

1. Introduction Of The Project

1.1 Introduction:

A College Management Website is a management information system for education establishments to manage student data. Student information systems provide capabilities for registering students in courses; documenting grading, transcripts of student tests and other assessment scores; tracking student attendance; and managing many other student-related data needs in a college. College Management System deals with all kind of student details, faculty detail, college details, course details, curriculum and other resource related details too. It tracks all the details of a student from the day one to the end of his course which can be used for all reporting purpose, tracking of attendance, exam details, project or any other assignment details, teacher detail, hod detail and manage the website pages content like Contact Us and About Us Pages and Notices.

1.2 Purpose:

The College management system is an automated version of manual Student Management System. It can handle all details about a student. The details include college details, subject details, student personnel details, academic details, exam details etc... In case of manual system they need a lot of time, manpower etc.

College management system is managed by an administrator. It is the job of the administrator to insert update and monitor the whole process. When a user log in to the system. He would only view details of the student. He can't perform any changes. In our project, the college management system is particularly designed to provide attendance updates from the college to the admin of the respective students. Project administers three sectors. First is Admin Login where admin will update the new Hod and Staff; second is the HOD Login who add the new students and teachers take the attendance of the students and teachers.

1.3 Objectives:

In order to analyze the existing system, following objectives are set:

- To understand the existing system, to go through old websites and writing down the detailed scenario.
- To determine the transaction requirements.

- To determine the INPUT and OUTPUT requirements.
- To determine the problems and recommend the solution.

1.4 Scope:

This software is required for:

- More attractive and professional touch.
- Database accessing facility.
- More dynamic information will be provided.
- Easy retrieval and access of the information about every department of trade.
- All things should be connected to each other.
- Any updates done by user in his company profile should be reflected.

1.5 Benefits:

The following are the main benefits of the proposed software-

- Easy maintenance of the information.
- Save time and human efforts.
- Eases task of searching.

2. ANALYSIS

2.1 System Analysis:

System development can generally be thought of as having two major components - system architecture and system design.

- **System design** is the process of planning a new college system or one to replace or compliment an existing system. But before this planning can be done, we must thoroughly understand the old system and determine how computer can be used (if at all) to make its operation more effective.
- **System Architecture** is the process of gathering and interpreting facts, diagnosing problems and using the information to recommend improvements to the system.

2.2 Identification of Need:

CMW is a web application that combines many fields, including student registration, student edit, uploading staffs. CMW will help a lot of people seeking for quick and easy arrangement for their college management.

Integration and Test Phase:

The various components of the system are integrated and systematically tested. The user tests the system to ensure that the functional requirements as defined in the functional requirements documents are satisfied by the developed or modified system. Prior to installing and operating the system in a production environment the system must undergo certification and accreditation activities.

Implementation Phase:

The system or system modifications are installed and made operational in a production environment. The phase is initiated after the system has been tested and accepted by the user. This phase continues until the system is operating in production in accordance with the defined user requirements.

Operation and maintenance phase:

The user operation is ongoing. The system is monitored for continued performance in accordance with user requirements and needed system modifications are

incorporated. The operational system is periodically assessed through In-Process Reviews to determine how the system can be made more efficient and effective. Operation continues as long as the system can be effectively adapted to respond to an organisation need. When modification or changes are identified as necessary the system may re-enter the planning phases.

Disposition Phase:

The disposition activities ensure the orderly termination of the system and preserve the vital information about the system so that some or all of the information may be reactivated in the future if necessary. Particular emphasis is given to the proper preservation of the data processed by the system so that the data is effectively migrated to another system or archived in accordance with applicable records management regulations and policies for potential future access.

2.3 Feasibility Study

Initiation phase:

The initiation of a system (or project) begins when a business need or opportunity is identified. A project manager should be appointed to manage the project. This business need is documented in a concept proposal. After the concept Proposal is approved the system concept Development phase begins.

System Concept Development Phase:

Once a business need is approved the approaches for accomplishing the concept feasibility and appropriateness. The System Boundary Document identifies the scope of requires senior official approval and funding before beginning the Planning Phase.

Planning phase:

The concept is further developed to describe how the business will operate once the approval implemented and to assess how the system will impact employee and customer private products and/or services provide the required capability on-time and within budget activities schedules tools and reviews are defined. Additionally security certifications activities begin with the identification of system security requirements and the completeness assessments.

Requirements Analysis Phase:

Function user requirement are formally delineate the requirements in terms of data system performance security and maintainability requirements for the system. All requirements are defined to a level of detail sufficient for system design to proceed. All requirements need to measurable and testable and relate to the business need or opportunity identified in the initiation phase.

Design Phase:

The physical characteristics of the system are designed during this phase. The operating environment established, major subsystems and their inputs and outputs are defined and processes are allocated to resources. Everything requiring user input or approval must be documented and reviewed by the user. The physical characteristics of the system are specified and a detailed design is prepared. Sub systems identified during design are used to create a detailed structure of the system. Each subsystem is partitioned into one or more design units or modules. Detailed logic specifications are prepared for each software module.

Development Phase:

The detailed specifications produced during the design phase are translated into hardware communications and executable software. Software shall be unit tested, integrated and retested in a systematic manner Hardware is essential and tested.

2.4 System requirements specification:

2.4.1 Software specification:

System Type :	Personal Computer
Processor :	Minimum: 1.30 GHz Intel processor Recommended : 1.60GHz Intel processor
RAM:	Minimum:192MB Recommended: 1.00 GB
HDD:	Minimum: 128GB
SVGA Modes :	Minimum: 800x600 256 Colours Recommended: 1024x768 High Colours 16 bit
Tool :	Vs code

Front End :	HTML, CSS , JS
Backend :	MY SQL,PHP

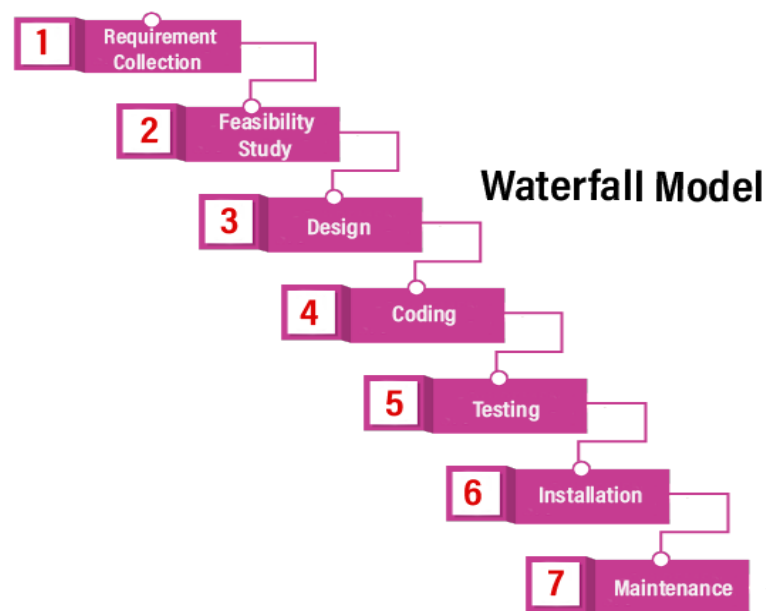
2.4.2 Hardware Specification:

Operating system	Windows NT,XP , Linux ,Mac
Other Software	Web server and web browser

2.5 Software Engineering Paradigm:

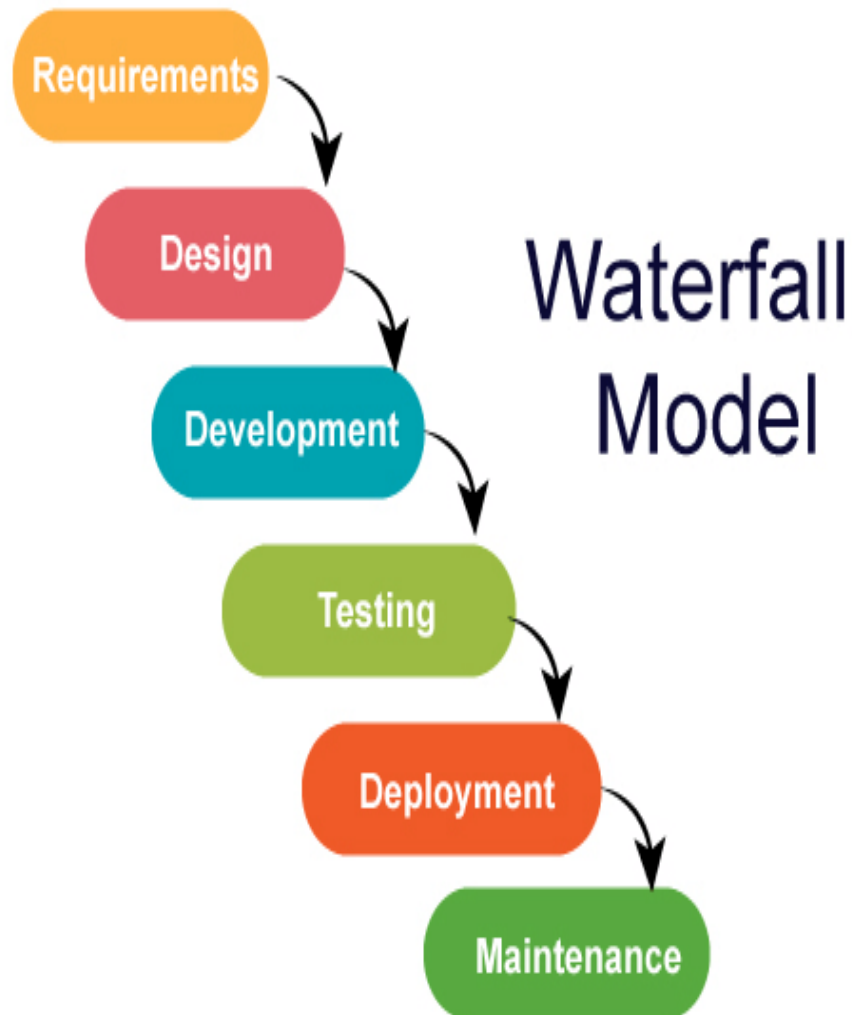
Classical waterfall:

The life approach is derived from the waterfall model of system development described by Royce in 1970, a simplified version of which is given below.



To follow the waterfall model, one processed from one phase to the next in a purely sequential manner. For example, one first completes requirements specification, which is set in stone. When the requirements are fully completed, one

processed to design. The software in question is designed and a blueprint is drawn for implimenters (coders) to follow –



3. DESIGN

3.1 System Design:

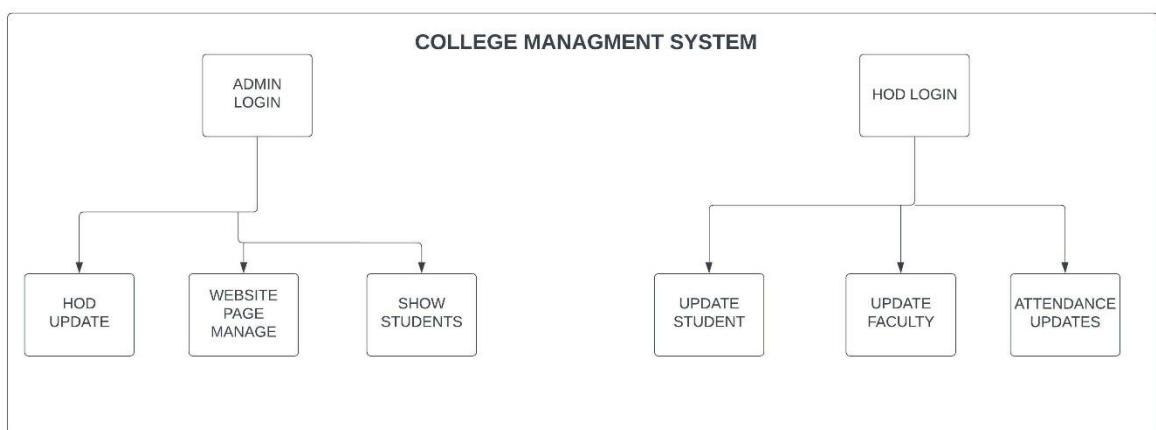
System Design is the process of planning a new business system or one to replace or complement an existing system. But before this planning can be done, we must thoroughly understand the old system and determine how computers, can best be used (if at all) to make its operation more effective. System analysis is the process of gathering and interpreting facts, diagnosing problems and using the information to recommend improvements to the system.

So the first step in the development of software for “Trade Directory” is to understand the existing procedure and the current transaction process and working of current system. All the data, facts and figures have to be gathered. Then the system has to be diagnosed so as to determine the problems and recommend the necessary improvements, changes to the system for making it more effective.

The old system was working on static data and we are converting it to the computer based system so that was a difficult task for us.

3.2 Design Diagram:

3.2.1 Data Flow Diagram (DFD)



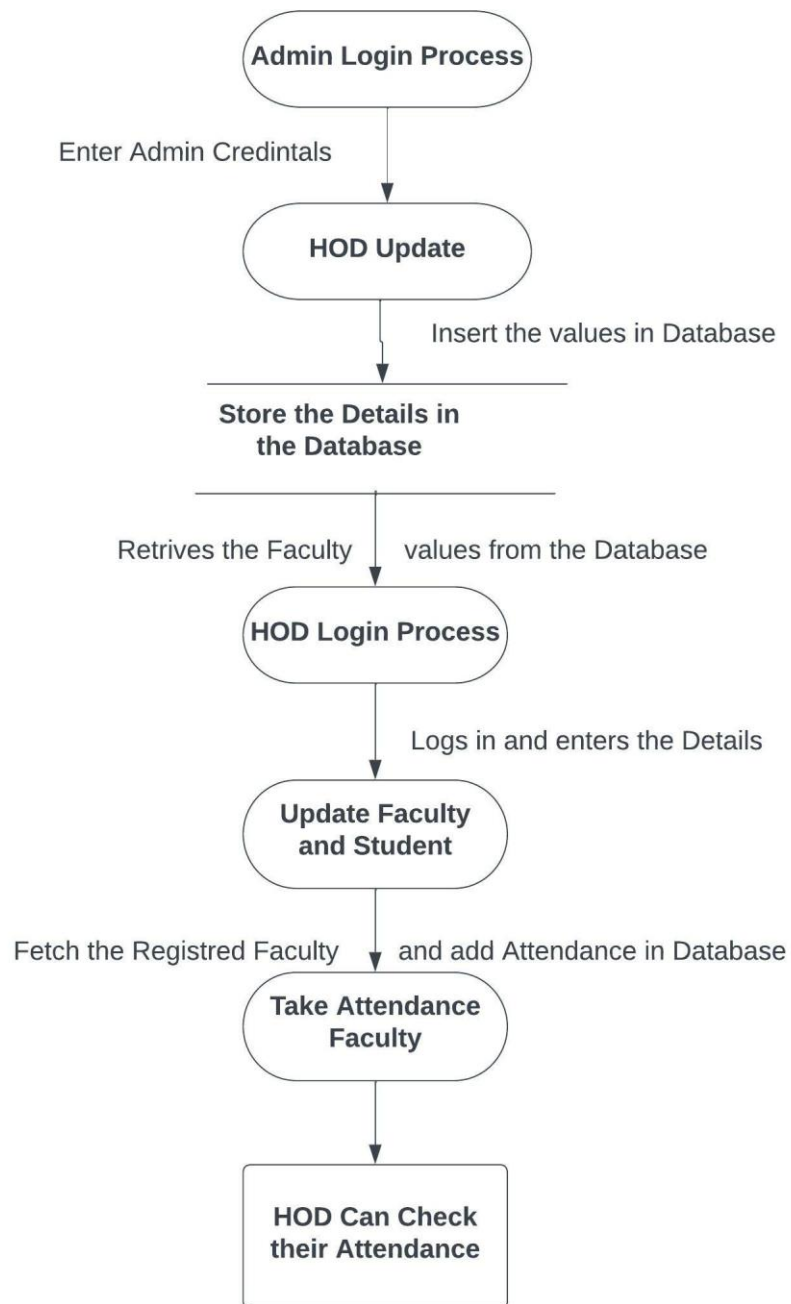
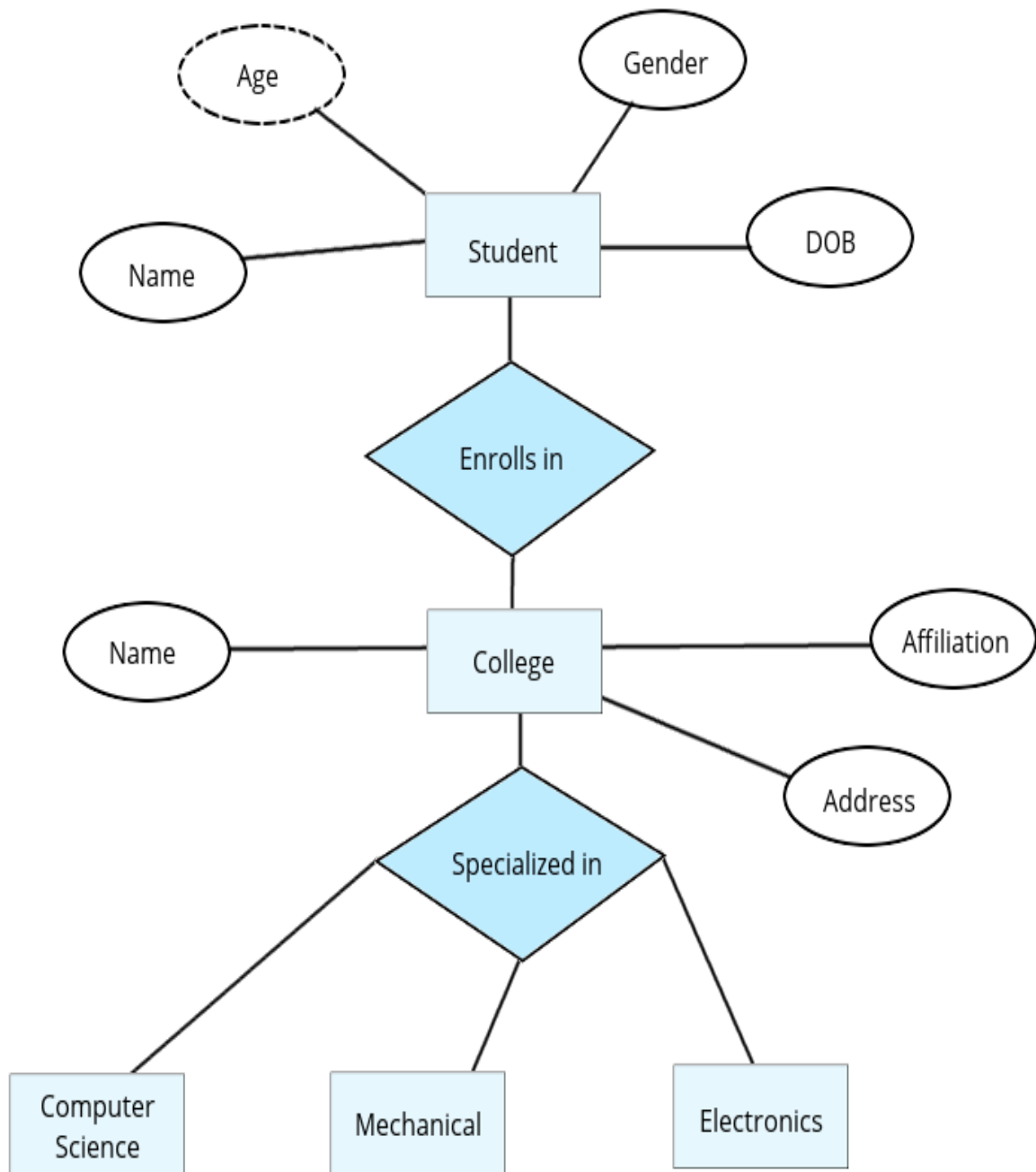


Fig - Data Flow Diagram

3.2.2 E-R Diagram



3.3 Data Integrity & Constraints

Data integrity in a relational database is concerned with accuracy, correctness and validity of data in database. A common variety of data integrity is referential integrity, which involves prevention of errors Foreign Key to Primary Key relationships, such as an orphan child record that is missing its parent record (sometimes termed a dangling foreign key).

Data integrity refers to the validity of data. Data integrity can be compromised in a number of ways:

- Human errors when data is entered.
- Errors that occur when data is transmitted from one computer to another.
- Software bugs or viruses.
- Hardware mal functions, such as disk crashes.
- Natural disasters, such as fires and floods.

Types of Data Integrity:

These are following rules that are applied to table columns to enforce different types of data integrity:-

1. **Null Rule** - A null rule is a rule defined on a single column that allows or disallows inserts or updates of rows containing a null (the absence of a value) in that column.
2. **Unique Column Values** - A unique value rule defined on a column (or a set of columns) allows the insert or update of a row only if it contains a unique value in that column.
3. **Primary Key Values** - A primary key value defined on a key (a column or set of columns) specifies that each row in a table can be uniquely identified by the values in the key.

Referential Integrity Rules:

A referential integrity rule is a rule defined on a key (a column or set of columns) in one table that guarantees that the values in that key match the values in a key in a related table (the referenced value).

Referential integrity also includes the rules that dictate what type of data manipulation are allowed on referenced values and how these actions affect dependent values. The rules associated with referential integrity are:

- **Restrict** - Disallows the update or deletion of referenced data.
- **Set to Null** - When referenced data is updated or deleted, all associated dependent data is set to null.
- **Set to Default** - When referenced data is updated or deleted, all associated dependent data is set to a default value.
- **Cascade** - When referenced data is updated, all associated dependent data is correspondingly updated. When a referenced row is deleted, all associated dependent rows are deleted.
- **No Action** - Disallows the update or deletion of referenced data. This differs from RESTRICT in that it is checked at the end of the statement, or at the end of the transaction if the constraint is deferred (Oracle uses No Action as its default action).

3.4 User Interfaces

Many technological innovations rely upon User Interfaces Design to elevate their technical complexity to a usable product. Technology alone may not win user acceptance and subsequent marketability. The User Experience, or how the user experiences the end product, is the key to acceptance, and that is where User Interface Design enters the design process. While product engineers focus on the technology, usability specialists focus on the user interface. For greatest efficiency and cost effectiveness, this working relationship should be maintained from the start of a project to its rollout.

When applied to computer software, User Interface Design is also known as Human-Computer Interactions or HCI. While people often think of Interface Design in terms of computers, it also refers to many products where the user interacts with control of displays.

The importance of good User Interface Design can be the difference between product acceptance and rejection in the marketplace. If end-users feel it is not easy to learn, not easy to use, or too cumbersome, an otherwise excellent product could fail. Good User Interface.

Design can make a product easy to understand and use, which results in greater user acceptance.

4. METHODOLOGY

4.1 Methodology:

Introduction To My-Sql Server:

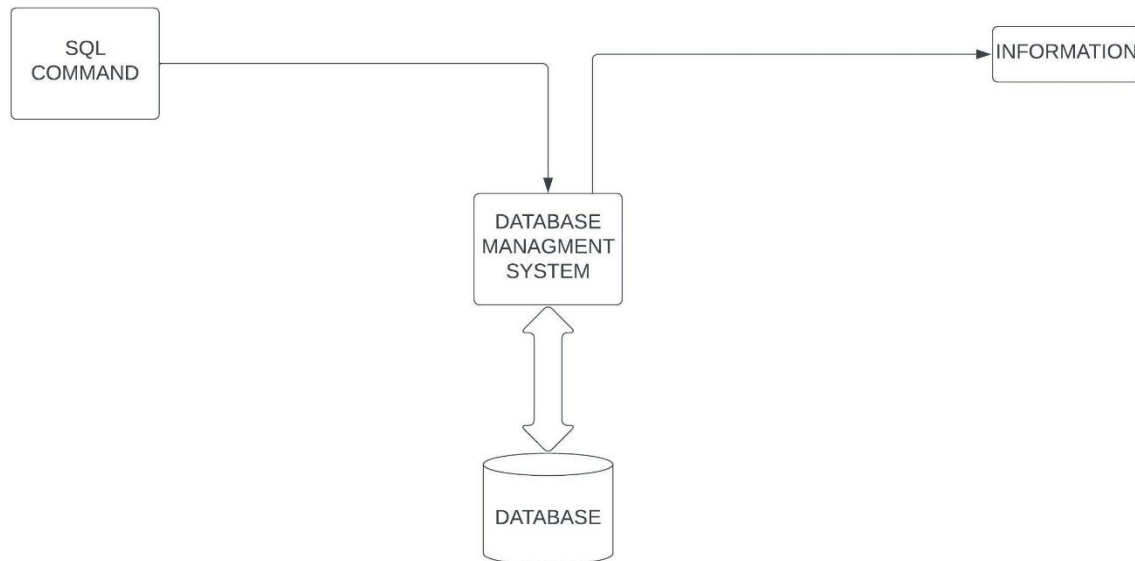
The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation.

- Define groups of server running MY-SQL SERVER.
- Register individual servers in a group.
- Configure all MY-SQL SERVER options for each registered server.
- Create and administer all MY-SQL SERVER database, objects, logins, users and permission in each registered server.
- Define and execute all MY-SQL SERVER administrative tasks on each registered server. Design and test SQL statements, batches and scripts interactively by invoking SQL Query Analyser.
- Invoke the various wizards defined for MY-SQL SERVER.
- MMC is a tool that presents a common interface for managing different server applications in Microsoft Windows network. Server applications provide a component called an MMC snap-in that presents MMC users with a user interface for managing the server application. SQL SERVER ENTERPRISE MANAGER is the Microsoft SQL SERVER 2005 MMC snap-in. to launch SQL SERVER ENTERPRISE MANAGER, select the Enterprise Manager icon in the Microsoft SQL SERVER program group.

What is a Database?

A Database Management System or DBMS gives the user access to their data and helps them to transform the data into information. Such database management systems include dBase, Paradox, IMS and SQL SERVER. These systems allow users to create, update and extract information from their database. Compared to a manual filing system, the biggest advantage to a computerized database system are speed, accuracy and accessibility.

A database is a structured collection of data. Data refers to the characteristics of people, things and events; SQL SERVER stores each data item in its own field. During an SQL SERVER database design project, the analysis of your business needs identifies all the fields or attributes of interest. If your business needs change over time, you define additional fields or change the definition of existing fields.



Primary Keys:

Every table in SQL SERVER has a field or a combination of fields that uniquely identifies each record in the table. This unique identifier is called the primary key, or simply the key. The primary key provides the means to distinguish one record from all the others in the table. It allows the user and database system to identify, locate and refer to one particular record in the table.

Once a table has been assigned a primary key, SQL SERVER won't allow more than one record in the table with the same value for the primary key. No two employees can have the same ID number.

Relational Database:

Sometimes all the information of interest to a business operation can be stored in one table. For example, let's say only data you need to maintain about your office supplies is a description of each item, its supplier and the quantity on hand. It

would be enough to have one office supply table with those data items as the fields. More often though, business applications involve many tables, in a typical personnel application, there might be one table for employees, another for information about their hours of work, and another for the departments in the company.

SQL SERVER makes it very easy to link the data in multiple tables: matching an employee to the department in which they work is one example. This is a key feature of a Relational Database Management System, or RDBMS. They store data in two or more tables and enable you to define relations between the tables. The link between the tables is based on one or more field values common to both tables.

Foreign Key:

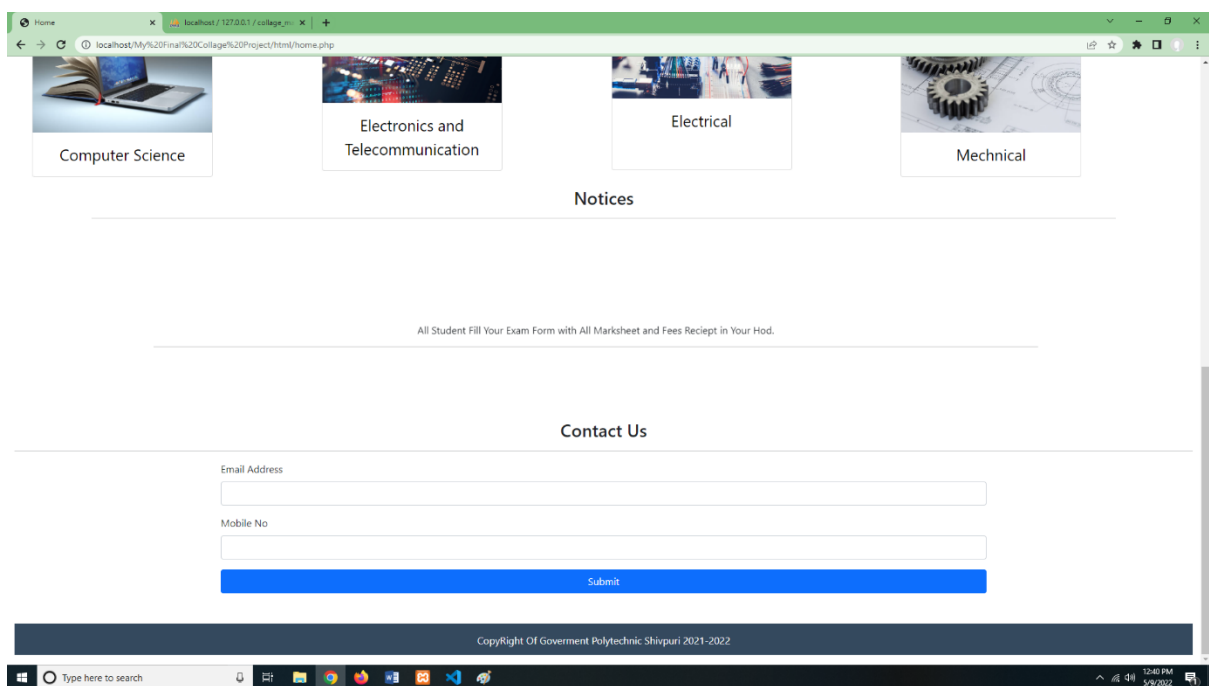
When a field in one table matches the primary key of another table, the field is referred to as a foreign key. A foreign key is a field or a group fields in one table whose values matches those of the primary key of another table. You can think of a foreign key as the primary key of a foreign table.

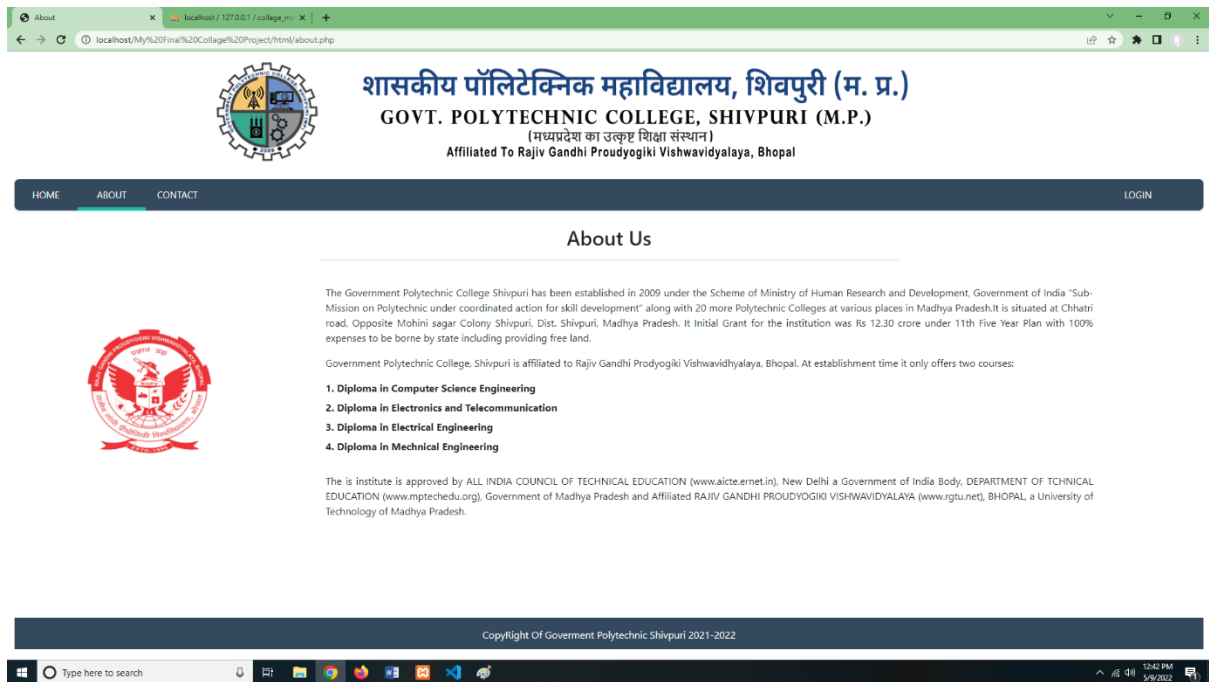
XAMPP SERVER:

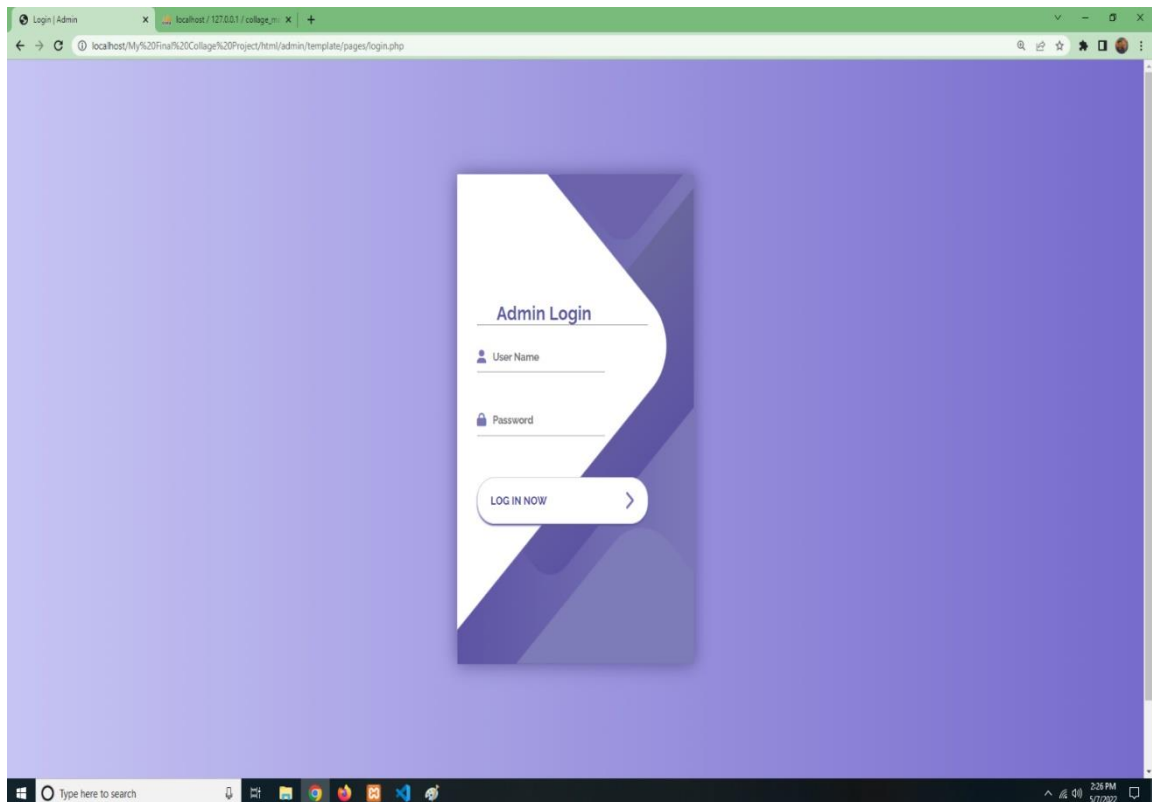
XAMPP is a light-weight easy to install bundle that will allow you to do local development on websites in case you don't have a server hosted already. Anyway, XAMPP consists of the three main things that you need to know when starting web development.

- **Apache Web Server:** It is a web server that allows you to host your websites or any other content for that matter. Apache is available for UNIX as well as WINDOWS. Some of the most common server-side languages supported by Apache are - PHP, Python and Perl. It is free of charge.
- **PHP:** A server-side programming language which is used to produce dynamic web pages. PHP code can be embedded within HTML. It is also free and platform-independent which means that it can be installed on any operating system.
- **MySQL:** It is the world's most popular open source database. It is a Relational Database Management System (RDBMS) - data and its relationships are stored in the form of tables that can be accessed by the use of MySQL queries in almost any format that the user wants.

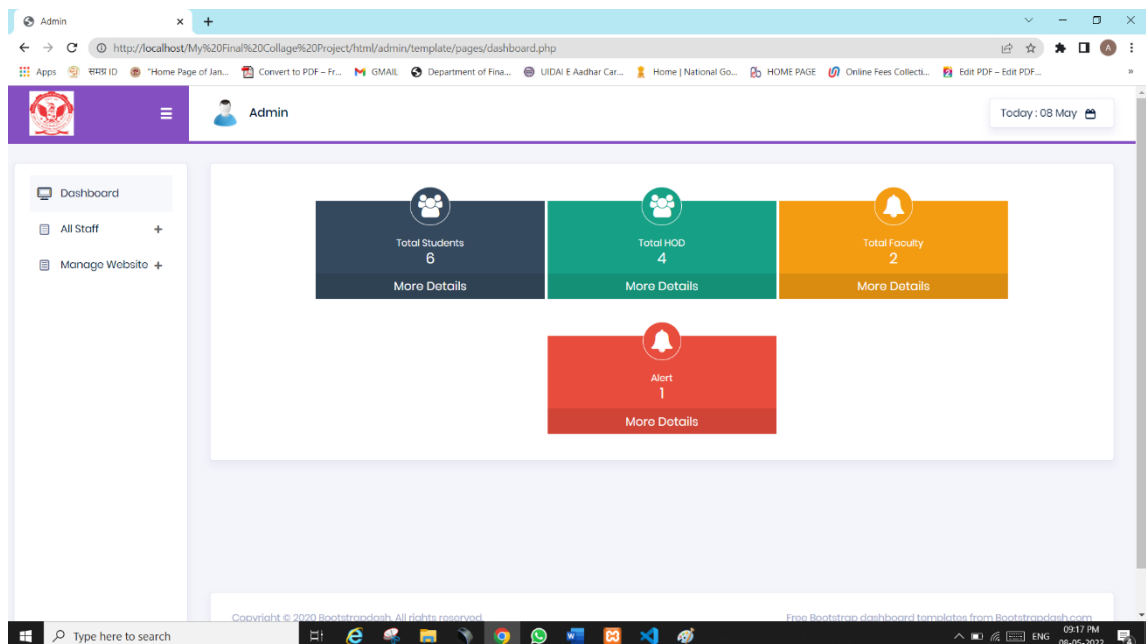
4.2 Architecture Design:







Admin login.php/




Admin Dashboard

localhost / 127.0.0.1 / collage_m... x Hod Admin x +

http://localhost/My%20Final%20Collage%20Project/html/admin/template/pages/all_hod.php

Apps राम ID "Home Page of Jan... Convert to PDF - Fr... GMAIL Department of Fina... UIDAI E Aadhar Car... Home | National Go... HOME PAGE Online Fees Collecti... Edit PDF - Edit PDF...

 Admin Today: 08 May

Dashboard

All Staff +

- All Student
- All Teacher
- All HOD

Manage Website +

All HOD


S.No	Name	Email	Branch Name	Mobile No
1	Asha Grace	hodes@gmail.com	CS	942576018
2	Navnoot	hodme@gmail.com	ME	7895456621
3	Miss. kanti Prajapati	hodat@gmail.com	ET	7898456512
4	Mr. Indrajeet Morey	hodes@gmail.com	EE	7898456512

Type here to search

09:39 PM 08-05-2022

Teacher Admin x localhost / 127.0.0.1 / collage_m... x +

localhost/My%20Final%20Collage%20Project/html/admin/template/pages/all_teacher.php

 Admin Today: 07 May

Dashboard **NEW**

All Staff +

- All Student
- All Teacher
- All HOD

Manago Website +

All Teacher

S.No	Name	Father Name	Branch Name	Email	Mobile No
1	Asha Korakotta	Mr.	CS	asha@gmail.com	9425745420
2	Akhilosh Sen	Mr. Sen	CS	akhiloshson@gmail.com	8781234567
3	Mrs. Swati Agrwal	Mr. Agrwal	ET	swati@gmail.com	7414852596

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Type here to search

2:31 PM 5/7/2022

localhost / 127.0.0.1 / collage_m... x Contact Admin x +

http://localhost/My%20Final%20Collage%20Project/html/admin/template/pages/contact.php

Apps संपद ID *Home Page of Jan... Convert to PDF - Fr... GMAIL Department of Fina... UIDAI E Aadhar Car... Home | National Go... HOME PAGE Online Fees Collecti... Edit PDF - Edit PDF...

 Admin Today: 08 May

Dashboard

All Staff +

Manage Website +

Contact Us

Notice

Address

Mohini Sagar Colony, Near Chattri, Shivpuri - 473551 (M.P)

Contact No

7898456512

Email

polys Shivpuri23@gmail.com

Submit


Type here to search

09:40 PM 08-05-2022

localhost / 127.0.0.1 / collage_m... x Contact Admin x +

http://localhost/My%20Final%20Collage%20Project/html/admin/template/pages/notice.php

Apps संपद ID *Home Page of Jan... Convert to PDF - Fr... GMAIL Department of Fina... UIDAI E Aadhar Car... Home | National Go... HOME PAGE Online Fees Collecti... Edit PDF - Edit PDF...

 Admin Today: 08 May

All Staff +

Manage Website +

Contact Us

Notice

Add Notice

Notice

Date


08-05-22

Time

9:40 PM

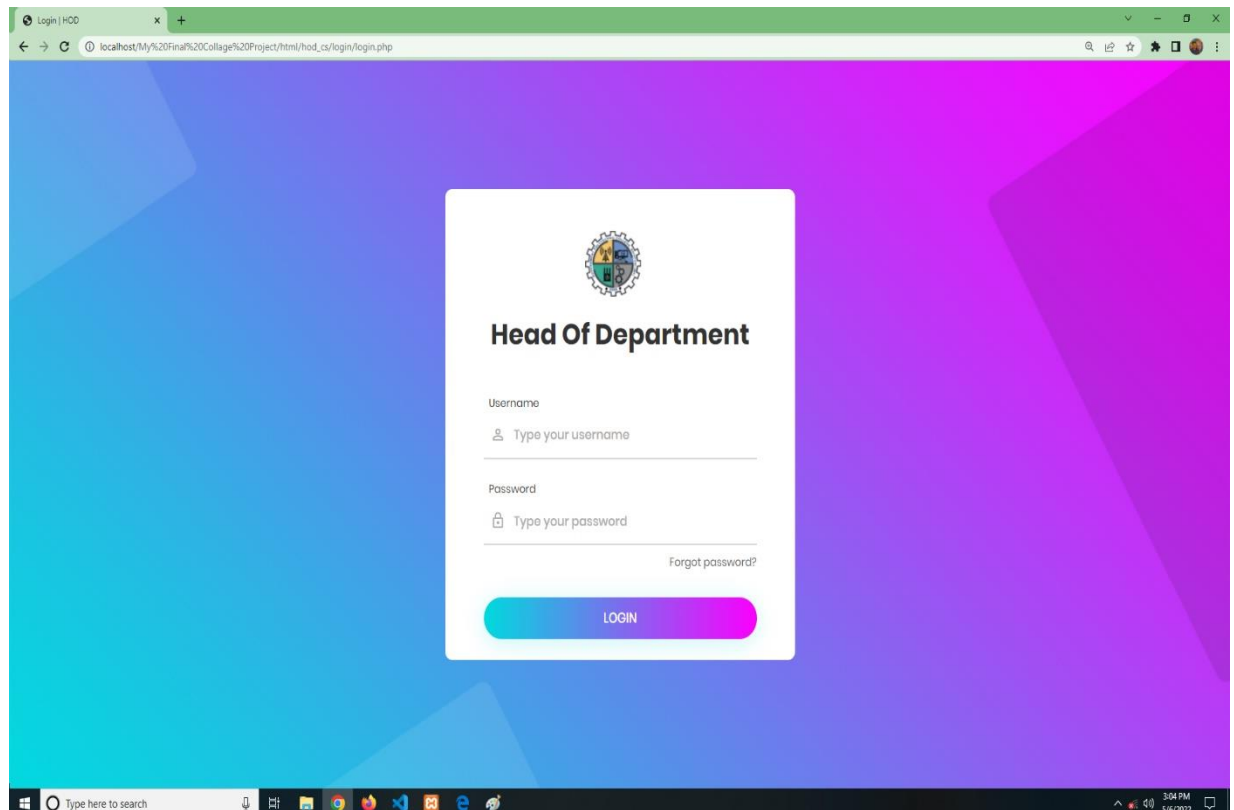
Add Notice

All Notice

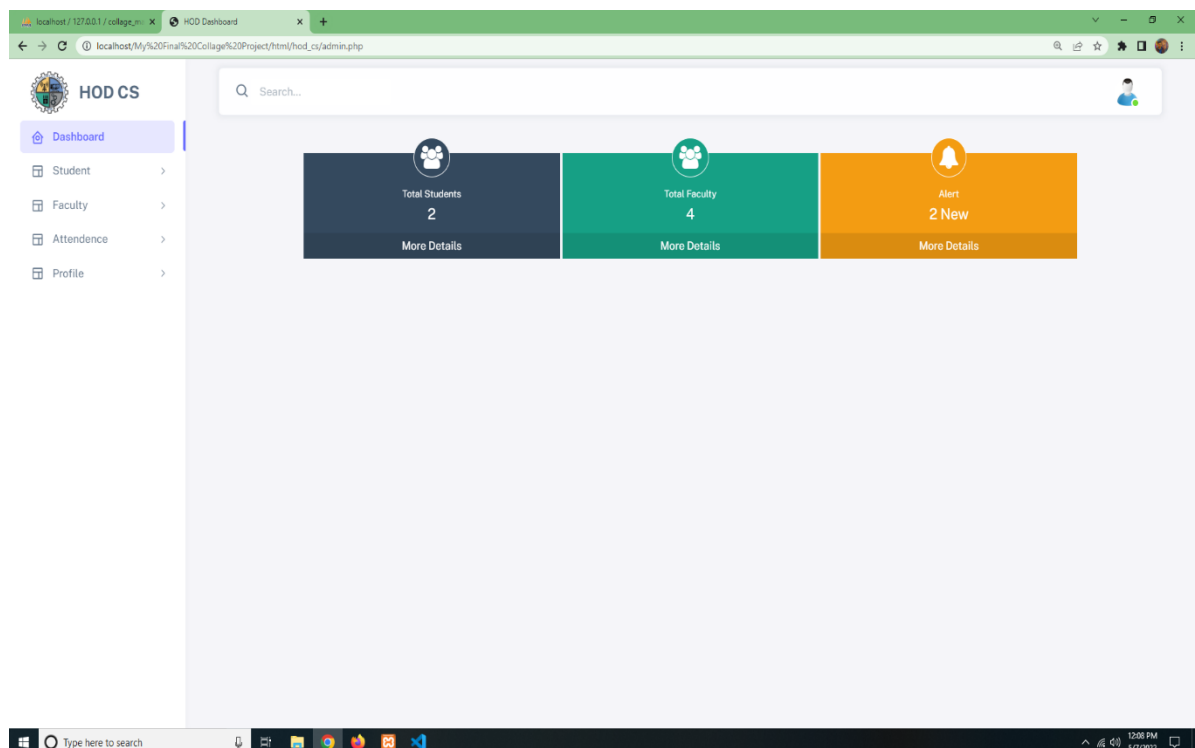
S.No	Notice	Date	Time	Operation
1	All Student Fill Your Exam Form with All Marksheet and Fees Receipt in Your Hod.	08-05-22	12:43 PM	

Type here to search

09:40 PM 08-05-2022



Hod login.php/



HOD CS

- Dashboard
- Student**
- Faculty
- Attendance
- Profile

Add Student

Id: 1

First Name:

Last Name:

Father Name:

Mother Name:

10th Percentage:

12th Percentage:

Gender: ☐ Male ☐ Female

Date Of Birth:

Email:

Mobile No:

Branch Name:

Profile Pic:

Address:

HOD CS

- Dashboard
- Student**
- Faculty
- Attendance
- Profile

Search...

Student

S.NO	NAME	FATHER NAME	EMAIL	MOBILE NO	
1	Prashant	Sanjay Jain	8120234419	prashant@gmail.com	⋮
2	Priyanshu	Chandra Sekhar	6268560002	priyanshu@1234	⋮

Edit
Delete

The screenshot shows a web application interface for 'HOD CS'. The left sidebar contains a menu with 'Dashboard', 'Student', 'Faculty', 'Attendance', and 'Profile'. The 'Student' menu item is highlighted. The main content area displays a student profile card for 'Prashant Jain'. The card includes a circular profile picture and the following details:

- Father Name : Sanjay Jain
- Gender : Male
- Date Of Birth : 2002-02-02
- Mobile No : 8120234419
- Branch Name : Computer Science

The browser's address bar shows the URL: localhost/My%20Final%20Collage%20Project/html/hod_cs/student-profile.php?id=14. The Windows taskbar at the bottom shows the time as 3:04 PM on 5/7/2022.

The screenshot shows the 'HOD CS' web application with the 'Faculty' menu item highlighted in the sidebar. The main content area displays a table titled 'Faculty' with the following data:

S.NO	NAME	FATHER NAME	EMAIL	MOBILE NO	ACTIONS
1	Asha	Mr.	9425745420	asha@gmail.com	:
2	Akhilesh	Mr. Sen	8781234567	akhileshsen@gmail.com	:

The browser's address bar shows the URL: localhost/My%20Final%20Collage%20Project/html/hod_cs/teacher.php. The Windows taskbar at the bottom shows the time as 3:12 PM on 5/7/2022.

HOD CS

Dashboard

Student

Faculty

Attendance

Profile

Search...

Take Attendance (Today's Date : 07-05-2022)

ID	NAME	DATE	ACTIONS	
1	Asha	2022-05-07	<input type="checkbox"/> Present	<input type="checkbox"/> Absent
2	Akhilesh	2022-05-07	<input type="checkbox"/> Present	<input type="checkbox"/> Absent

TakeAttendance

HOD CS

Dashboard

Student

Faculty

Attendance

Profile

Search...

Attendance Report

From Date: 04/13/2022 To Date: 04/13/2022 Click To Search

Search

S. NO.	NAME	DATE	STATUS
1	Asha	2022-04-13	Present
2	Akhilesh	2022-04-13	Absent
3	Asha	2022-04-13	Present
4	Akhilesh	2022-04-13	Present

5. TESTING AND VALIDATION

5.1 Testing Process:

System testing of software or hardware is testing conducted on a complete, integrated system to ensure compliance with its specified requirements. System testing falls within the scope of box testing, and as such, should require no knowledge of the inner design of the code or logic.

System Testing to software Testing is the process user to assess the quality of computer software. Software testing is an empirical technical investigation conducted to provide stakeholders with information are testing is an product or service under test, with respect to the content in which it is intend equality de. But are not limited to the process of executing a program or application with the intent software bugs.

System testing is used in association with verification and validation-.

- **Verification-** Have we built the software right (i.e, does it match the specification).
- **Validation-** Have we built the right software (i.e., is this what the customer wants)

A common practice of software testing is that it is performed by an independent group of testers after the functionality is developed but before it is shipped to the customer. This practice often results in the testing phase being used as project buffer to compensate for project delays, thereby compromising the time devoted to testing. Another practice is to start software testing at the same moment the project starts and it is a continuous process until the project finishes. In counterpoint, some emerging software disciplines such as extreme programming and the agile software development movement adhere to a test-driven software development" model. In this process unit tests are written first, by the software engineers. Of course, these tests fail initially; as they are expected to. Then as code is written it passes incrementally larger portions of the test suits. The test suites are discovered continuously updated as new failure conditions and comer causes are discovered, and they are integrated with any regression tests that re developed. Unit test are maintained along with the rest of the software source code and generally integrated into the build process.

5.2 Testing Techniques & Strategies:

Software testing methods are traditionally divided into black box testing and white box testing. These two approaches are used to describe the point of view that a test engineer takes when designing test cases.

- **Black Box Testing** - Black Box Testing treats the software as a black-box without any understanding as to how the internal behave. It aims to test the functionality according to the requirements. Thus, the tester inputs data and only sees the output from the test object. This level of testing usually requires thorough test cases to be provided to the tester who then can simply verify that for a given input, the output value is the same as the expected value specified in the test case. Black Box Testing methods include: equivalence partitioning, boundary value analysis, all-pairs testing, fuzz testing, model-based testing etc.
- **White Box Testing** - White Box Testing however, is when the tester has access to the internal data structures, code and algorithms. White Box Testing methods include creating of tests to satisfy some code coverage criteria. For example, the test designer can create tests to make all statement in the program to be executed at least once. Other examples of white box testing are Mutation Testing and **Fault Injection** methods.

White Box Testing methods can also be used to evaluate the completeness of test suite, which was created with Black Box Testing methods. This allows the software team to examine parts of a system that are rarely tested and ensures that the most important function points have been tested. Two common forms of code coverage are function coverage, which reports on functions executed and statement coverage, which reports on the number of lines executed to complete the test. They both return coverage metric, measured as a percentage.

- **Grey Box Testing**- In recent years the term Grey Box Testing has come into common usage. This involves having access to internal data structures and algorithms for purpose of designing the test cases, but testing at the user, Black-Box level. Manipulating input data and formatting output do not qualify as Grey-Box because the input and output are clearly outside of the Black-Box we are calling the software under test. This is particularly important when conducting integration testing between two modules of code written by two different developers, where only the interfaces are exposed for test.

Test Cases:

A Test Case in software engineering is a set of conditions or variables under which a tester will determine if a requirement or use case upon an application is partially or fully satisfied. It may take many test cases to determine that a requirement is fully satisfied.

HOD Login:

Tests that user's login with proper username and password. Steps to check this are as follows –

- Visit Login Page
- Enter Username
- Enter Password
- Click Login
- See the Terms of Use Page
- Click Agree at Page
- Button
- Click Submit
- See personal page
- Verify welcome message is correct username

5.3 Debugging:

Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a Computer program or a piece of electronic hardware thus making it behave as expected. Debugging tends to be harder when various subsystems are tightly coupled, as changes in one may cause bugs to emerge in another. The debugging skill of the programmer is probably the biggest factor in the ability to debug a problem, but the difficulty of the software debugging varies gently with the programming language used and the available tools, such as debuggers. Debuggers are software tools which enable the programmer to monitor the execution of a program, stop it, re-start it, set breakpoints, change values in memory and even in some cases go back in time. The term debugger can also refer to the person who is doing the debugging.

The debugging is started by trying to reproduce the problem. After the bug is reproduced, the input of the program needs to be simplified to make it easier to

debug. For example, a bug in a compiler makes it Crash when parsing some large source file. However, after simplification of test case, only few lines from the original source file can be sufficient to reproduce the same crash. Such simplification is made manually. Using divide-and-conquer approach. In programmer will try to remove some part of original test case and check if the problem still exists.

After the test case is sufficiently simplified, we use debugger to examine program states and track down alternatively a tracing can be used. In simple case the tracing is just a few the origin of the problem. Alternatively a tracing can be used. In simple case the out the value of variables in certain points of program execution. Print statement which prints out the value of variables in certain points of programme execution.

5. SYSTEM SECURITY & COST ESTIMATION

6.1 Implementation of Security Mechanisms:

The implementation of security mechanisms at various levels is as follows

- **Site Security** - Site security provides customer-defined services as registration, management and access. This level of security protects the password, branded-site access and meetings as scheduled by the administrator.
- **Meeting Security** - The access to various features, attendee privileges, communication etc. Are granted by the meeting security. The host can regulate the various attendee access levels, including in-meeting rights, the ability to save or print documents and other options.
- **Network Security** – Network security includes document encryption, Secure-Socket Layer (SSL), intrusion control and non-persistent data. Prohibition of Registration of company is done when not meeting the required authentication.
- **Physical Security** – Physical security prohibits the unauthorized access of hardware, software and database by the external factors.

6.2 Cost Estimation:

The Constructive Cost Model (COCOMO) is an algorithmic Software Cost Estimation Model developed by Barry Boehm. The model uses a basic regression formula, with parameters that are derived from historical project data and current project characteristics. This size driven model has become the most widely used and accepted estimation method in use today. **COCOMO** is a model that allows one to estimate the cost, effort and schedule when planning a new software development activity. It consist of three sub models, each one offering increased fidelity the further along one is in the project planning and design process. Listed in increasing fidelity, these sub models are called the Application Composition, Early Design and Post-Architecture models. Until recently, only the last and most detailed sub model. Post-Architecture, had been implemented in a calibrated software tool.

COCOMO consists of a hierarchy of three increasingly detailed and accurate forms. The first level, Basic COCOMO is good for quick, charily, rough order of

magnitude estimates of software costs, but its Intermediate COCOMO takes these Cost Drivers into account and Detailed COCOMO additionally.

Limited due to its lack of factors to account for difference in project attributes (Cost Drivers). Accrue accounts for the influence of individual project phase.

1. **Black COCOMO** is a static, single valued model that computes software development effort (and cost) as a function of program size expressed in estimated lines of code. The basic COCOMO equation takes the form-

$$E = a (KLOC)^{db}$$

$$D = c_b(E)^{db}$$

$$P = E/D$$

Where E is the effort applied in person-month, D is the development time in chronological months, KLOC is the estimated number of delivered lines of code for the project (expressed in thousands), and P is the number of person required.

2. **Intermediate COCOMO** computes software development effort as function of program size and a set of cost drivers that include subjective assessment of product, hardware, personnel and project attributes. The intermediate COCOMO formula takes the form –

$$E = a (KLOC)^{bi} .EAF$$

Where E is the effort applied in person-months, KLOC is the estimated number of thousands of delivered lines of code for the project and EAF is the factor calculated above.

3. **Detailed COCOMO** incorporates all characteristics of the intermediate version with an assessment of the cost driver's impact on each step (analysis, design etc.) of the software engineering process.

6.3 Gantt Chart / Pert Chart:

Project scheduling is the process of converting a general or outline plan for a project into a time-based graphic presentation given information on available resources and time constraints.

A **Gantt chart** is a popular type of bar chart that illuminates a project schedule. Gantt Charts illustrates the start and finish dates of the terminal elements and

summary elements of a project. Terminal elements and summary elements comprise the work breakdown structure of the project.

Advantages & Limitations:

- Gantt charts have become a common technique for representing the phases and activities of a project work breakdown structure (WBS), so they can be understood by a wide audience.
- A common error made by those who equate Gantt chart design with project design is that they attempt to define the project work breakdown structure at the same time that they define schedule activities. This practice makes it very difficult to follow the 100% rule. Instead the WBS should be fully defined to follow the 100% rule, and then the project schedule can be designed.
- Although the Gantt chart is easily comprehended for small projects that fit on a single sheet or Screen, they can become quite unwieldy for projects with more than 30 activities. Larger Gantt chart may not be suitable for most computer displays.
- Because the horizontal bars of a Gantt chart have a fixed height, they can misrepresent the time-phased workload (resource requirements) of a project.

SDLC	March			April			May		
ACTIVITIES	1	11	21	1	11	21	1	5	10
Planing									
Analysis									
Design									
Coding									
Testing									
Implementation									
Maintance									

Fig.8 Gantt chart

Pert Chart

The Program (or Project) Evaluation and Review Technique, commonly abbreviated PERT, is a model for project management designed to analyse and represent the tasks involved in completing a given project. PERT is a method to analyse the tasks involved in completing a given project, especially the time needed to complete each task, and identifying the minimum time needed to complete the total project.

PERT was developed primarily to simplify the planning and scheduling of large and complex projects. It was able to incorporate uncertainty by making it possible to schedule a project while not knowing precisely the details and durations of all the activities. It is more of an event-oriented technique rather than start and completion oriented, and is used more in R&D type projects where time, rather than cost, is the major factor.

- A **PERT** chart is a tool that facilitates decision making; the first draft of a PERT chart will number its events sequentially in 10s (10, 20, 30) to allow the later insertion of additional events.
- Two consecutive events in a PERT chart are linked by activities, which are conventionally represented as arrows in the diagram below.
- The events are presented in a logical sequence and no activity can commence until its preceding event is completed.
- The planner decides which milestones should be PERT events and also decides their proper sequence.

A PERT chart may have multiple pages with many sub-tasks.

7. FUTURE SCOPE & ENHANCEMENT

7.1 Future Scope:

- College information: Through this service one can access the complete information about the college campus such as courses available, admission procedure, placements, college events, achievements etc.
- Student tracking: Any company or any organization that want to check the summary about the student of the college, so that they will be able to choose the particular students for their campus placement And for that purpose they will be given a particular link through which they can access the information required.
- Student attendance status: It gives the attendance status of students. Faculty will update the attendance periodically and can be seen by students and parents.
- Exam Notification: This facility notifies students and parents about examination schedule.
- Information about staff: It will help in maintaining complete information about college faculty members such as their department, cadre, date of joining, salary, etc. Administrator will register new faculties and remove their account when they leave the college.

7.2 Future Enhancement:

- Online examination module would be introduced to conduct online examination.
- Scheduling of the staff. i.e., time table setting of the staff.
- Further, the faculty can upload the videos of their lectures on to this site and students who had missed those classes can view those videos.
- More functionality can be added depending upon the user requirement and specification.
- By providing additional functionality like Student Staff interaction.
- We can enhance it by making the same project to work on internet.

8. CONCLUSION

College Management System deals with management of routine academic work , college details, course details, curriculum, batch details and other resource related details too. It tracks all the details of a student from the day one to the end of his course which can be used for all reporting purpose, tracking of attendance, progress in the course, completed semesters years, coming semester year curriculum details, exam details, project or any other assignment details, final exam result; In our project, the college management system is particularly designed to provide marks and attendance updates from the college to the parents of the respective students. Project administers three sectors. First is Admin Login where admin will update the new student and staff; second is the Faculty Login who updates the marks and attendance of the students; Student will be able to login and check their marks and attendance with respect to their subjects.

9. LIST OF ABBREVIATION

This glossary contains a list of the technical words used in the documentation of the project –

Analysis: The examination and evaluation of the relevant information to select the best course of action from among various alternatives.

Application Programming Interface (API): API is a language and message format used by an application program to communicate with the operating system or some other control program such as a database management system or communications protocol.

Application Server: An application server is a component- based product that resides in the middle-tier of a server centric architecture. It provides middleware services for security and state maintenance, along with data access and persistence.

Class: A set, collection, group or configuration containing members regarded as having certain attributes or traits in common; a kind or category.

Database: A database is an application that manages data and allows fast storage and retrieval of that data.

Data Flow Diagram (DFD): A Data Flow Diagram or DFD is used to represent the flow of data in a process.

Data Grid: A Data Grid is a system Composed of multiple servers that work together to manage information and related operations-such as computations- in a distributed environment.

Debugging: In computers, debugging is the process of locating and fixing or by passing bugs (errors) in computer program code or the engineering of a barcode or the engineering of a hardware device,

E-R Diagram: An Entity-Relationship (ER) diagram a specialized graphic that illustrates the interrelationship between entities in a database.

Foreign Key: A Foreign Key is a field in a relational table that matches the primary key column of another table. The foreign key can be used to cross-reference tables.

Integrity: Data Integrity is whether the information stored on a system is reliable and can be trusted. Since systems are used to manage information, data integrity is a measure of that information.

Primary Key: The primary key of a relational table uniquely identifies each record in the table.

Relationship: A relationship is the association between two or more entity sets.

Report: A report is a nicely formatted document that serves the purpose of analysis, research etc. and helps in better understanding of the matter that needs to be conveyed.

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10.2 Mentor:

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