PROJECT REPORT

On

PHRONTISTERY OVERSEE

A Project Report

Submitted By:

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In partial fulfillment for the award of the degree

Of

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DECLARATION

I hereby declare that the project entitled "PHRONTISTERY OVERSEE" submitted for the B.Tech (CSE) is my original work and the project has not formed the basis for the award of any other degree, diploma, and fellowship or any other similar titles.

Signature of Student

Place: Jalandhar

Date: 30-4-2021

CERTIFICATE

ABSTRACT

The purpose of college website is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing a manipulation of the same. Basically the project describes how to manage for good performance and better services for the students and the teachers as well. This will also maintain the computerized records without redundant entries. That means one need not to be distracted by information that is not relevant, while being able to reach the information.

ACKNOWLEDGEMENT

Through this acknowledgement, I express my sincere gratitude to all those people who are associated with this project and are helping me with it to make it a worthwhile experience. First and foremost, I would like to thank almighty for giving me courage to make this project. At the outset, I would like to propose a word of thanks for the people who gave me unending support and help in numerous ways.

Firstly, I express our thanks to Mr. Prince Verma (HOD CSE DEPT) who gave me this opportunity to learn the subject in a practical approach who guided me and gave me valuable suggestions regarding the project report.

Secondly, I would like to thank Ms. Damanpreet (Project guide) and FACULTY MEMBER of O7 SERVICES who are giving me their immense support in completing the project. The atmosphere provided is full of gaining more and more knowledge and to keep enthusiastic nature. The teachers provide a lot of help in resolving my doubts and making this project successful in shorter time. I am making this project not only for marks but also to increase my knowledge. Thanks again to all who are helping me in completion of this project.

CHAPTER 1

INTRODUCTION TO PROJECT

1. 1 PROBLEM DEFINATION:

- "Phrontistery Oversee" the "College Website" that has been developed to override the problems prevailing in the practicing manual system.
- It is a user friendly "College Website" that can lead to error free, secure, reliable and fast management system.
- It can assist the user to concentrate on their other activities rather than to concentrate on the record keeping.
- The main motive of this website is the interaction between teachers and students.
- This system also come with the remote access features so, that one can manage their workforce anytime, at all the times. These systems will ultimately allow you to better manage resources.
- In the offline system, it is an overhead to keep the records related to the faculty, students and parents on the papers.
- Sometimes it is not easy to provide the information to each and every one. With the help of this website teachers can upload any of the information and vice-versa.
- Work can be given to the students by their teachers and the students can also revert their work online. And it is easy to maintain the record of their work.
- At the end of week or a month one can also generate the report of the students and share that with their parents as well.

1.1.1. FEATURES:

- Using this project, the details can be accessed from anywhere at any time.
- The implementation of this project promotes education effectively.
- It can be searched more easily from anywhere.
- With the help of this online web application, students can look for the academic records every day.
- You can view the complete overview of your academic session.
- Computerization

- Automation
- Easy interaction
- Multi-user account system
- Responsive user interface
- Homework documentation
- Class routine schedule
- Profile system
- Daily attendance
- Notes (through video too)
- Generate reports

1.1.2. OBJECTIVES:

- The main objectives of this project is to manage the details of students and the teachers.
- It manages all the information about the students and the teachers.
- Online attendance is taken.
- Teachers can upload the notes and other study material to help the students. They can also upload the video of their lectures so students can take that advantage too.
- Online assignments, tests and can also be taken by the teachers so that they check the performance of the students.
- Students also revert their work online with the help of this website.

1.1.3. SYSTEM SPECIFIC MODULES:

There are three modules in our project. They are listed below with their description.

- Admin
- Teachers
- Students

1.1.3.1. Admin:

Admin is the one who controls whole system, every person that is involved in this project. Admin has the power to create, update or delete any record of the system. Admin will be able to view the

profile of any other user in the system. Whenever a student is registered into the college, a class and the related department will be assigned by the admin to the student. Assigning timetables to the teachers and students will be the admin's responsibility. The admin will approve the leave application of the teachers and students.

Admin can perform the CRUD operations on these sub modules:

- Login/ Register
- Add/ Manage/ Edit Teacher And Allot Teachers
- Add/ Manage/ Edit Student
- Add/ Manage/ Edit Course
- Add/ Manage/ Edit Subject
- View Attendance
- View Assignment
- View Notes
- View Answer Sheets

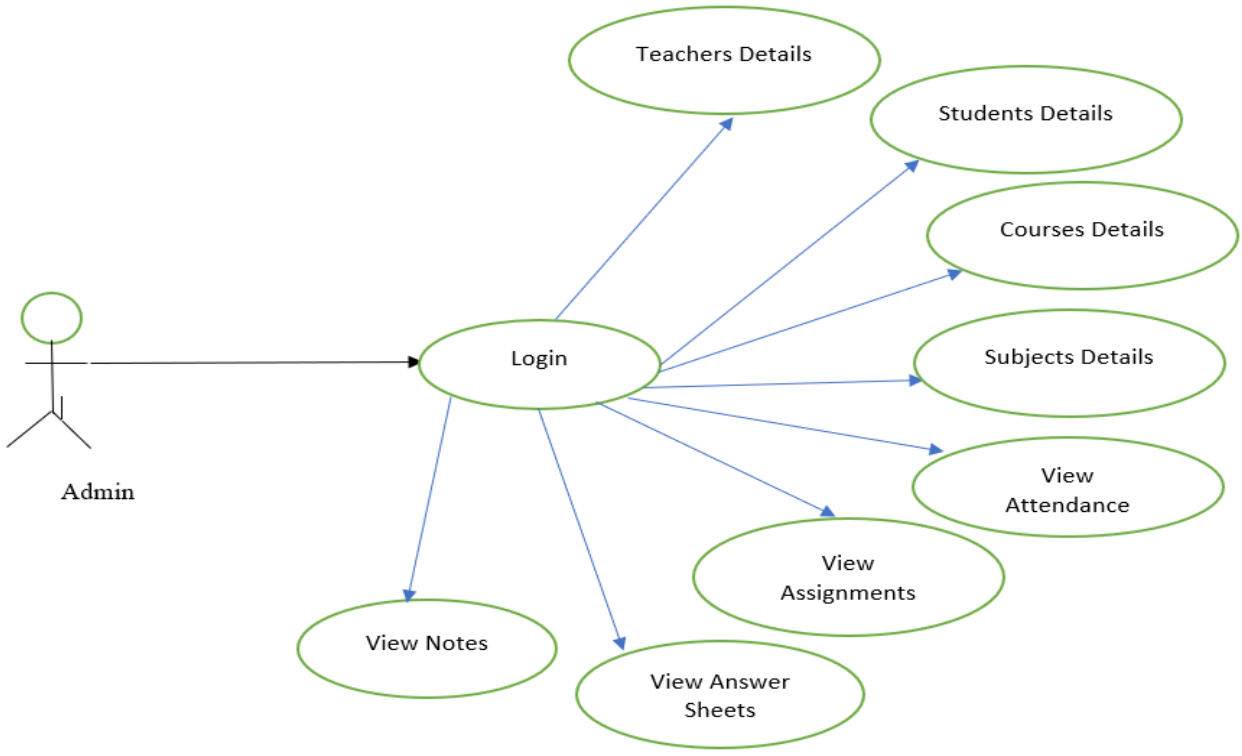


Fig. 1.1.3.1 (a) Admin Module

1.1.3.2. Teacher:

The teacher can take the attendance of the students. He/she just has to enter the class and their roll no into the portal and the whole list pf the registered students of the class will be displayed. Teachers can assign the work to the students and check their work as well. And they upload the notes and video lectures for the better understanding. Teachers can also view the profile of students and can also generate the report of students as per there performance. Sub modules of teachers are:

- Login
- View Students
- View Course
- View Subjects
- Mark Attendance (as per subject)
- Add Timetable
- Add/ Manage/ Edit Assignments or tasks
- Add/ Manage/ Edit Notes
- Generate Reports

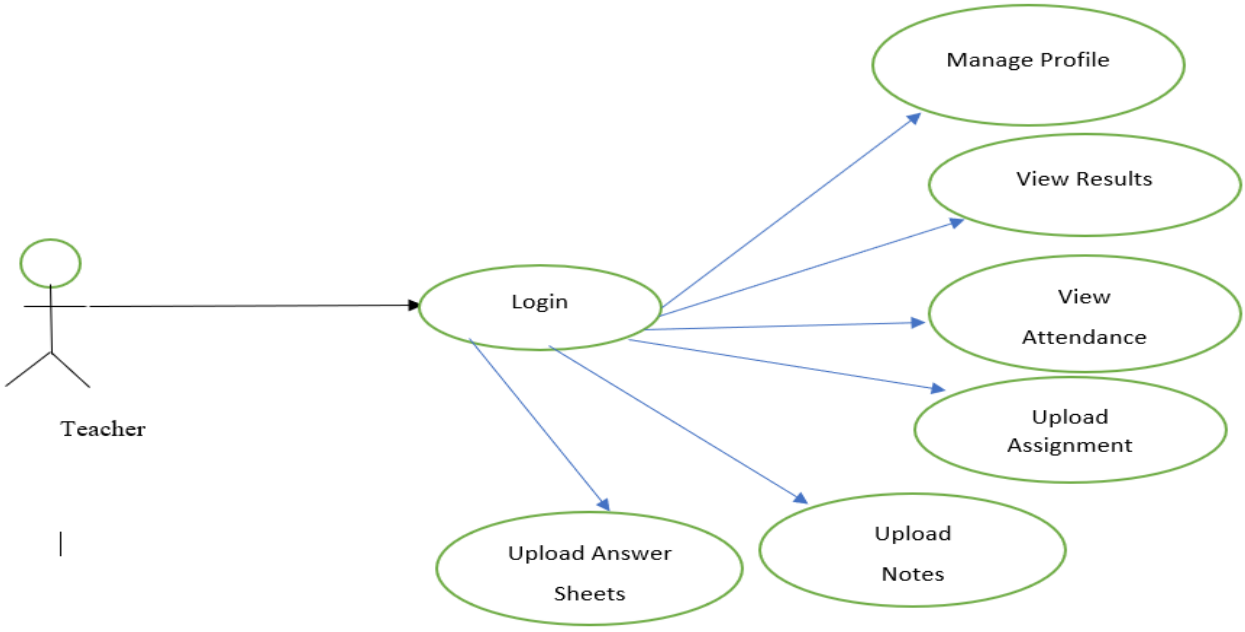


Fig. 1.1.3.2 (b) Teacher Module

1.1.3.3. Students:

- Login
- View Course
- View Subject
- View Timetable
- View Attendance (as per subject)
- View Assignments/ tasks
- Upload Assignments/ Answer sheets
- View Notes

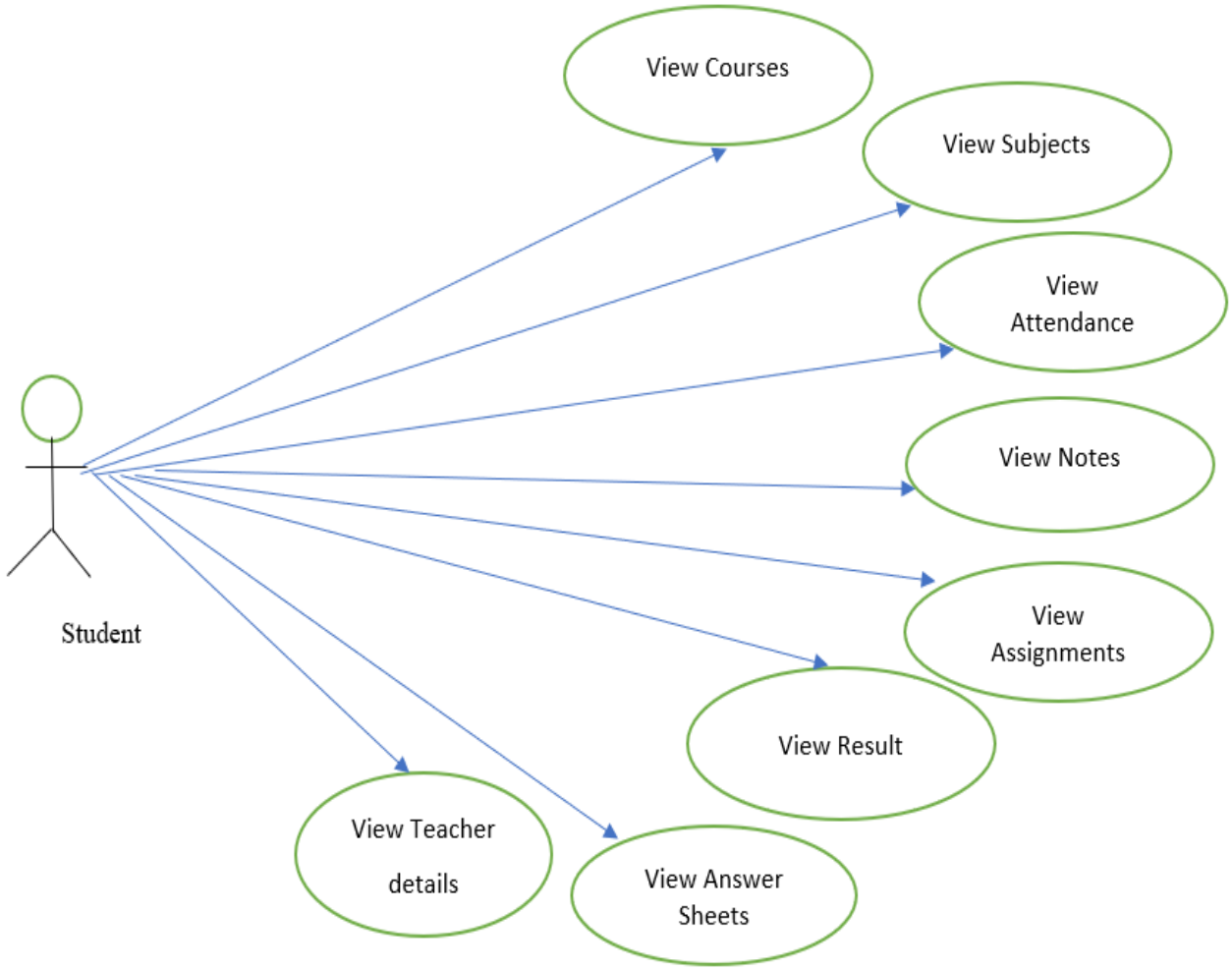


Fig. 1.1.4(c) Student Module

1. 2 PROJECT OVERVIEW:

Online system of education is the web application which helps college students and faculties to connect each other. In this web application facilities can upload marks, daily attendance, time table and they can upload complete syllabus plan. Students can view their attendance report, marks sheet, daily syllabus and topic plan and they can post feedback and reviews in this system. Even Students can discuss with their facilities related to subject and faculty has option to reply to the questions sent by students.

The main objectives of this project is to manage the details of students and the teachers. It manages all the information about the students and the teachers. Online attendance is taken. Teachers can upload the notes and other study material to help the students. They can also upload the video of their lectures so students can take that advantage too. Online assignments, tests and can also be taken by the teachers so that they check the performance of the students. Students also revert their work online with the help of this website.

The purpose of college website is to automate the existing manual system by the help pf computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing a manipulation of the same. Basically the project describes how to manage for good performance and better services for the students and the teachers as well. This will also maintain the computerized records without redundant entries. That means one need not to be distracted by information that is not relevant, while being able to reach the information.

1.2.1. EXISTING SYSTEM:

In the existing system all the works are done manually. Students have to fill up forms on paper and all the records are maintained on paper file. In this system it is very difficult to find any information. And it is very difficult to maintain all the academic reports of college in proper way. In the offline system, it is an overhead to keep the records related to faculty, students. Everything related to their progress in the system is marked manually. E.g. A report of a student’s attendance is generated monthly is shown to his / her parents. Now, a regular student, going to the school every day, is marked absent for a day by mistake. It is a burden to take out the register and view

the records. As you can see, it is a very time-consuming process and it costs much. So, I thought why I should not help these young guns of the nations to help them to have the bright future and to make an online centralized platform which can be accessed from anywhere in the world. My other aim is to minimize the paperwork as minimum as I can so that there is no need to cut more and more trees.

1.2.2. REQUIRMETS:

For this project minimum hardware and software requirement are listed below:

MINIMUM HARDWARE AND SOFTWARE REQUIREMENTS:

Hardware Requirements:

Name of the component	**Specification**
Processor	Intel ® Celeron ®
RAM	2.00 GB
Mouse	Any Mouse
Monitor	15-inch colour monitor
Keyboard	Any keyboard
Printer	In case of printing reports

Software Requirements:

Name of the component	**Specification**
Operating System	Windows Operating system
Language	Angular (front end) & Node.js (back end)
Database	Mongo DB
Browser	Use any like google chrome, Mozilla Firefox
Scripting language Enable	Type script

The hardware Requirements stated above are recommended for the optimum possible performance of the new system (computerized system).

CHAPTER 2

LITERARTURE SURVEY

2. 1 Limitations of Existing system:

- The existing system which we using in our college is traditional process is a complete manual process.
- Now-a-days, education is playing very significant role in the society. Day-by-day, the percentage of illiterates are decreasing and the percentage of literates is increasing.
- Education will change the society in all the aspects and everyone wants to study higher professional degrees.
- Admissions are increasing day by day so there by ratio of establishment new colleges and schools are also increasing.
- But the actual challenge is starting from now. Most of the schools and colleges are maintain student information in records.
- When the number of records increased, it is difficult to maintain the information of each student in the old manual system.
- Maintaining the records manually leads to error prone and required more man power and it consumes more time for processing the records.

2. 2 PROPOSED SYSTEM:

- The need of this system is to maintain a proper user friendly communication.
- The scheme, which is created, now generates all the details that are recalled manually.
- Once the details are saved into the system there is no need for numerous persons to deal with distinct sections.
- Only a particular person is enough to preserve all the reports. They can also be given as per the implementing needs of the user and those needs are: big volumes of data can be stored with ease.
- Records stored are modified with much ease without taking numerous efforts. Stored data and procedures can be easily modified.

- Smooth calculations are done, and the Main important benefit from this system is it provides a good way of managing the thing in a better implemented way and large amount of work can be done in less interval of time.

2.2 1 Benefits of Proposed system:

The benefits of this proposed system is that the Admin can easily retrieve all information related to student and teacher. Admin has all the Collective records of students of all the branches. Admin can check all the records of all the teachers and students of any department. This system gives an easy approach to find the details information of the students and the teachers (their profiles). This system is beneficial for both the students and the teachers as they can get all the previous or current information when they need. This system is also useful to maintain the record of the students like their attendance, assignments, answer sheets etc. this also helps to generate the reports of the students as per their performance.

2. 3 FEASIBILITY STUDY:

Prior to stating whether the system we have to develop is feasible or not we believe that we should emphasize on what is implied by the word "Feasibility". Feasibility is the measure of how beneficial or practical the development of the system will be to the organization. It is a preliminary survey for the systems investigation. It aims to provide information to facilitate a later in-depth investigation.

When we are developing the system (software), we must know the proposed system will be feasible or i.e., practically implemented or not it may possible the proposed (candidate)system may not implement due to many reasons like it may take long time in development than the specified time limit, cost may increase than proposed one etc.

Therefore, we must analyze the feasibility of the system. Feasibility is the analysis of risks, costs & benefits relating to economics, technology & user operation.

There are several types of feasibility depending on the aspect they cover. Some important feasibility is as follows:

2.3 1 Types of Feasibility studies:

There are various measures of feasibility that helps to decide whether a particular project is feasible or not. And they are:

Operational Feasibility: A study about the operational aspects of the system. A proposed system

is beneficial only if it can be turned into an information system that will meet the operational requirements of an organization. A system often fails if it does not fit within existing operations and if users resist the change. Operational Feasibility is a measure of how people are able to work with system.

Another important fact to be regarded is the security control, which is handled by the system. Since data regarding each Customer and the Organization is confidential, security is a key issue. Information falling into the wrong hands could jeopardize the entire organization. Unlike in semi-computerized systems

The proposed system offers adequate control to organize our files online and share with the users and Security of data and information. This is handled by the system providing individuals with separate login names and passwords.

The new system is user-friendlier, which enables the end-user to complete his/her work efficiently and accurately with interest. After taking the above fact into consideration we can state the operating of the proposed system within the organization is feasible. In this phase of the feasibility study the following two main topics-:

- Technical Performance Aspect and
- Acceptance within the organization

Technical performance aspect is explained in the technical feasibility report and there is no new information is needed in this.

Economic Feasibility: An evaluation of development cost weighted against the ultimate income or benefit derived from the developed system the economic feasibility step of business development is that period during which a break-even financial model of the business venture is developed based on all costs associated with taking the product from idea to market and achieving sales sufficient to satisfy debt or investment.

In making recommendations a study of the economics of the proposed system should be made. Even though finding out the costs of the proposed project is difficult we assume and estimate the costs and benefits as follows. According to the computerized system we propose, the costs can be broken down in two categories.

Economic analysis is the most frequently used evaluating the effectiveness of proposed system, more commonly known as Benefit analysis.

- Costs associated with the development of the system.

- Costs associated with operating the system.

Technical Feasibility: A **technical feasibility** study assesses the details of how you intend to deliver a product or service to customers. A study of function, performance and constraints that may affect the ability to achieve an acceptable system. The technically feasibility study basically center on alternatives for hardware, software and design approach to determine the functional aspects of system.

Based on the outline design of the system requirements in terms of inputs, output, Procedures, the technical issues raised during technical feasibility include:

- Does the necessary technology exist to do what is proposed?
- Adequate responses provided by the proposed system?
- Is there any technical guarantee of accuracy, reliability, ease of access and data security?

The system developer's task is to view needed capabilities in light of currently available technology. Our project works hand in hand with high technology. A database has to be maintained in order to update and backup data whenever required. To create databases, we use SQL server. After taking the above facts into consideration we can state that the new proposed system is technically feasible. As the software is very much economically feasible, then it is really important for it to be technically sound.

Think materials, labor, transportation, where your business will be located, and the technology that will be necessary to bring all this together.

CHAPTER 3

INTRODUCTION ABOUT TECHNOLOGIES

3. 1 What I learned from industrial training

3.1.1 HTML

- HTML stands for Hyper Text Markup Language. It is a language for specifying how a text and graphics appear on the web page.
- The pages are actually stored on the computer that is hosting the website and the page is sent to the browser.
- A markup language is a set of markup tags and these tags describes the document content and these documents contains the html tags and the plain text.
- Html code is stored in a simple file that has either an .htm or .html filename extension. (For example: index.html)

Fig 3.1.1 (a) HTML

HTML TAGS:

HTML tags are the keywords or the tag names surrounded by the angle brackets like<html>.

We use various types of tags in HTML i.e. PAIRED AND UNPAIRED tags.

Paired tags: If any HTML tag has a separate opening and closing tag, then such html tags are known as paired tags.(for example: b, u, i, div, etc.)

Unpaired tags: If any HTML tag has both the opening and closing tag in a single tag, then such html tag is known as unpaired tags.(for example: br, hr, img etc.)

Most of the tags are used in a pair like . And these paired tags are also known as opening and closing tags.

Some of the most common tags that are used in HTML are:

<HTML>: Describes HTML webpage that is to be viewed by a web browser.

<HEAD>: This defines the header section of the page.

<TITLE>: This shows the caption in the title bar of the page.

<BODY>: This tag shows the content of the web page that will be displayed on the screen.

More HTML tags that are used:

- Text formatting tags
- Hyperlink tags
- Table tags
- List tags
- HTML form
- Linking

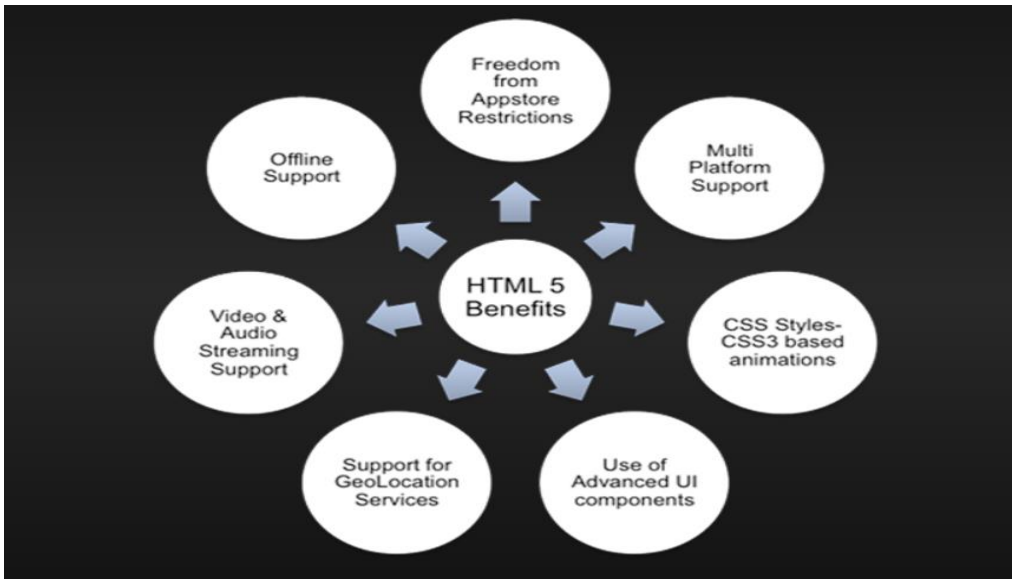


Fig 3.1.1 (b) Benefits of HTML

3.1.2 CSS

CSS stands for CASCADING STYLE SHEET. That contains the rules for presentation of HTML. Cascading style sheets are used to customize the HTML files. It defines how to display HTML elements. (For example: specify the colors, fonts, spacing etc. for the entire document)

Style rules are defined using the tags. <style>…</style>

Fig 3.1.2 CSS

A CSS file allows to separate web sites HTML content from its style.

Types of CSS:

- Inline CSS (Priority level- High)
- Internal CSS (Priority level- Medium)
- External CSS (Priority level- Low)

Inline CSS: CSS is placed directly into the HTML element.

To use inline CSS use the style attribute in the relevant tags. The style attribute can contain any CSS property.

<p style= “color: red; font-size: 10px ;”> </p>

Internal CSS: CSS is placed into a separate area within the <head> section of a web page.

Used for style within a page and an internal CSS is used when a single document has a unique style.

External CSS: CSS is placed into a separate computer file and connected to a webpage.

An external CSS is ideal when the style is applied to many pages. An external CSS styles as a sheet and styles within an entire project or website.

Selectors: We have four selectors used in the internal and external CSS:

ID selectors: ID selector uses a hashtag (#) at the beginning. (For example: #id-name)

Class selector: Class selectors uses a dot (.) at the beginning. (For-example: .class-name)

Tag name: Tag selectors can be ant HTML tag, such as body, a, p, div, section or span.

Compound and Pseudo code selectors: A compound selector can mix the previous three types using more than one class, ID, and/or a tag. This type of selector has a higher priority than the other methods.

Properties we use in CSS:

- Spacing properties
- Text properties
- Background properties
- Position properties
- Animation properties
- Transition properties

3.1.3 JavaScript

- JavaScript is a scripting language most often used for client-side web development.
- When JavaScript was created, it initially had another name: "Live Script". Which is initially created to make web-pages alive.
- JavaScript is an implementation of the ECMA Script standard.
- JavaScript supported in the browsers typically support additional objects.
- JavaScript is a case-sensitive scripting language.

Fig 3.1.3 JavaScript

- To insert a JavaScript into an html page, use the <script> tag.
- The <script> and </script> tag tells where the JavaScript starts and ends.

JavaScript was created first in the place of DOM manipulation. Earlier websites are mostly static, after JavaScript was created dynamic web sites are made. Functions in JavaScript are objects. They may have properties and methods just like another objects. They can be passed as arguments in other functions. Performs form validation although the forms are created using HTML.

Example:

```
<head>
    <script src = “path”></script>
</head>
```

(Path is given by the name of the file with the extension .js)

Some important terms and functionalities used in JavaScript:

- Events
- Regular expressions
- Loops and conditional statements
- Arrays

3.1.4 TYPE SCRIPT

- Type Script is a super-set of a JavaScript and it lets you write JavaScript the way you really want to, that complies to plain JavaScript. It means that it adds additional syntax on the top of basic JavaScript.

- Type Script is a JS for application scale document. As we are working on a framework i.e. ANGULAR, Angular is itself written in Type Script.

Fig 3.1.4 (a) Type Script

Type Script features:

- Data Types Supported
- Optional Static Type Annotations
- Classes
- Interface
- Modules
- Arrow Expressions
- Type Assertions
- Source File Dependencies

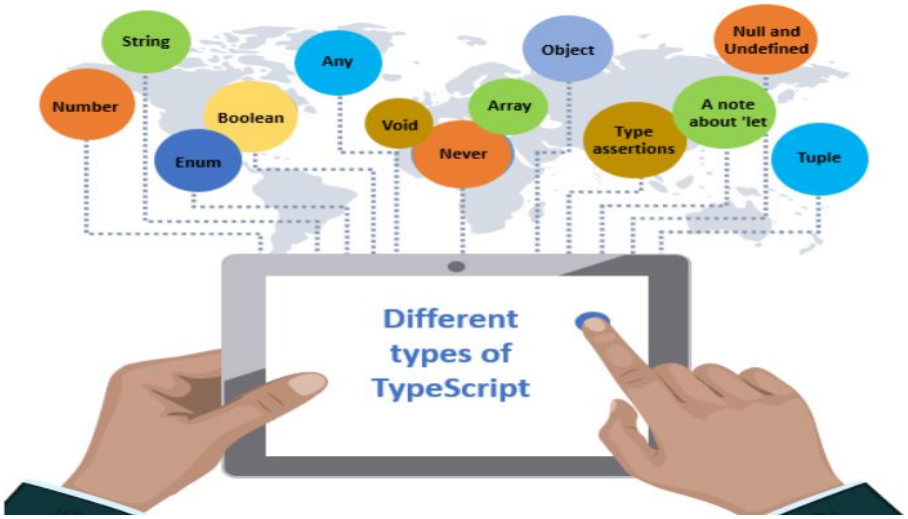


Fig 3.1.4 (b) Types of Type Script

3.1.5 ANGULAR

- Angular is a platform and a framework for building single-page client applications using HTML and Type Script. Angular itself is written in Type Script and also called as Google's JavaScript.
- Angular is a structural framework for dynamic web applications. And it use the components for building a structural and scalable web applications.

Fig 3.1.5 (a) Angular

- It is a collection of web-integrated libraries that cover a wide variety of features including routing, forms management, client-server communication and more.
- Angular is designed to make updating as easy as possible, so you can take advantage of the latest developments with a minimum efforts.
- Angular helps to build interactive and dynamic SPA with its compelling features including template, two way binding, modularization, Restful API handling, dependency injection and AJAX handling.

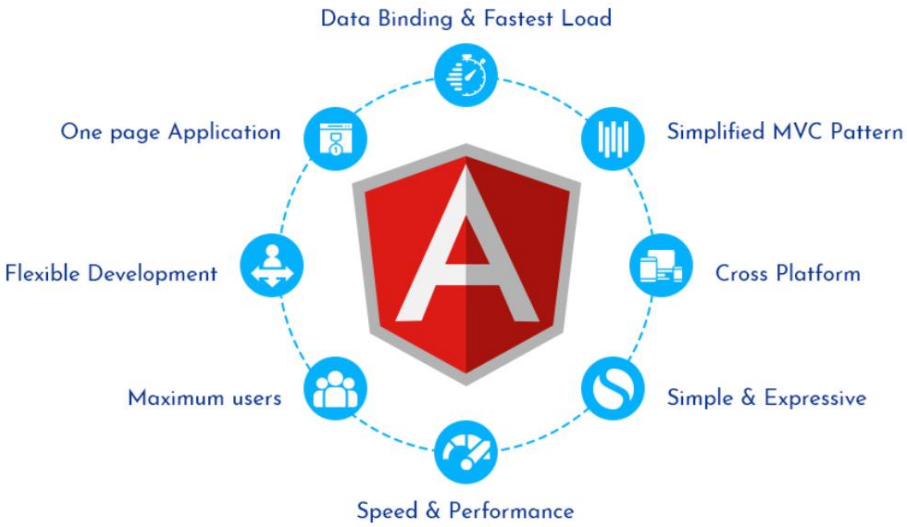


Fig 3.1.5 (b) Features of Angular

SPA (Single page application):

It is an app that works inside a browser and doesn't require reloading during use. We are using this type of application everyday i.e. Gmail, Google maps, Facebook, GitHub.

3.1.6 MATERIAL DESIGN AND SCSS

MATERIAL DESIGN:

- Material is a design system created by google to help teams build high-quality digital experiences for android, ios, flutter, and the web.
- Material design is a visual language that synthesizes classic principles of good design with the innovation and possibility of technology and science.
- Material design is inspired by the physical world and its textures, including how they reflect light and cast shadows. Material surfaces reimagine the mediums of paper and ink.
- **Material Components**
- **Material Theming**
  - Color
  - Typography
  - Shape

SCSS:

Officially described as "CSS with superpowers," SCSS (or Sass) offers a way to write styles for websites with more enhanced CSS syntax. In general, browsers do not know how to process SCSS features, such as functions, mixins, and nesting. We'll need to convert them to regular CSS files to run them in the browser.

Fig 3.1.5 (a) SCSS

SCSS syntax is similar to CSS, so it's easy to explain the advancements for someone who already knows CSS.

3.1.7 EXPRESS SERVER

Express is a web application framework for node.js that allows you to spin and robust APIs and web servers in a much easier and cleaner way. It is a lightweight package that does not obscure the core node.js features.

Installation: Express is very simple to install. Simply install it with npm as you would with any package.

```
$ npm install express –save
```

Why use express:

Before we start with mechanism of using express as the backend framework, let us first explore why we should consider it using or the reasons of its popularity.

One big reason for using express is that the framework is minimal and unopinionated. By this, it means, that with Express you can structure the app any way you want.

- Express lets you build single page, multi-page, and hybrid web and mobile applications. Other common backend use is to provide an API for a client (whether web or mobile).
- It comes with a default template engine, Jade which helps to facilitate the flow of data into a website structure and does support other template engines.
- It supports MVC (Model-View-Controller), a very common architecture to design web applications.
- It is cross-platform and is not limited to any particular operating system.
- It leverages upon Node.js single threaded and asynchronous model.

Features of using express:

- Scale our applications quickly
- JavaScript is easy to learn
- We can use same language to code the frontend
- Less developer cost to maintain the app

- Community support

3.1.8 MONGO DB

Mongo DB is a non-relational document database that provides support for JSON-like storage. The Mongo DB database has a flexible data model that enables you to store unstructured data, and it provides full indexing support, and replication with rich and intuitive APIs.

Mongo DB was designed to work with commodity servers. Now it is used by company of all sizes across all industry.

It is a cross-platform, document oriented database that provides, high performance, high availability and easy scalability. Mongo DB works on concept of collection and performance.

- Data Model: using BSON (binary json), developers can easily map to modern object-oriented languages without a complicated ORM layer.
- ORM: object relational mapping.
- BSON: Binary json based json.

Fig 3.1.8 (a)Mongo DB

Database: Database is a physical container for collections. Each database gets its own set of files on the file system. A single Mongo DB server typically has multiple database.

Collection: Collection is a group of Mongo DB documents. It is the equivalent of an RDBMS table. A collection exists within a single database.

Document: A document is a set of key-value pairs. Documents have dynamic schema.

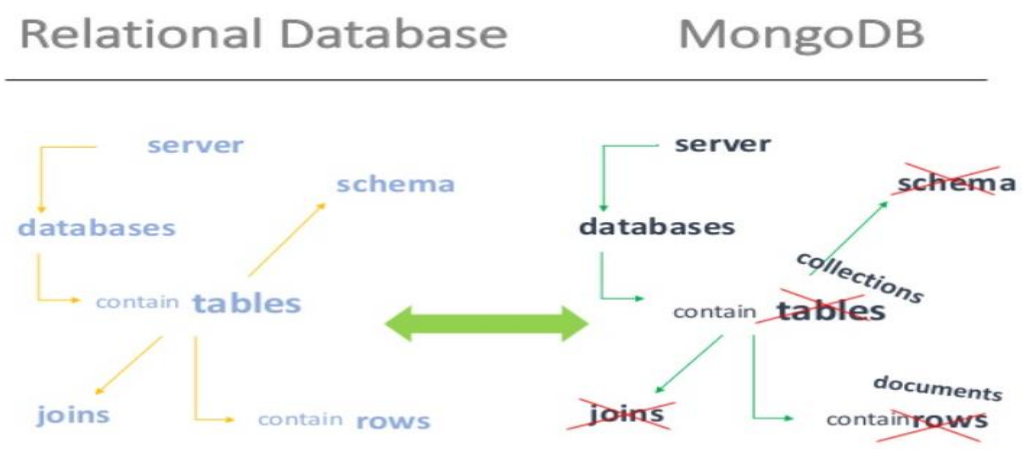


Fig 3.1.5 (b) Relational database VS Mongo DB

Mongo DB CURD operations:

Create operations

Update operations

Read operations

Delete operations

3.1.9 NODE

Node.js is a server-side platform built on Google Chrome's JavaScript Engine (V8 Engine).

Fig 3.1.9 (a) NODE

Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it

lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.

Node.js = runtime environment + JavaScript library

Features: Following are some of the important features that make Node.js the first choice of software architects:

- Asynchronous and Event Driven
- Very Fast
- Single Threaded but Highly Scalable
- No Buffering

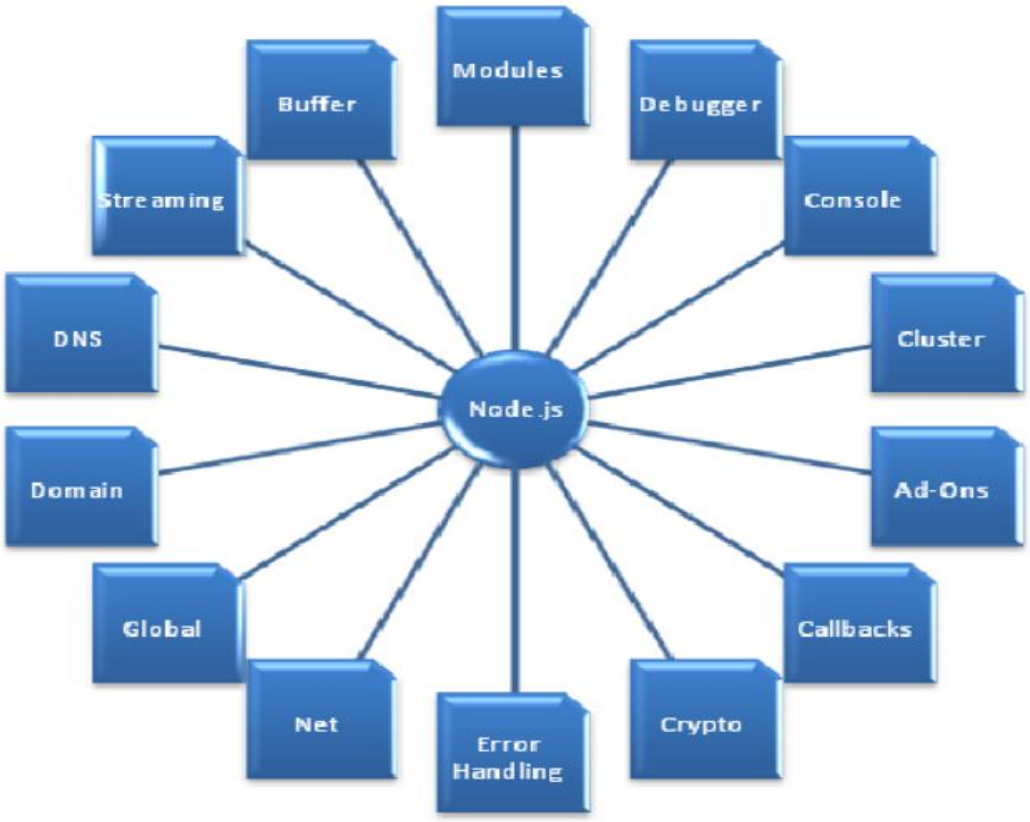


Fig 3.1.5 (b) Features of Node

CHAPTER 4
SYSTEM DEVELOPMENT PROCESS (ANALYSIS AND DESIGN)

4. 1 SYSTEM ANALYSIS

4.1. 1 Purpose:

The purpose of this project is to specify the requirements and preview some elements of the analysis model of the program "Improver". This project provides facility to collaborate the colleges in effective manner.

Maintain company information:

The system maintains the information in the system which has details about a registration like its name, Address, email, roll no.

Taking up the project:

The consulting system takes up the project from the admin. They need to know every detail about the project.

Maintain project person information:

The system should maintain all the information about the project person such as project number, project name.

Maintain user information:

The system should maintain information about the users working. It should provide details like name, their email.

Maintain project data:

The company should have the proper information about the project such as client id which is provided by the company, project number, its name, start date, and end date, status, the name of the manager, name of the client, and budget for the project completion.

4.1. 2 SCOPE:

Data-driven real estate development: The increased availability of data will enable stakeholders to better understand a property or site, its surroundings and residents. This can be used to guide site selection, planning process and building design. Examples include an investor using a foot traffic data generated by embedded sensors to inform its selection of sites to construct new retail premises, or a tenant doing the same to lease a property. However, given privacy concerns, this could be challenging unless such data is provided by the government as an open source.

Asset Flexibility: Advances in technology are transforming the traditional processes of companies

deciding on a location where they would like to do business, buying or leasing an office, fitting it out to their specifications and installing it with the technology for their staff to perform their jobs. The digital age is reversing this process, individuals are in the driving seat and companies' decisions are being informed by connectivity and accessibility as well as talent attraction and retention. While, location will remain important, this will require buildings and workspaces to be far more flexible and adaptable than before. New developments will therefore have to be constructed with the flexibility in mind.

Data center demand: Data centers are set to play a leading role in the systems as the repositories for massive volume of data required to be collected, stored, analyzed and archived. Data centers are already becoming as important as a part of business operations as office, retail and industrial assets, supported by increasingly digital world, IT development and the importance enterprise IT strategy plays in business delivery. This will drive demand for state-of-the-art data center development.

4. 2 SYSTEM DESIGN

Project design is an early phase of the project where a project's key features, structure, criteria for success, and major deliverables are all planned out. The point is to develop one or more designs which can be used to achieve the desired project goals. Identifying the steps used in the design of the application/system.

The prerequisites for this phase are the Business Case, Project Management Plan, and Requirements Document. The Design Document is a deliverable of the Design Phase.

It contains the various designs related aspects of our project. These designs will include Layered diagrams, Data Flow Diagrams (DFDs), Entity-Relationship diagrams (ER), structure of the database, and the interface designs in the form of snapshots.

Design is the abstraction of solution; it is the general description of solution to a problem without details. Design is the view pattern seen in the analysis phase to be a pattern in a design phase. After a design phase, we can reduce the time required to create requirement. Here we introduce models, system architecture, principal system object, design model and object interface.

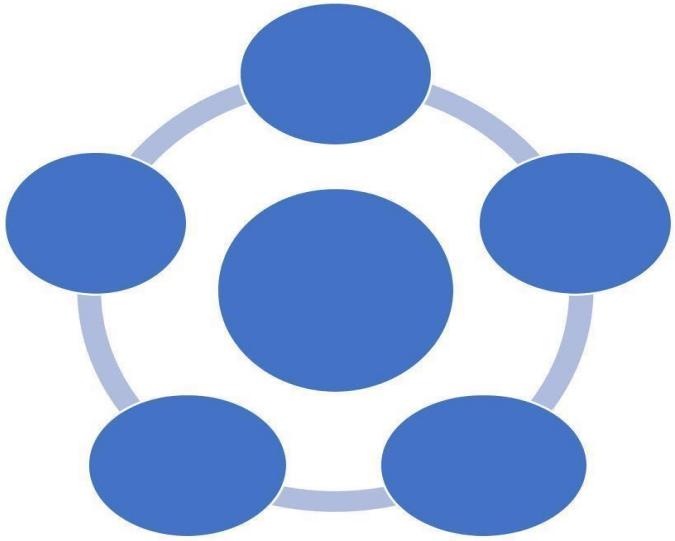


Fig 4.2 (a) System Design

After the analysis phase we have with us the details of the existing system and the requirements of the user for the new system. This phase diverts focus from the problem domain to the solution domain. It acts as a bridge between the requirement phase and its solution. The design phase focuses on the detailed implementation of the system recommended in the feasibility study. Emphasis is on translating performance specifications into design specifications.

The most creative and challenging phase of SDLC is system design. The term design describes a final system describes the final system and the process by which it is developed. It includes construction of programs and program testing.

The purpose of the design phase is to plan a solution of the problem specifies by the requirements document.

This phase is the first step in the moving from the problem domain to the solution domain. Starting with what is needed; design takes us towards how to satisfy the needs. The design of the systems perhaps the most critical factor affecting the quality of the software.

It has major impact on the later phase, particularly testing and maintenance. The output of this phase is the design document.

This document is similar to blueprint or plan for the solution and is used later during implementation, testing and maintenance.

System Design is the process of defining the architecture, component, modules, interfaces and data for a system to satisfy specified requirements. System design could be seen as the application of systems theory to product development". A systematic method has to achieve the beneficial result

at the end. It includes starting with average idea and developing it into a series of steps. The series of steps for successful system development are given below:

- Study problem completely because first of all I should know the goal, which I have to achieve. I should see what kind of output I require and what kind of input I give so I can get the desired output from system output from system. It is very challenging step of system development.
- According to the output requirement of system the strength of various database should be design.
- Next, I should know what kind of program I should develop, which will leads us to reach final goal.
- Then I write this individual program, which later on joining solve problems.
- Then I test these programs and make necessary correction in them to achieve target of program.
- At last, combining all these problems in the forms of a bar in the menu of windows, this will complete software package for general insurance.

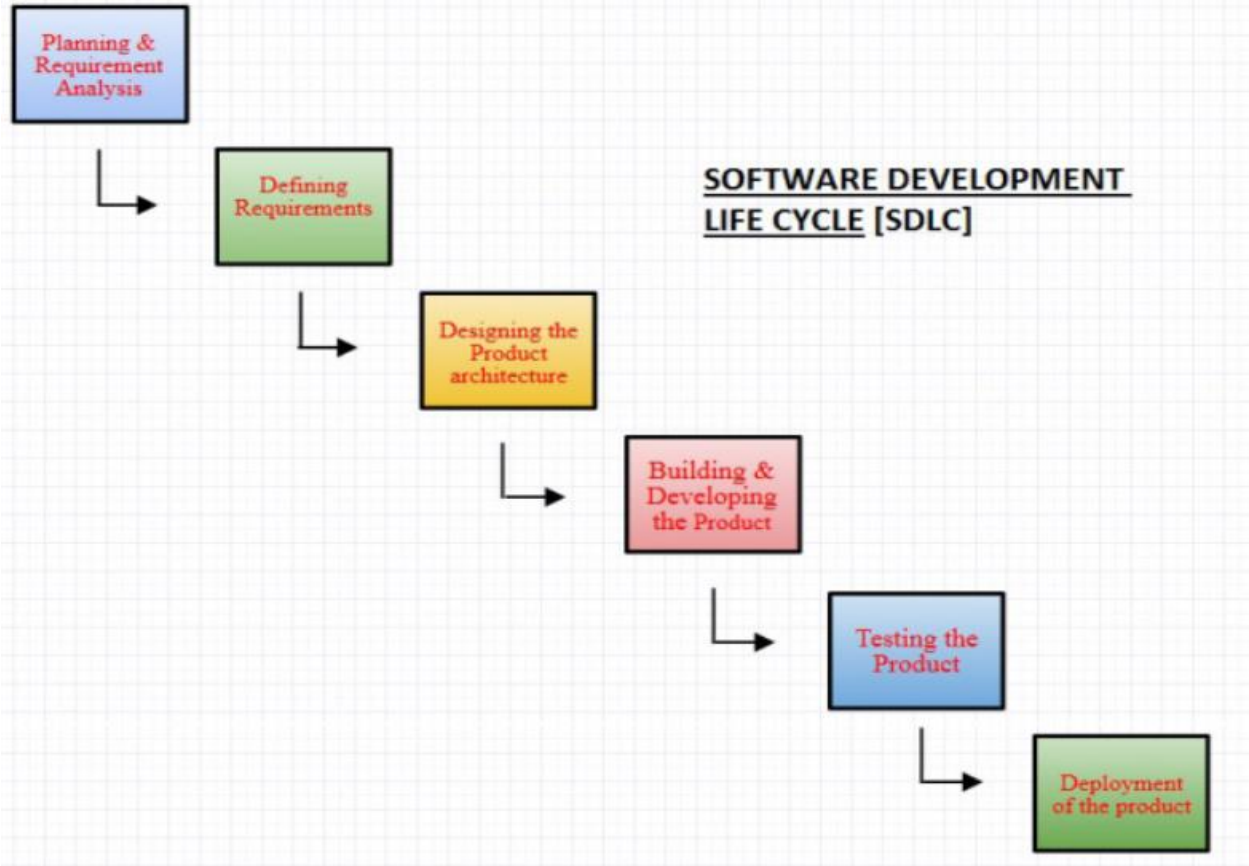


Fig 4.2 (b) SDLC

Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. The term “design” is defined as the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical realization”. It may be defined as a process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization. Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used. The system design develops the architectural detail required to build a system or product. As in the case of any systematic approach, this software too has undergone the best possible design phase fine tuning all efficiency, performance and accuracy levels. The design phase is a transition from a user-oriented document to a document to the programmers or database personnel. System design goes through two phases of development: Logical and Physical Design.

4.2. 1 Elements of design

Process design: The process design phase focuses on the detailed implementation of the system recommended in the feasibility study. It is the transformation from user-oriented document (system proposal) to a document oriented to the programmers or database personnel.

The dataflow diagram (DFD) was first developed by Larry Constantine as a way of expressing system requirements in a graphical from. A DFD also known as a bubble chart has a purpose of clarifying system requirement and identifying major transformation that will become the program in the system design.

DFD stands for Data Flow Diagrams and is also known as Bubble chart. A data flow diagram illustrates how data is processed by a system in terms of inputs and outputs. As its name indicates its focus is on the flow of information where data comes from, where it goes and how it gets stored. A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system. Data flow diagram can also be used for the visualization of data processing and structured design. On a DFD, data items flow from an external data source or an internal data store to an internal data store or an external data sink, via an internal process.

Types of DFD:

Data flow diagrams are of two type:

- Physical DFD
- Logical DFD

Physical DFD: Structured analysis states that the current system should be first understand correctly. The physical DFD is the model of the current system and is used to ensure that the current system has been clearly understood. Physical DFDs shows actual devices, departments, and people etc., involved in the current system.

Logical DFD: Logical DFDs are the model of the proposed system. They clearly should show the requirements on which the new system should be built. Later during design activity this is taken as the basis for drawing the system's structure charts.

DFD SYMBOLS:

Square: A square defines a source or destination of system data.

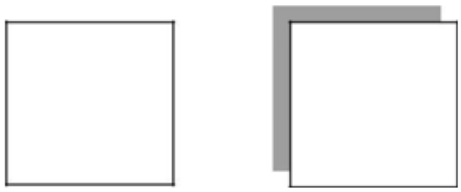


Fig 4.2.1 (a)

Arrow: An arrow identifies the flow of data.

Fig 4.2.1 (b)

Circle or Bubble: It represents a process that transforms incoming data flows into ongoing data flows.

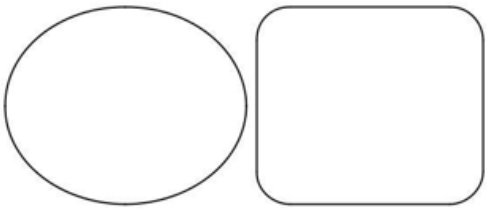


Fig 4.2.1 (c)

In our system, I have made DFD which explains the working of the whole system.

LEVEL 0 DFD FOR MODULE: - In this Level of DFD, an implementation showing what task is carried out and how they are performed. 0-level of DFD describe the overview of the project. It is also called as context level DFD.

LEVEL 1 DFD FOR MODULES: - This highlights the main functions carried the system. It gives the overview of an entire system. It shows the main processes within the system. Each of these processes can be broken into further processes.

STAGES OF SYSTEM DESIGN:

Logical design

Physical design

Logical Design: - It is an abstract concept in computer programming by which programmers arrange data in a series of logical relationship known as attributes or entities. An entity refers to a chunk of information where as an attribute define the unique properties of an entities.

Physical Design: - It relates to the actual input and output processes of the system. This is explained in terms of how data is input into a system, how it is verified/authenticated, how it is processed and how it is displayed. In physical design following requirements about the system are decided:

a) Input

b) Output

c) Storage

d) Processing

e) System control backup and recovery

There are three subtasks performed in physical design:

User interface design: -It is concerned with how users add information in the system and how the system present information back to them.

Data design: - It is concerned with how the data is represented and stored within the system

Process design: - It is concerned with how data moves through the system and with how and where it is validated.

4.2. 2 Interface requirement analysis:

Interface Requirements analysis ensures those tasks that go into determining the needs or conditions to meet for a new or altered product in software and systems, taking account of the possibly conflicting requirements of the various users.

Interface Requirements analysis is critical to the success of a development project. Requirements must be documented, actionable, measurable, testable, related to identified needs or opportunities of users, and defined to a level of detail sufficient for system design.

Requirements can be architectural, structural, behavioral, functional, and non-functional. The development of project needs some requirement to make the project perform better and achieves the goal of project. In developing, the capabilities of computer and hardware plays a big impact on project quality. The project maker should determine the minimum requirements of hardware and also, software to be used to develop a good and attractive project.

4. 3 FLOW CHART:

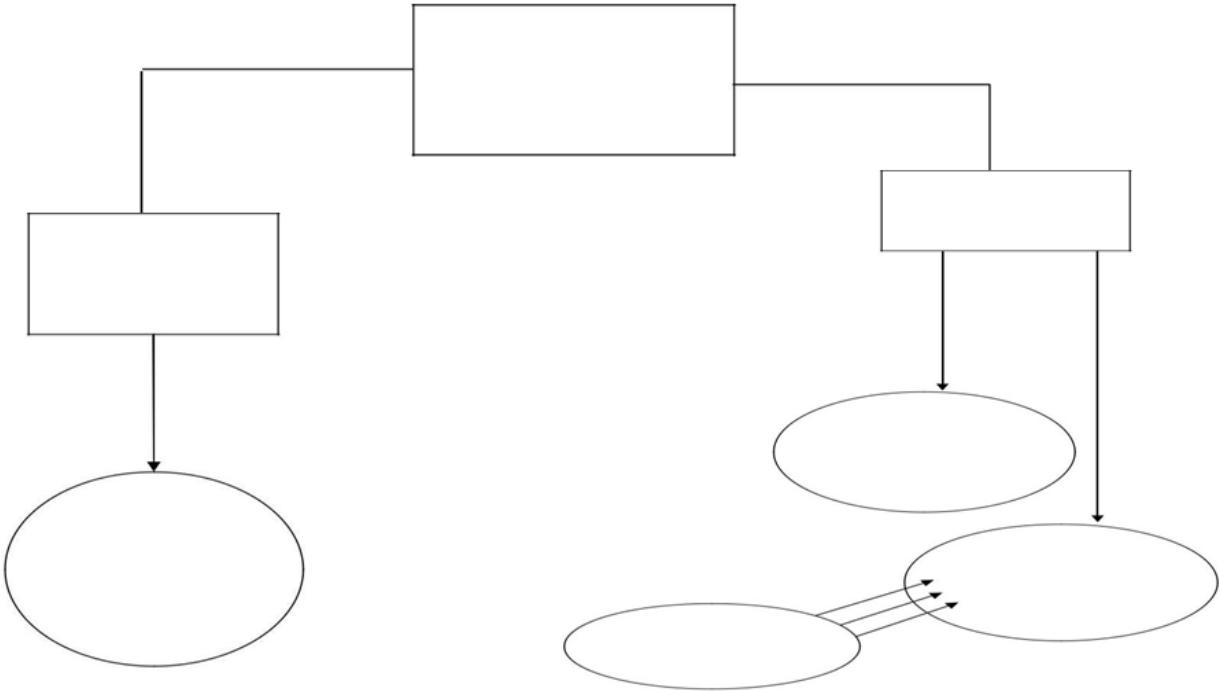


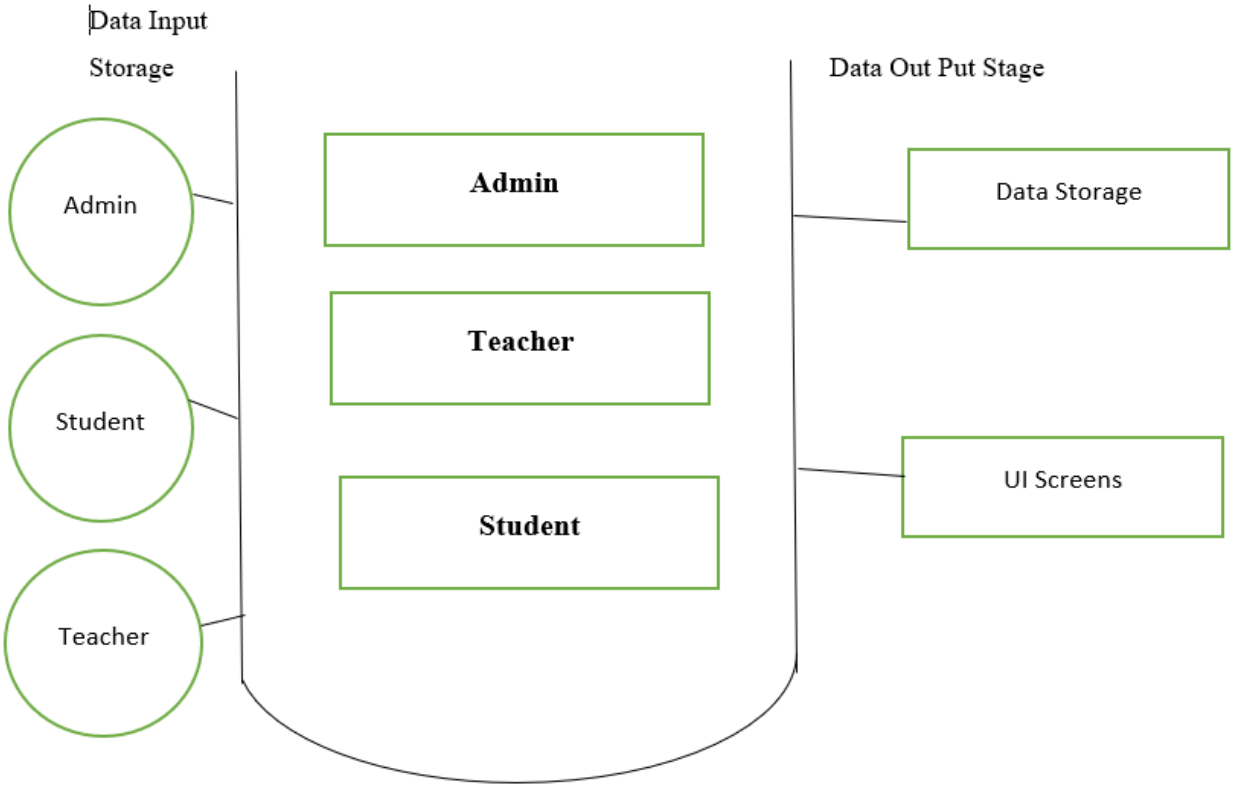
Fig 4.3 (a)

4. 4 CONTEXT LEVEL DIAGRAM:

A system **context diagram** (SCD) in engineering is a **diagram** that defines the boundary between the system, or part of a system, and its environment, showing the entities that interact with it. This **diagram** is a high-level view of a system.

How to make a context diagram

1. Select the "**Data Flow**" shape library or choose a template.
2. Place your system in the center of your **context diagram**.
3. Add all external entities around your system. ...
4. Add and specify data flows between your system and external entities.
5. Share your system **diagram** with team members and stakeholders.



Phrontistery Oversee

Fig 4.4 context level 0 diagram

4.4. 1 DFD (Data flow Diagram):

DFD is the abbreviation for **Data Flow Diagram**. The flow of data of a system or a process is represented by **DFD**. It also gives insight into the inputs and outputs of each entity and the process itself.

Zero-level DFD: Phrontistery Oversee (Login details)

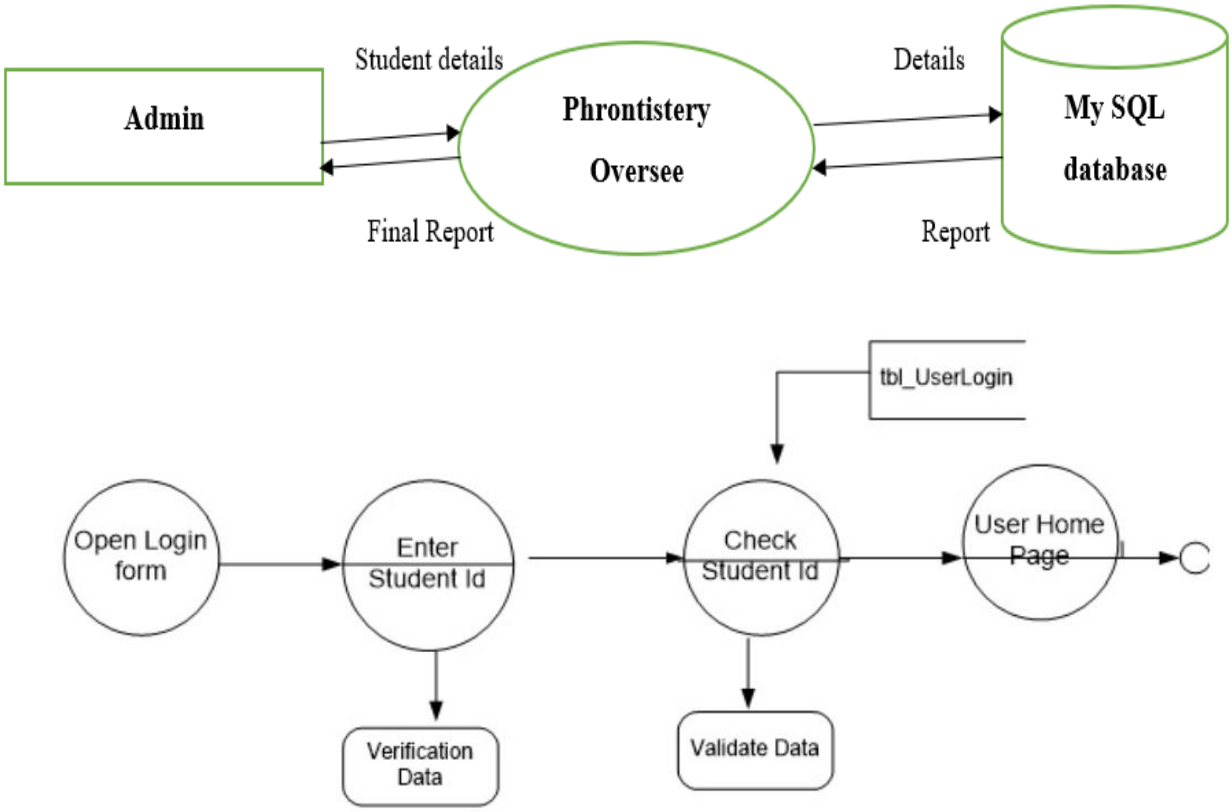


Fig 4.4.1 (a) DFD Level-0

1st Level DFD: Phrontistery Oversee (Admin details)

Fig 4.4.1 (b) DFD Level-1

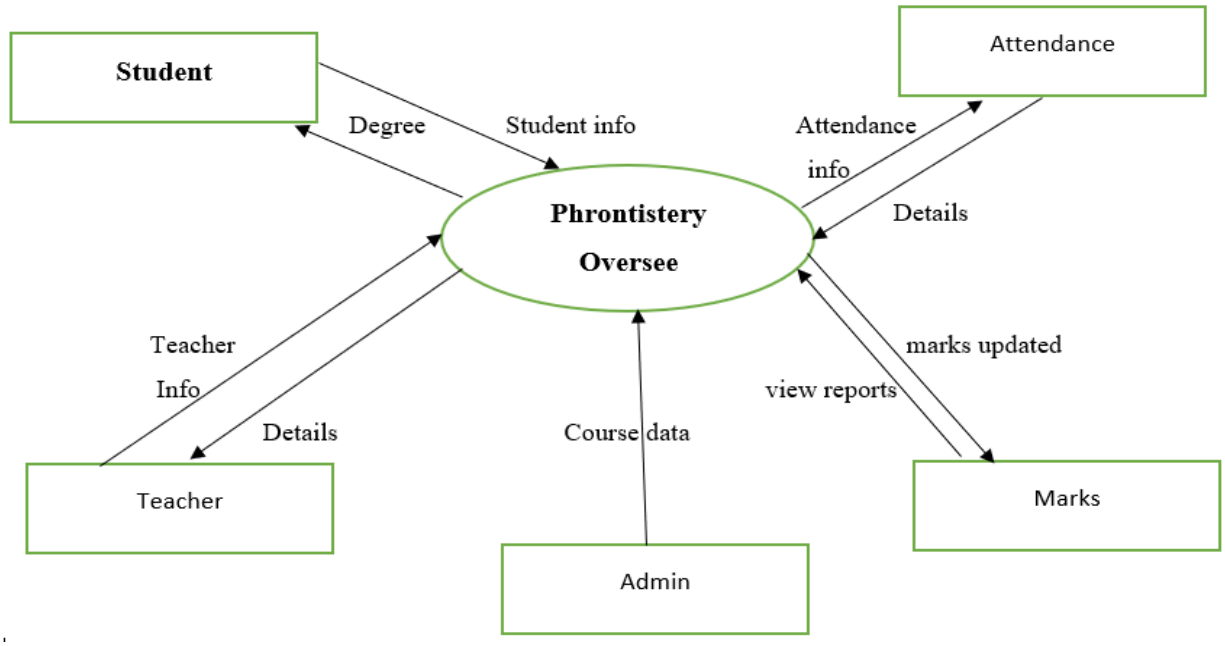


Fig 4.4.1 (c) DFD Level-1

2nd Level DFD: Phrontistery Oversee (Admin details)

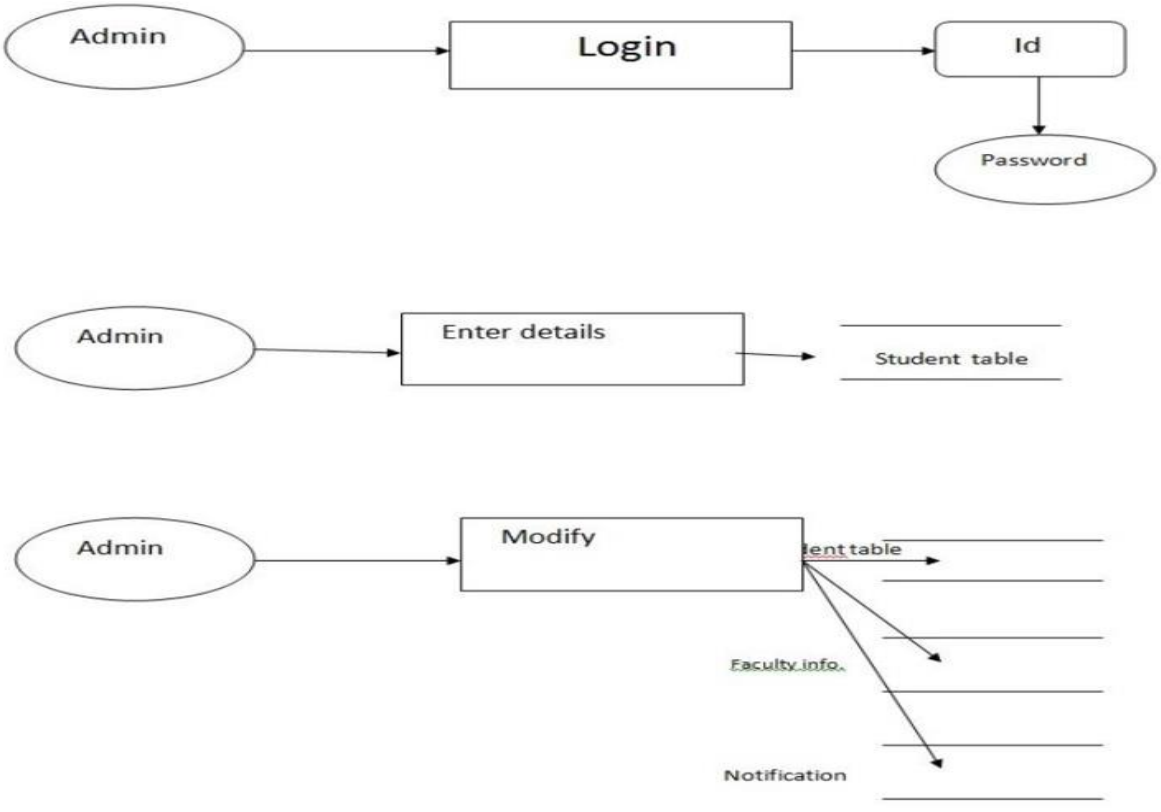


Fig 4.4.1 (d) DFD Level-2

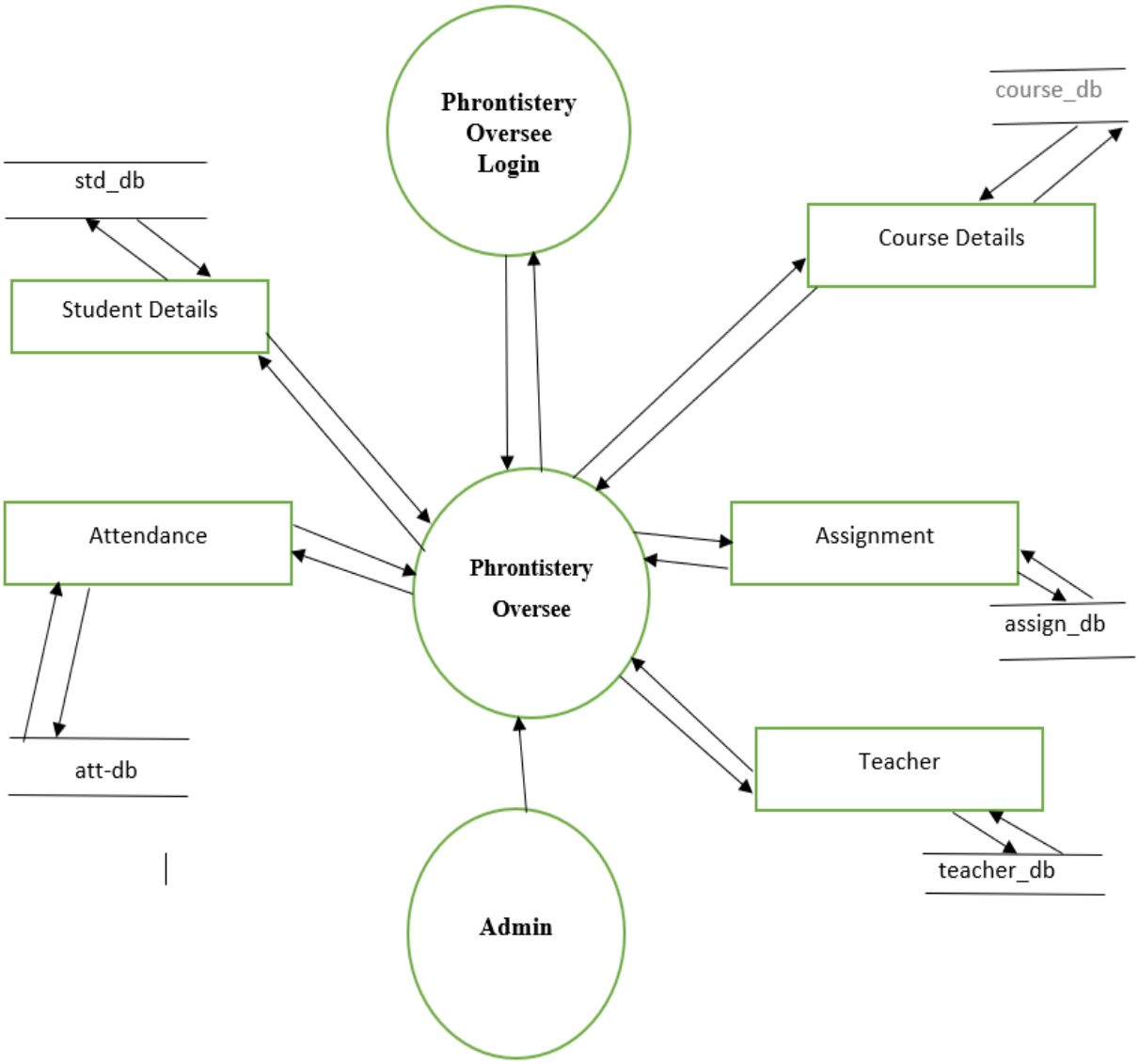


Fig 4.4.1(e) DFD Level-2

Student details data flow:

1st level DFD

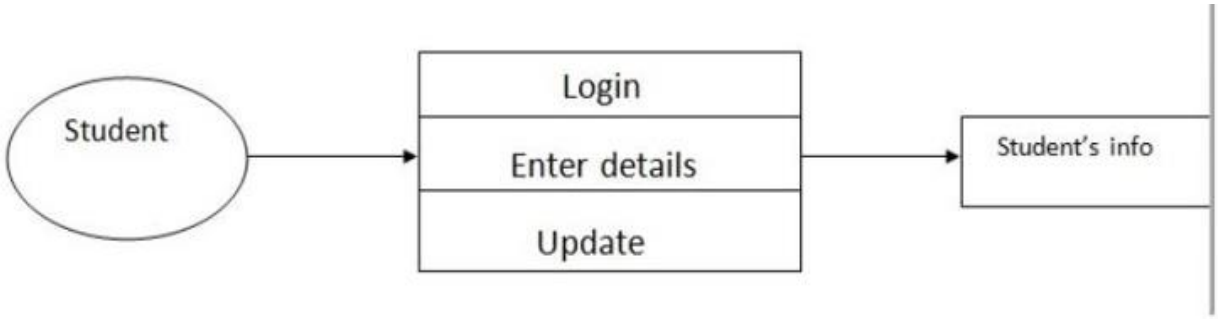


Fig 4.4.1(f) DFD Level-1

2nd level DFD

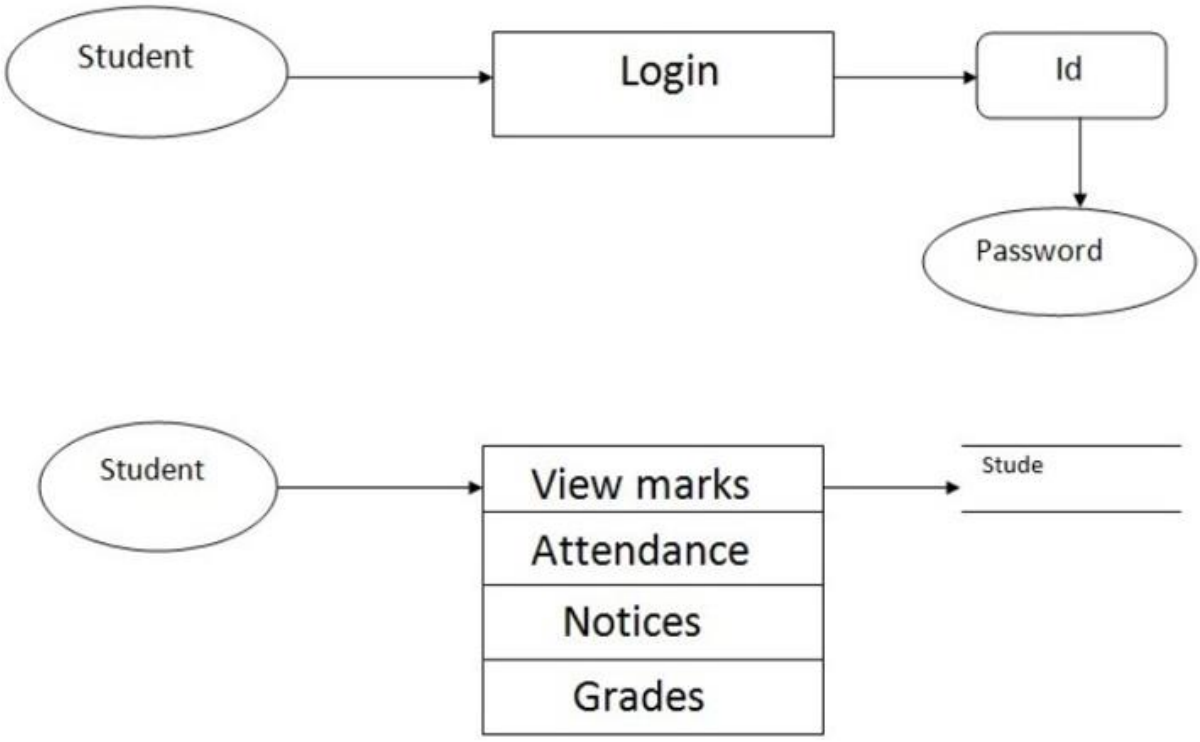


Fig 4.4.1(g) DFD Level-2

ER (ENTITY RELATIONSHIP) DIAGRAM:

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.

ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.

ER Model stands for Entity Relationship Model is a high-level conceptual data model diagram. ER model helps to systematically analyze data requirements to produce a well- designed database. The ER Model represents real-world entities and the relationships between them. Creating an ER Model in DBMS is considered as a best practice before implementing your database.

ER diagrams are a visual tool which is helpful to represent the ER model. It was proposed by Peter Chen in 1971 to create a uniform convention which can be used for relational database and network. He aimed to use an ER model as a conceptual modelling approach.

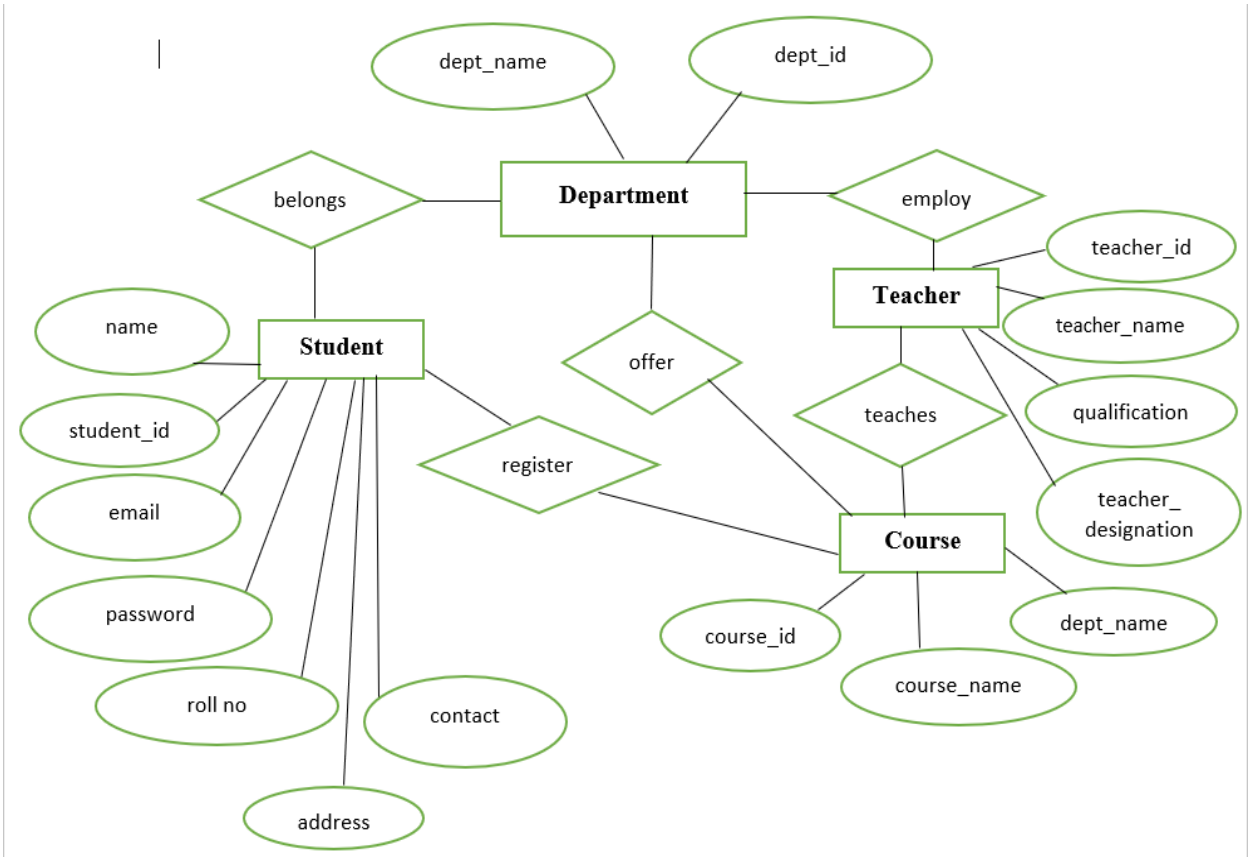


Fig 4.4.2(a) ER Diagram

4. 5 SYSTEM DESCRIPTION:

4.5. 1 Project planning:

Project planning is the process of establishing the scope, defining the objectives and steps to obtain them. It is one of the most important of the processes that make up project management. The output of the project planning process is a project management plan.

A project plan, also known as a project management plan is a document that contains a project scope and objective.

Learning how to develop a project plan doesn't need to be complicated. Project planning steps to follow to create a project plan that you will work on.

1. Conduct extensive research.
2. Ask the tough questions.
3. Create your project plan outline.
4. Talk with your team.
5. Write your full project plan.
6. Execute your plan in Team.
7. Publish your plan.
8. Share your plan with the team and make sure they read it.

4. 6 Front end and backend

CHAPTER 5

RESULT ANALYSIS

5. 1 PROJECT SNAPSHOTS

5.1. 1 ADMIN PANEL

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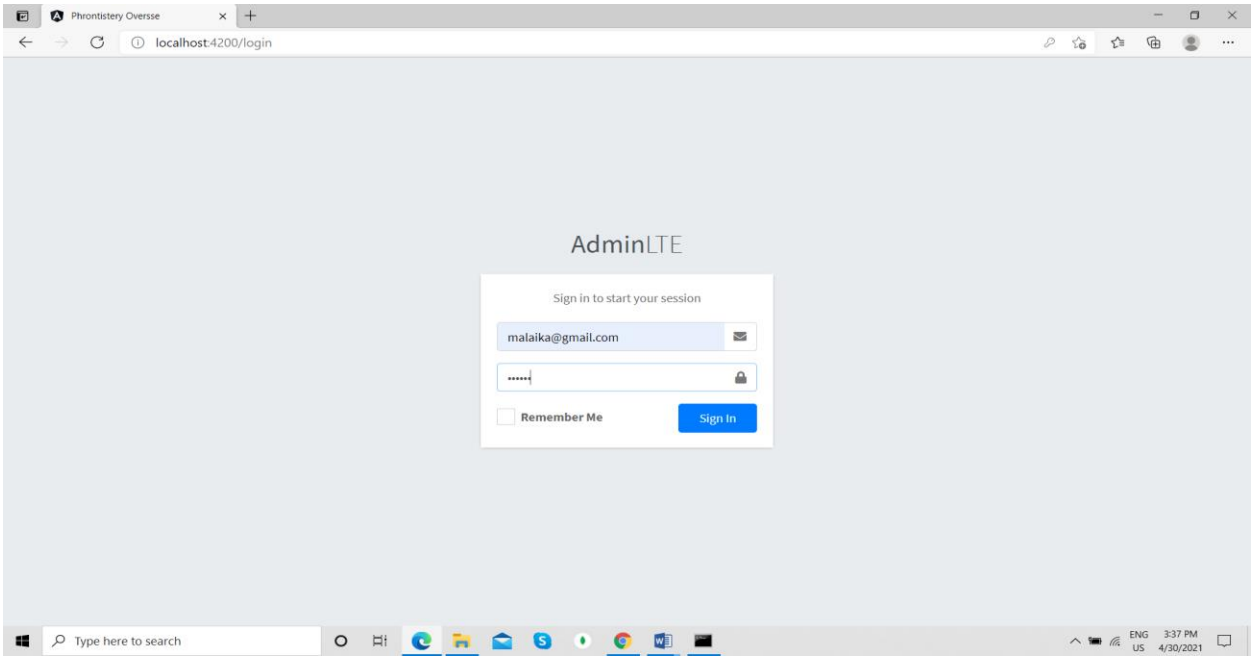

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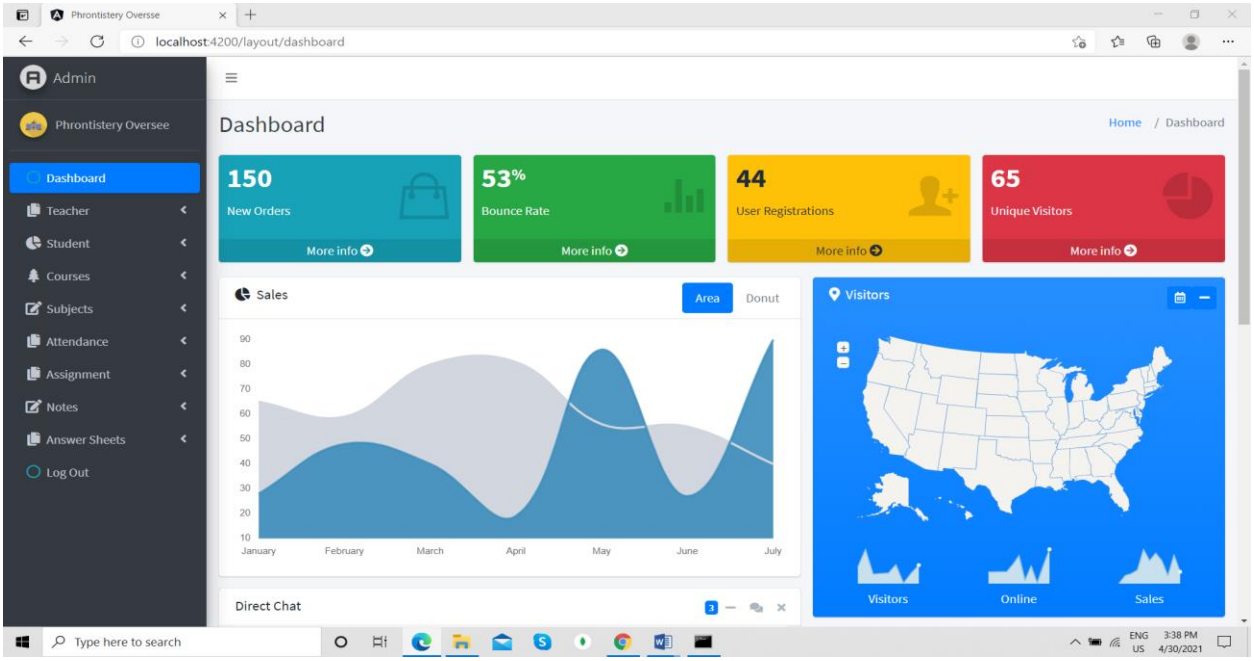

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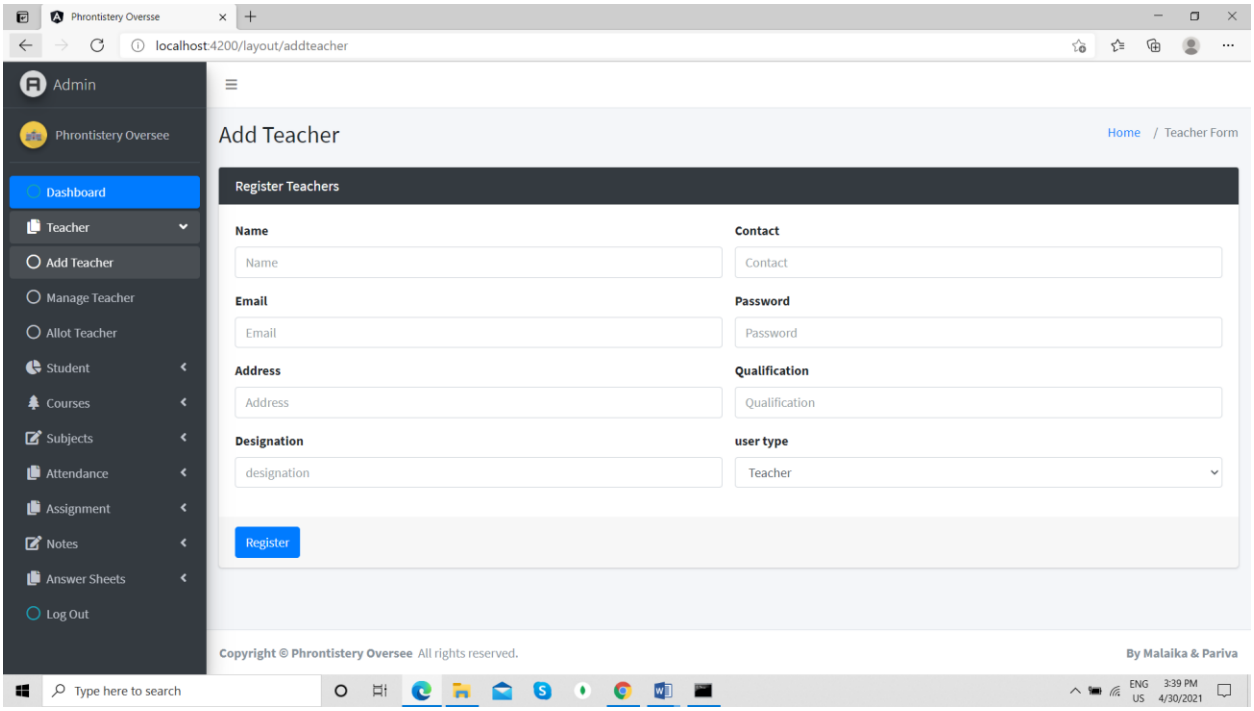

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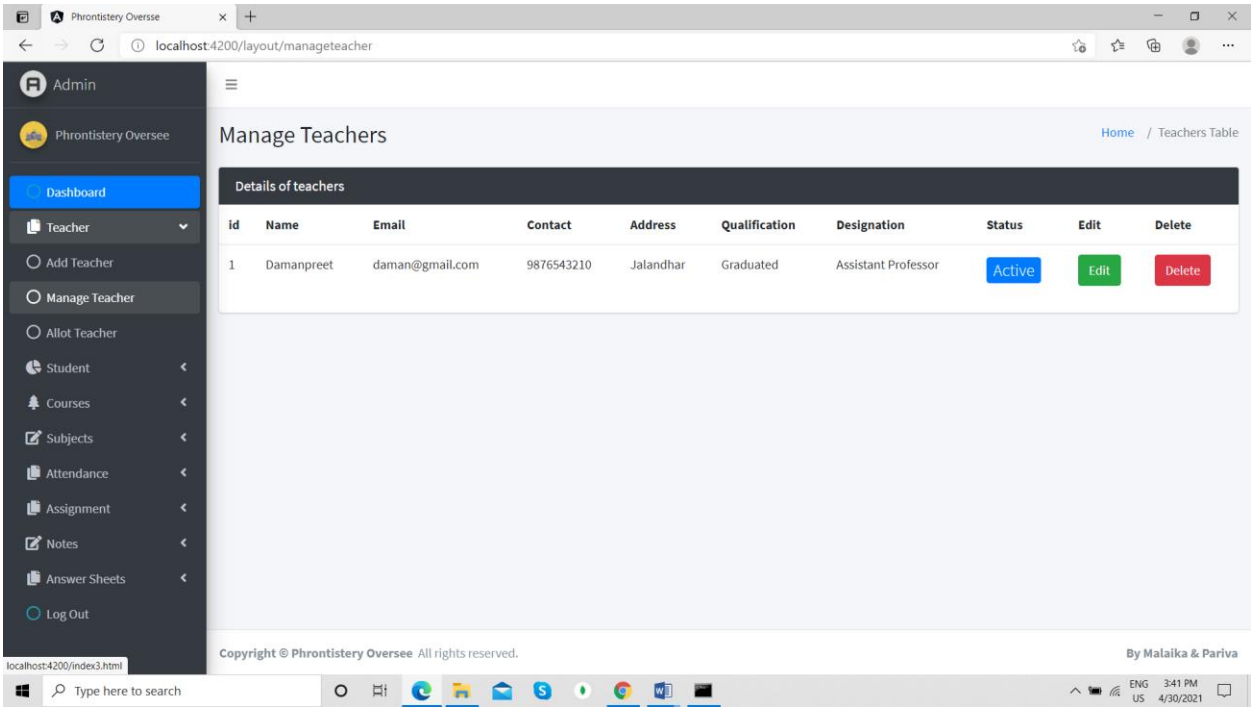

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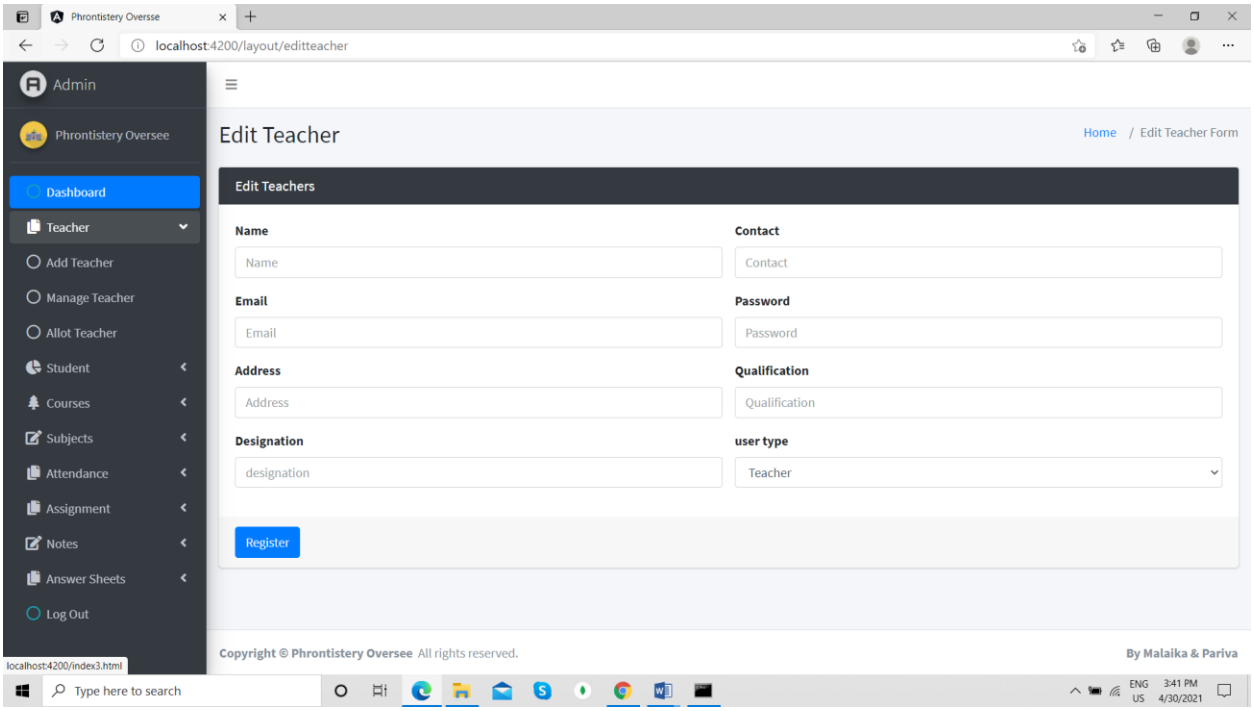
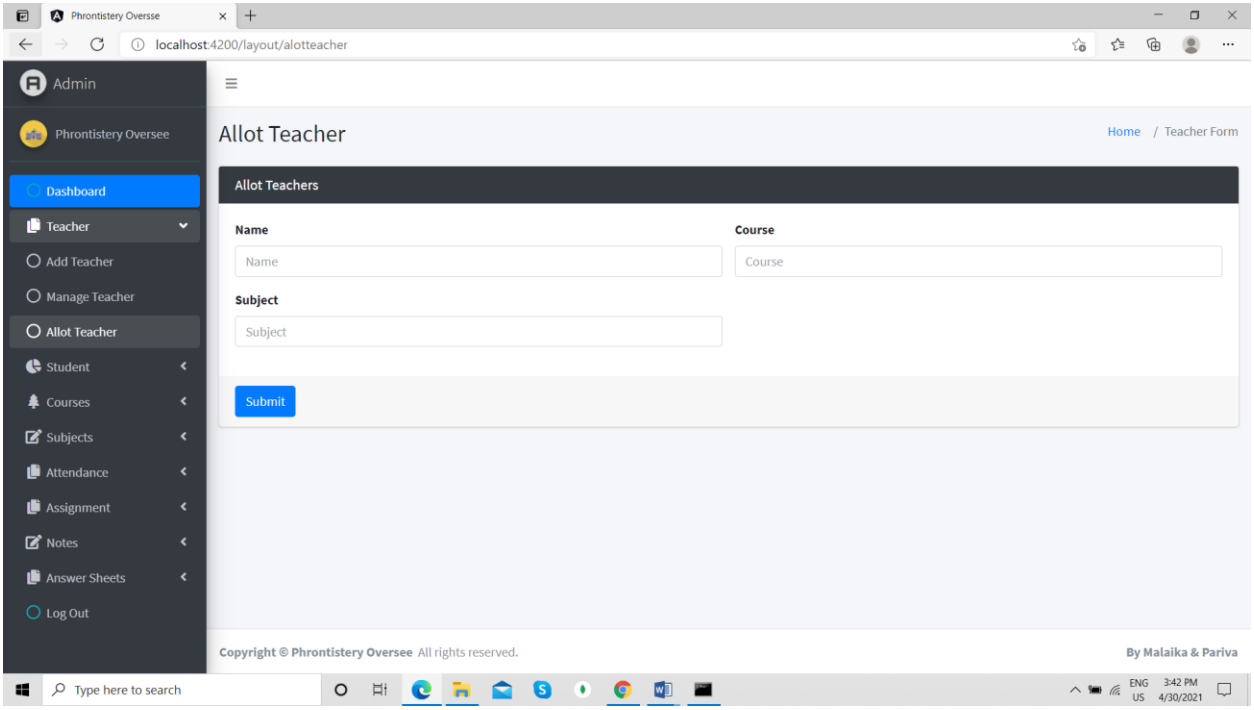


Allot Teachers:



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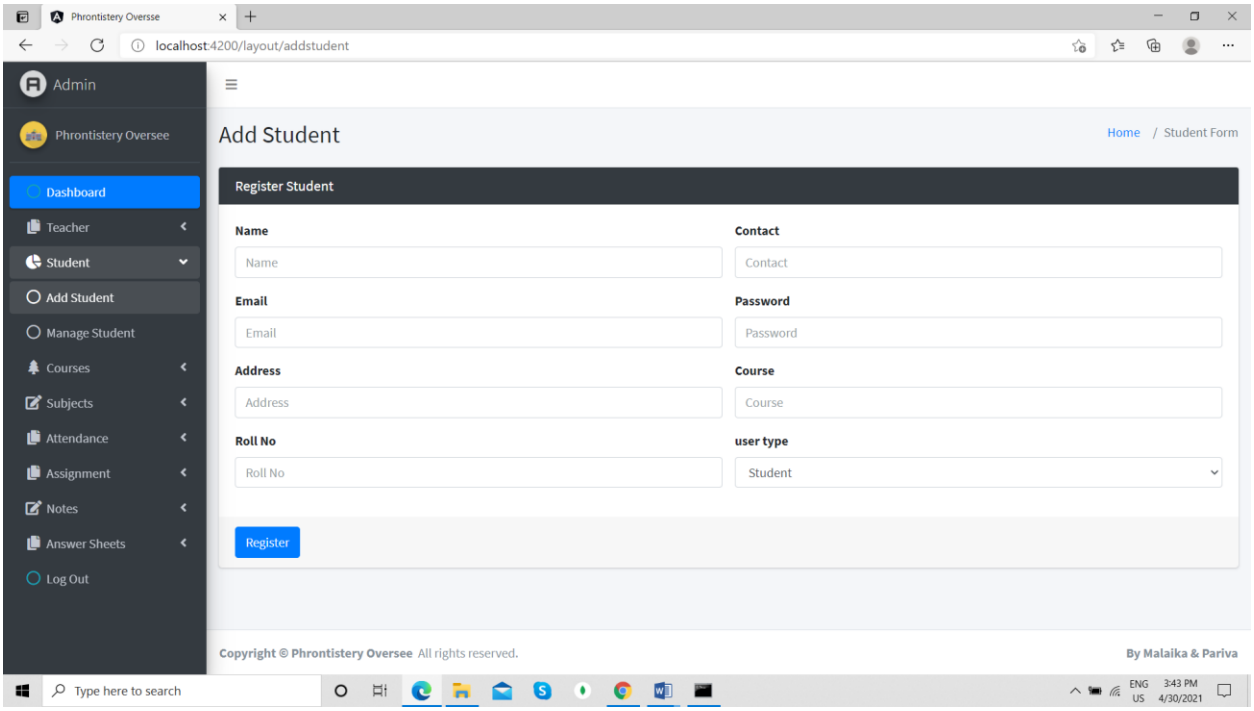

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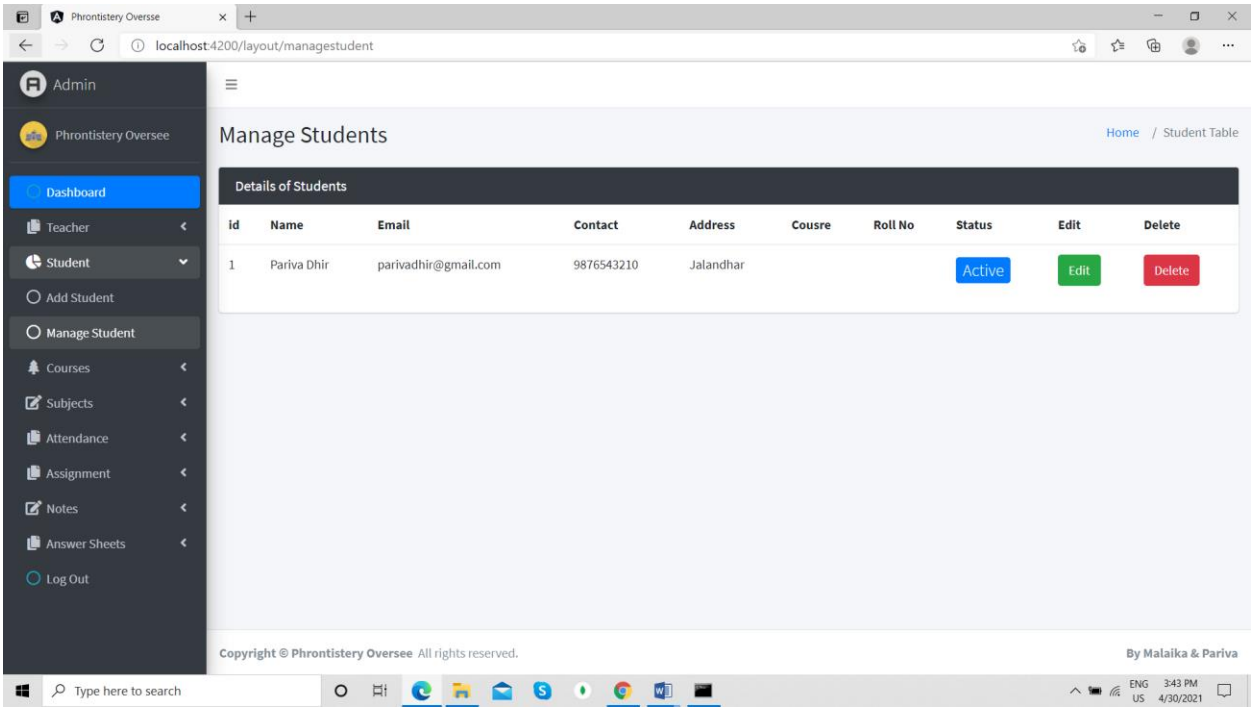

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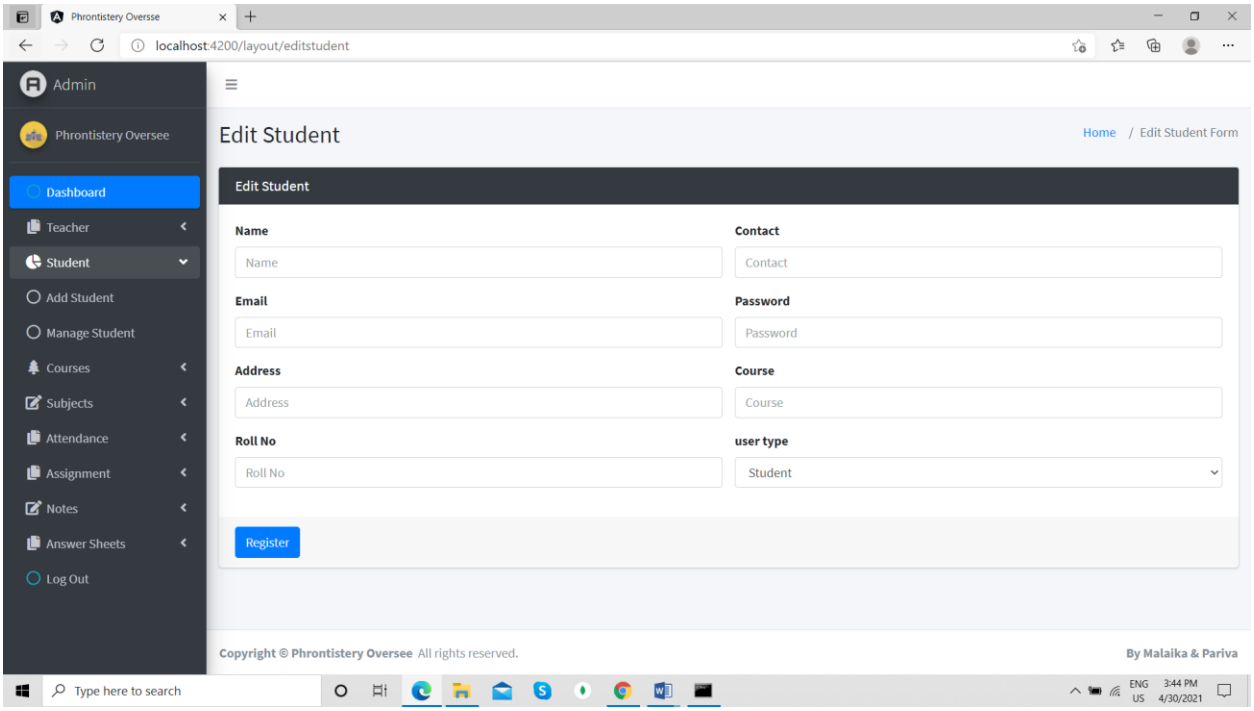

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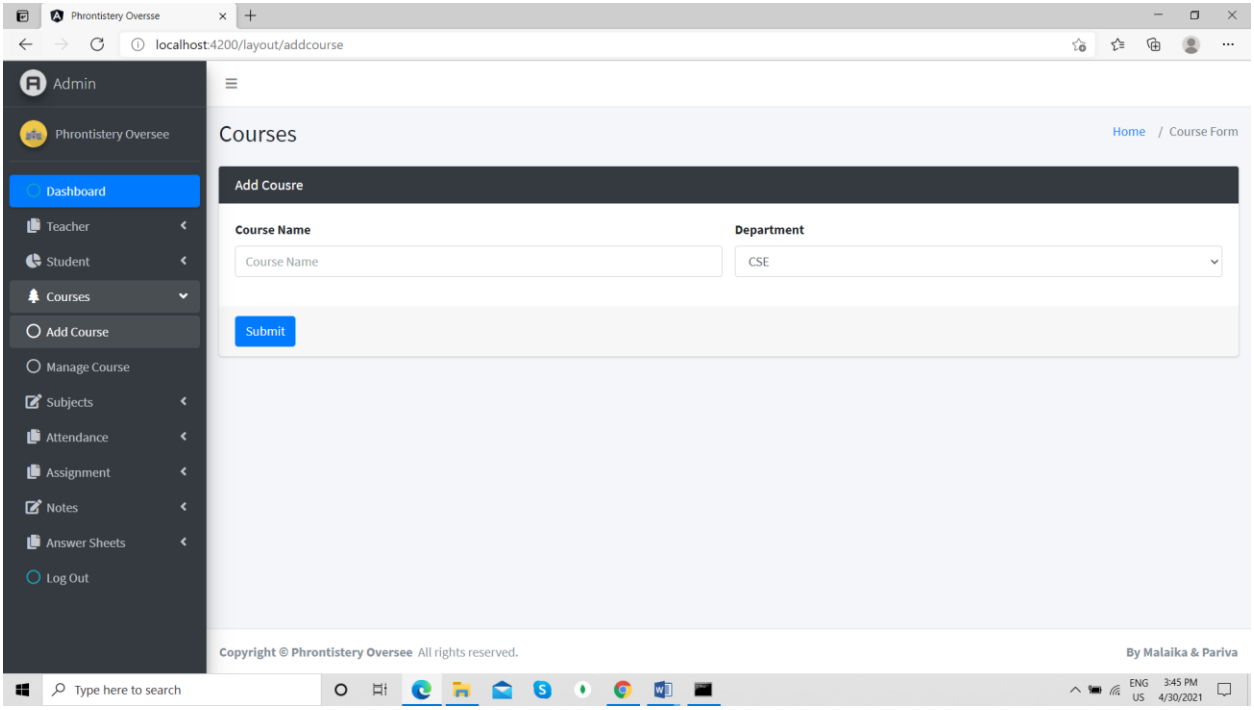

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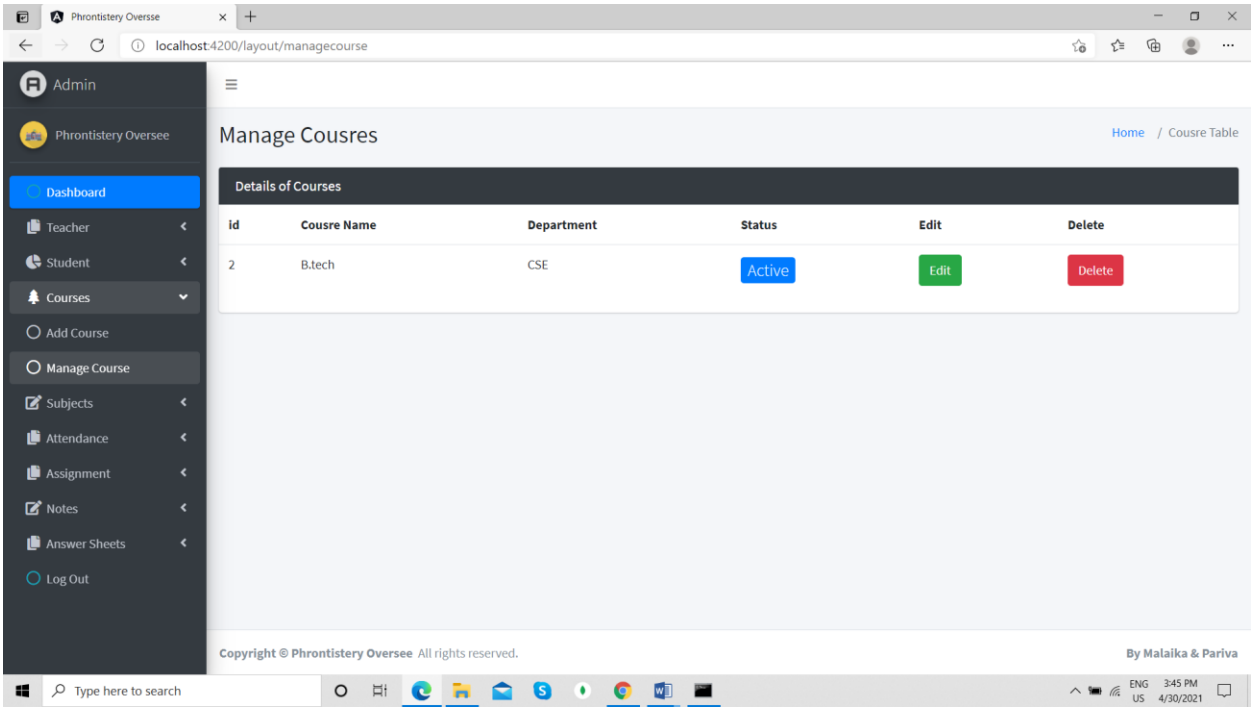

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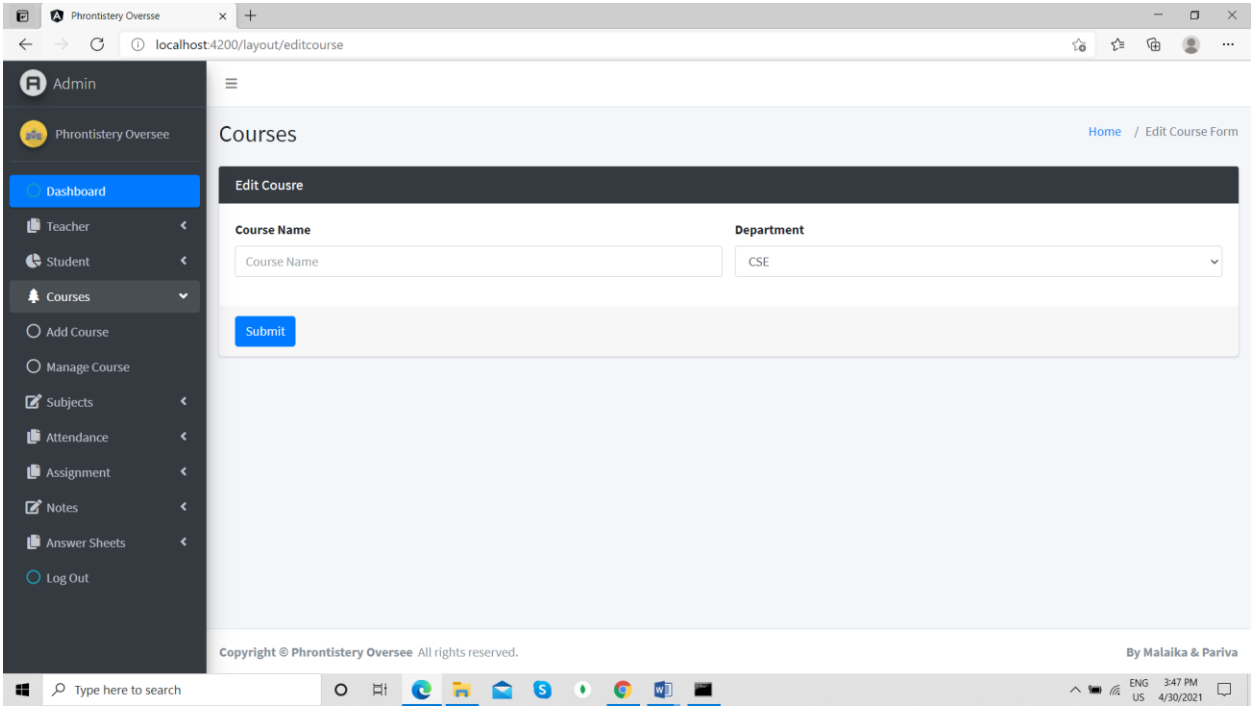

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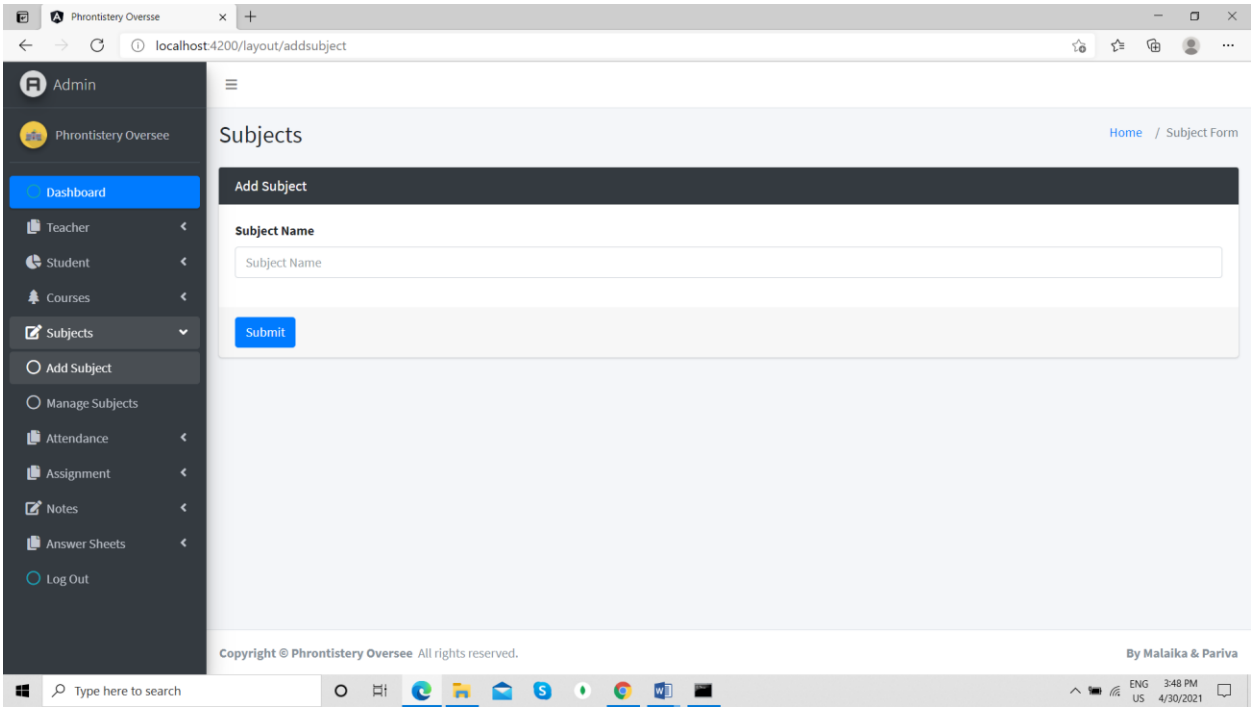

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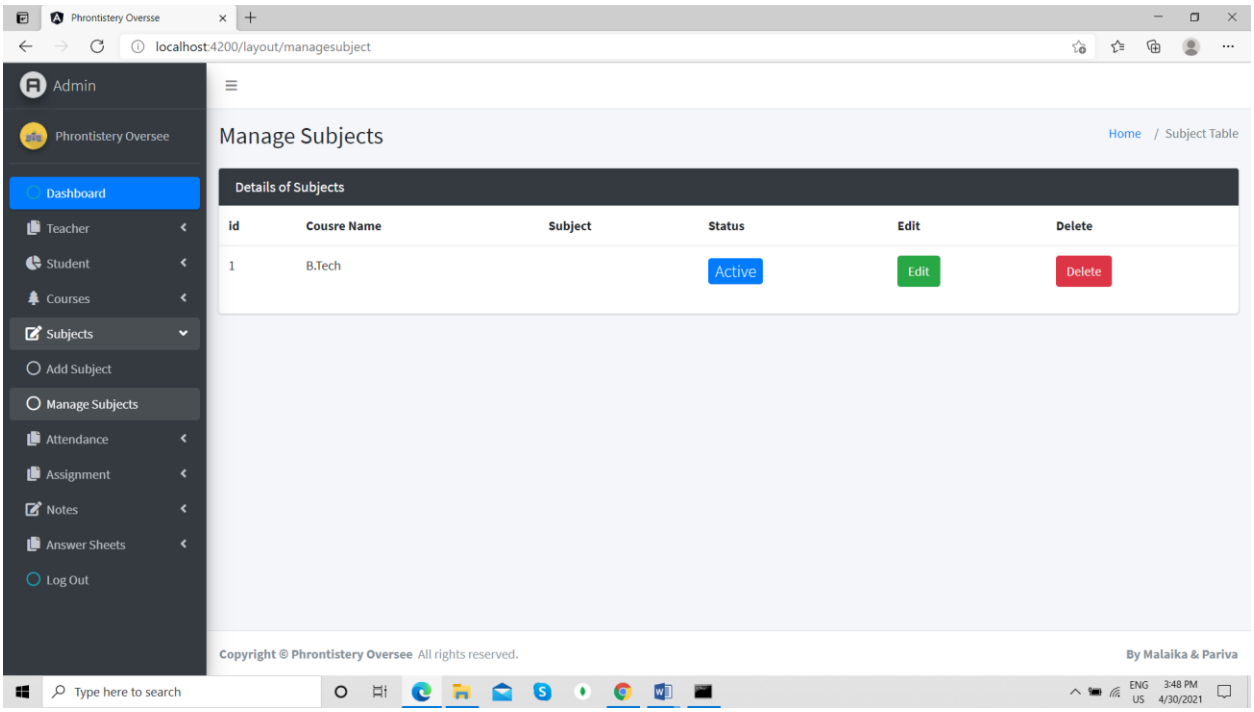

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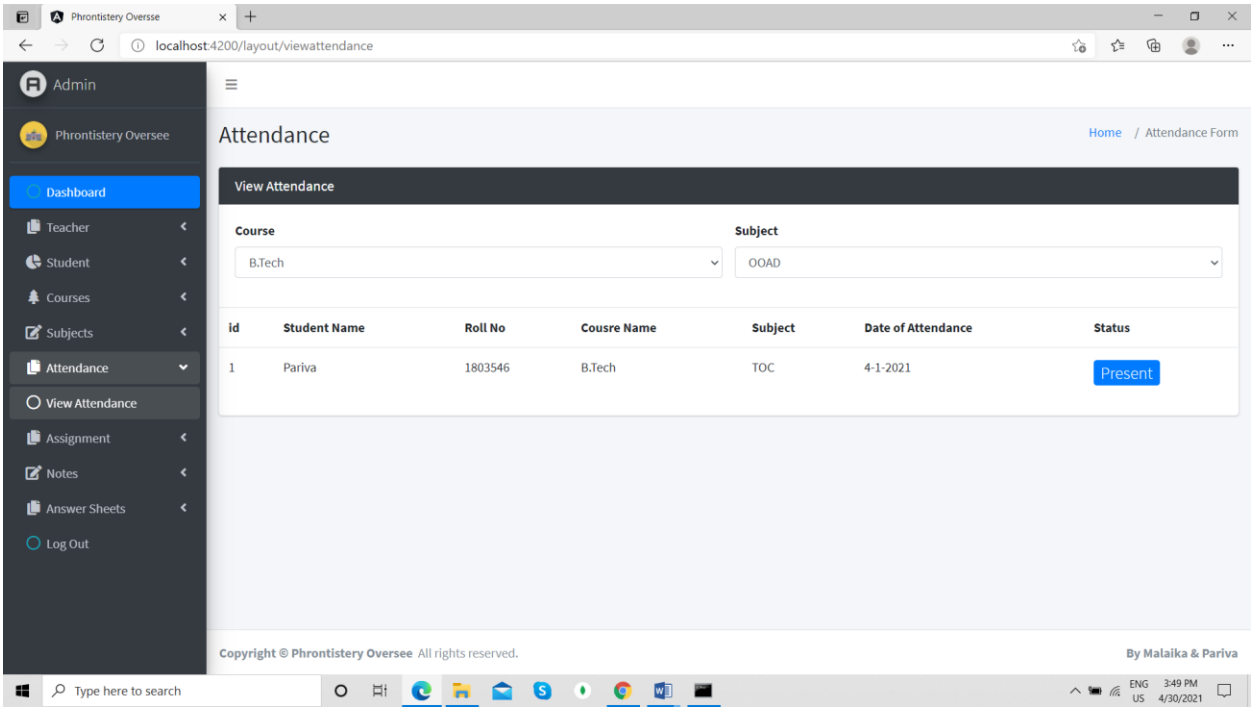

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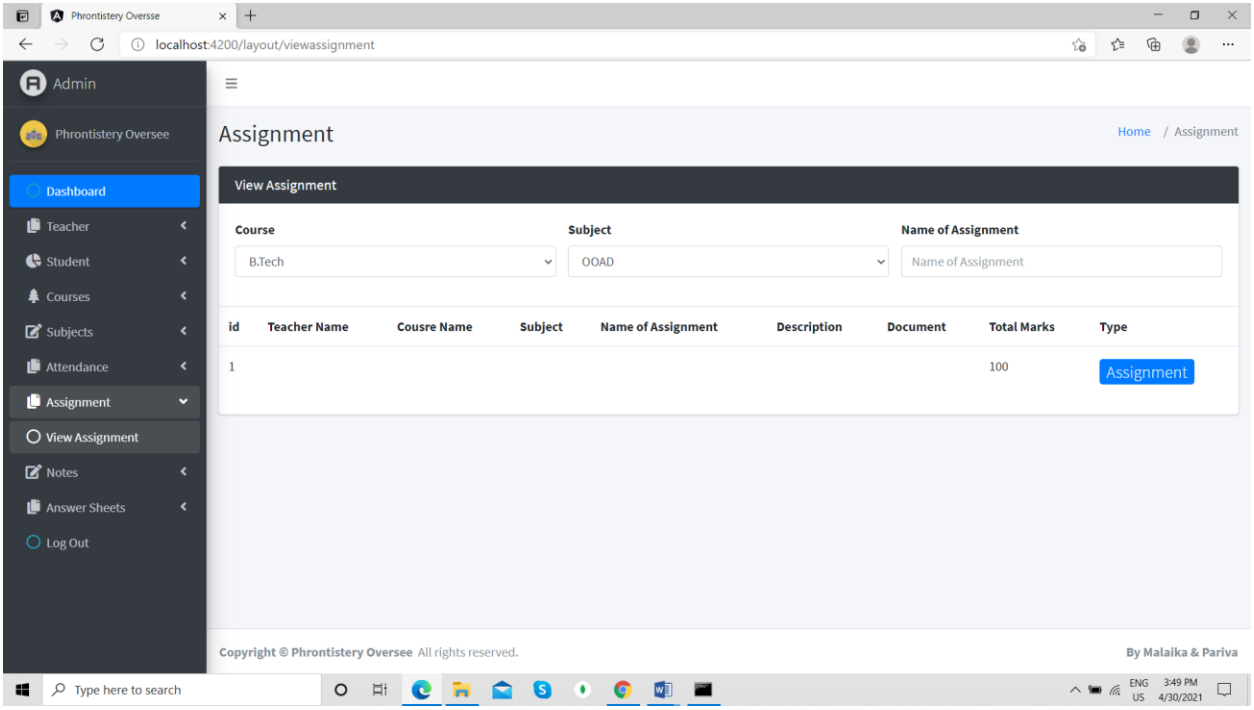
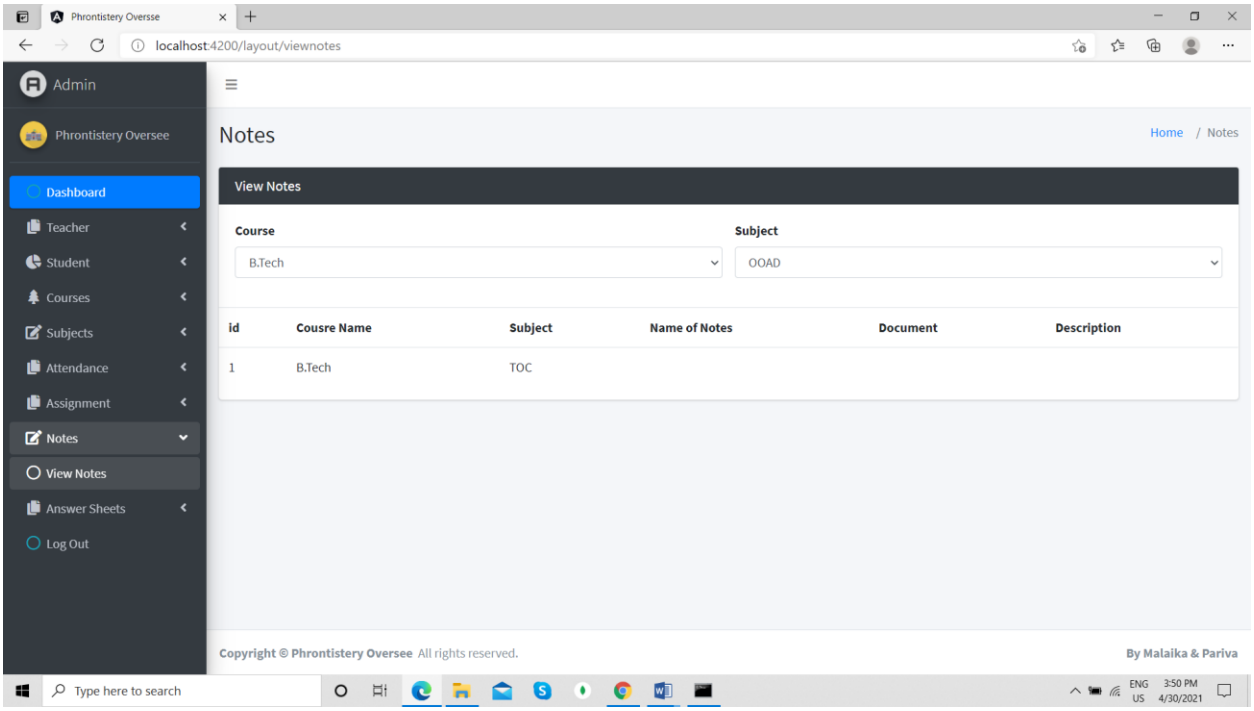
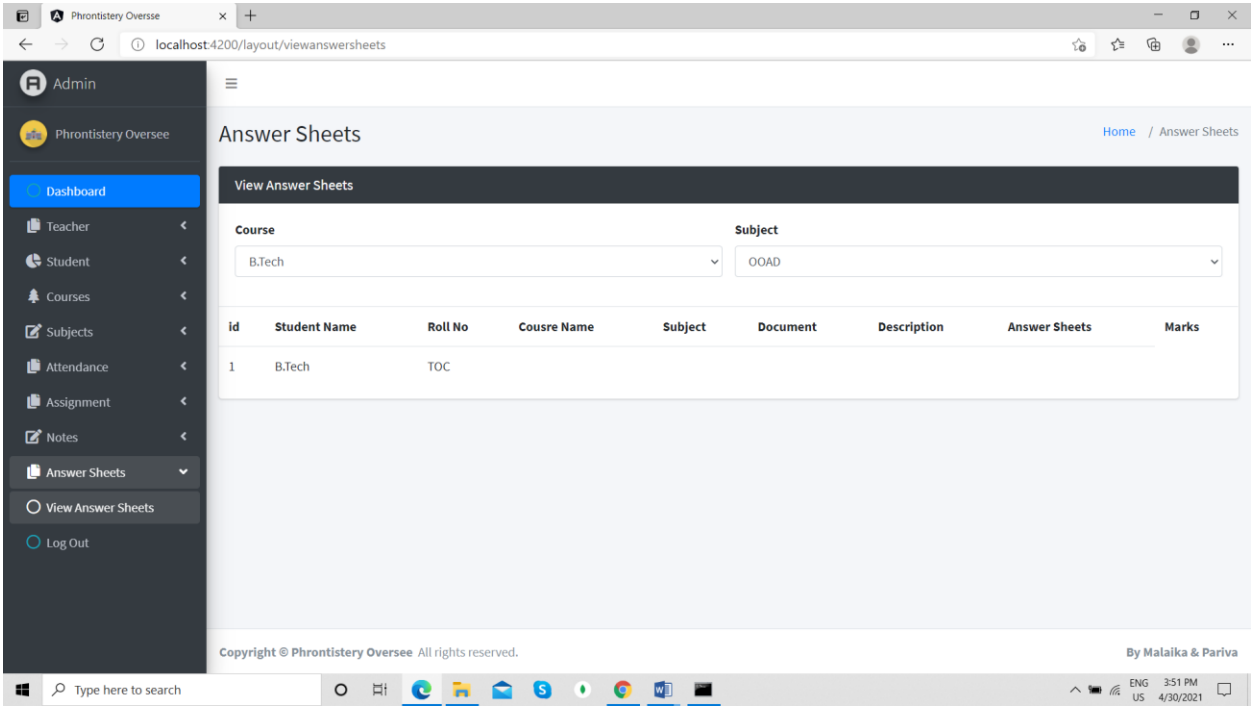


View Notes:



View Answer sheets:



CHAPTER 6

SYSTEM IMPLEMENTATION AND TESTING

6.1 IMPLEMENTATION

Implementation is the status of the project when the theoretical designs turned into a working system. It is the process of converting a new revised system in to an operational one. It is the key stage in achieving a successful new system because usually it involves a lot of upheaval in the use department. It must therefore carefully plan and controlled so as to avoid chaos.

Apart from planning, the two major task of preparing for implementation are educationand training of users and testing of system. Education of users should really have taken place much earlier in the project when they were being involved in the investigation and design work.

The user staff has been given necessary training for using the system. The training has made them to get acquainted with the system. The development any system results in success only when the system is implemented properly.

6.2 TESTING

Testing is one of the major hurdles in the development of the system. Testing is the process of fining errors in the system. Only error-free website will be stable for a long time. There are different types of techniques for finding the bugs in website.

System testing is the major quality control measure during software development. A series of test cases are generated that is intended to demolish the software that has been built. Testing is a set activity that can be planned and conducted schematically. Testing begins at the module level and work towards the integration of entire computer-based system.

Testing is a process of executing a program with the intention of finding an error. A good test case is one that has a higher probability of finding an undiscovered error. A successful test case is one that uncovers an undiscovered error. Nothing is complete without testing, as it the vital success of the system.

Testing Objectives:

There are several rules that can serve as testing objectives. They are:

1. Testing is a process of executing a program with the intent of finding an error.
2. A good test case is one that has high probability of finding an undiscovered error.

3. A successful test is one that uncovers an undiscovered error.
4. If testing is conducted successfully according to the objectives as stated above, it would uncover errors in the software.
5. Testing for correctness.
6. Testing for implementation efficiency.

CHAPTER 7

CONCLUSION

This system presents a method for increasing information requested by students with the use of automated System. In this, instead of direct Contacting with the faculty, the student can directly check the Results from the System if the student is registered in.

The system is developed in such a way that the user with common knowledge of computers can handle it easily. The system developed has proved to be user friendly and efficient in achieving basic goals. The system takes care of all the constraints which have specified. The system is found to be really beneficial for the concern aspects. The site developed is realistic and secure. Hence we conclude that the present system would definitely help the user by saving time and effort by reducing the processing time and volume of errors. The efficiency of the work done would be improved and work satisfaction on the part of the teachers and students after computerization would definitely on high. The satisfaction would be definitely higher when compared to the old manual system. Increases the quality in work for educational institutes. Also helps the educational institutes to do regular activities accurately, fast and reliable.

It increases quality in work for educational institutes.

1. The software facilitates the administrators to know the present status of the students and the teachers of the college.
2. The software gives the information such as student and teacher's personal details, attendance, performance of students etc.
3. From managing the data of all the students and teachers to help to make the education easy and more understandable.
4. Timetable, notes, assignments upload by the teachers and the students can view them and also upload their answer sheets according to their assignments/ tasks or the tests.
5. The efficiency of work done would be improved and work satisfaction on the part of teachers, students after computerization would be definitely high.
6. The user satisfaction would be definitely high as compared to the manual old system.

Hence, we conclude that the present system would definitely help the users of this website or an application by reducing the processing time and volume of errors.

CHAPTER 8

REFERENCES

This System deals with all kind of student details, academic related reports, 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; and all these will be available for future references too. Our program will have the databases of Courses offered by the college under all levels of graduation or main streams, teacher or faculty's details, batch execution details, students' details in all aspects. This program can facilitate us explore all the activities happening in the college, even we can get to know which teacher / faculty is assigned to which batch, the current status of a batch, attendance percentage of a batch and upcoming requirements of a batch. Different reports and Queries can be generated based of vast options related to students, batch, course, teacher / faculty, exams, semesters, certification and even for the entire college.

8. 1 BIBLIOGRAPHY

WEBSITES:

1. http://www.google.com
2. www.wikipedia.org
3. http://www.angular.com
4. www.sitepoint.com
5. www.slideshare.net

TEXT BOOK REFERRED:

The following books and manuals provided a lot of help to us in making this project reality.

1. Web application development with MEAN.
2. MEAN Web development.
3. Pro MEAN STACK

SEARCH ENGINE USED:

1. Google
2. Yahoo

8. 2 FUTURE SCOPE:

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; and all these will be available for future references too. Our program will have the databases of Courses offered by the college under all levels of graduation or main streams, teacher or faculty's details, batch execution details, students' details in all aspects.