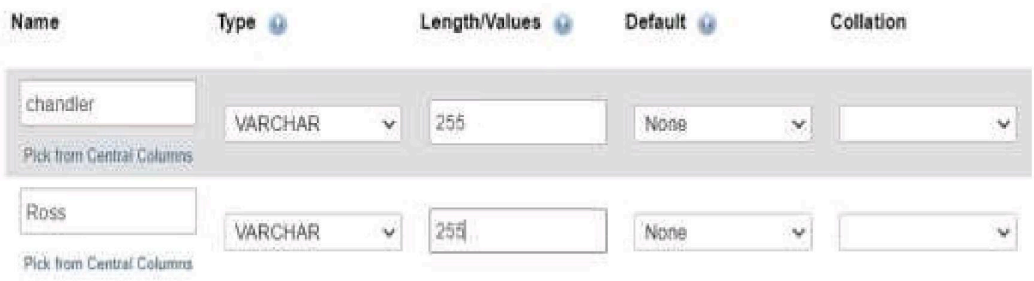


Fig 6.5.b New table creation

Next, you can select the desired type number for the 'Fields' text box. Once you have completed the steps, click the Go button. In the type space, select these options.



6.3.1 Open a Connection in a MySQL Database.

Once you create a PHPMyAdmin database, your next step is to write a code on Visual Studio.Go to Microsoft visual code -> create a new file and name it as DB connection.Now, in the code below, you will notice the function mysqli_connect( ). As the name suggests, it does the same task. It connects the database to the formthat was created.

```
<?php

$sname= "localhost";

$unmae= "root";

$password = "";

$db_name = "test_db";

$conn = mysqli_connect($sname, $unmae, $password, $db_name);

if (!$conn) {

   echo "Connection failed!";

}
```

Now, execute the below SQL query to create the user table within your MySQL database.

6.3.2 Create the user table

```
Table structure for table `faculty_list`
--

CREATE TABLE `faculty_list` (
  `id` int(30) NOT NULL,
  `school_id` varchar(100) NOT NULL,
  `firstname` varchar(200) NOT NULL,
  `lastname` varchar(200) NOT NULL,
  `email` varchar(200) NOT NULL,
  `password` text NOT NULL,
  `avatar` text NOT NULL DEFAULT 'no-image-available.png',
  `date_created` datetime NOT NULL DEFAULT current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Fig 6.5.2 Query for creating table

- ∑ id: serial number
- ∑ School id: Faculty id
- ∑ first name: Stores first name of the faculty
- ∑ last name: Stores last name of the faculty
- ∑ email: Stores email address of Faculty
- ∑ Password: Store password
- ∑ Date created: Stores date and time of creation.

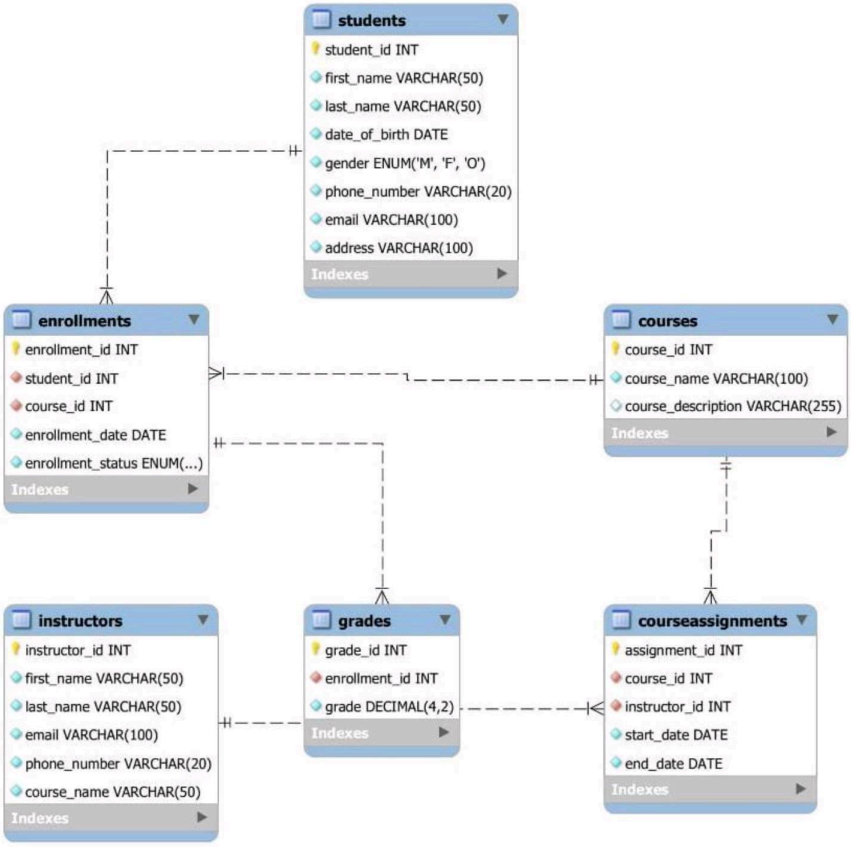


Fig 6.5.2 database

Similarly, all tables are created.

Chapter 7

Future Scope

With the adoption of National Education Policy – 2020, there are many changes that are going to be adopted with it. It is going to make a lot of impact if and only if it is implemented in the right direction.

The Technology is changing at a very rapid speed. There is something new every other day. And hence to make good use of it we will need to start using Technology in education. The Management system is just a prototype that is expected to get implemented or there might be need of such a platform that every institution would need in the upcoming years.

The Academic Bank of Credits is a storage of Credits by the student. The new Credit based system would definitely need a platform for the student and teacher. This project focuses more on this need. This need is a void in the education system and would definitely of great use.

In close to future, the system interface may be improved, with a lot of enticing, interactive, associated purposeful pictures enhance the system with an email and SMS or email notifications. Enhance this system by computerizing the majority the services provided by the establishment, turning it into an entire management system. And evolve the system by developing many versions through user's feedback. if an entire resolution has not been figured out.

Chapter 8

Conclusion

The package was designed in such a way that future modifications can be done easily. The following conclusions can be deduced from the development of the project.

- Automation of the entire system improves the efficiency
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users depending on their permissions.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- The System has adequate scope for modification in future if there is any necessity.

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