

[Project Management System]

*A project report submitted as a partial fulfillment of the degree of
Master of Computer Applications (MCA)*

Submitted by

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of

**Post Graduate Department of Computer Science and Technology
Sardar Patel University**

Submitted to

**SARDAR PATEL UNIVERSITY
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Post Graduate Department of Computer Science and Technology

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Vallabh Vidyanagar

CERTIFICATE

This is to certify that RISHI HARSHADBHAI PRAJAPATI of MCA IV semester has worked on the project entitled "PROJECT MANAGEMENT SYSTEM" satisfactory towards the partial fulfillment of the degree of Master of Computer Science and Applications during the final semester at the Post Graduate Department of Computer Science and Technology, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India.

Date of Submission

25th April, 2024

Internal Project Guide

Dr. Raina D. Gaharwar

Head of the Department

Dr. Priti S. Sajja

Acknowledgement

It gives me a great pleasure and gratification to present my project “**Project Management System**”, which has been completed in the second year of my M.C.A. program.

The completion of any inter disciplinary project depends upon coordination, cooperation and combined efforts of various resources of knowledge, creativity, skill, energy, and time.

Being selected by Tech Elecon, I feel privileged that I got chance to work with such a well known IT organization. This document contains all the relevant details of a project conducted at Tech Elecon Pvt. Ltd.

At this stage, I would like to thank all the individuals who supported and guided me during the development of this project, especially during challenging times. I express my sincere gratitude to my Company Guide, Mr. Satyam Raval, for guiding me throughout the internship.

First and foremost I would like to thank our principal Dr. Priti S. Sajja who provided me with an excellent opportunity to work in their esteemed organization.

I would like to give my special thanks to my Project Guide, Dr. Raina D. Gaharwar for helping me developing the project. She is always ready with her invaluable suggestions through her complete perseverance.

Next, I would acknowledge staff members who have contributed a help with their active suggestions to the development of my project, which provided to be of great help.

Lastly, I would express my wholehearted appreciation to the GDCST family for their continuous support, encouragement and invaluable tips.

Group Members

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INTRODUCTION

CHAPTER 1: INTRODUCTION

1.1 Department Profile



The Department of Computer Science was established in the year 1986 as an institution offering postgraduate courses in Computer Science. The computing facility, however, was introduced at the Sardar Patel University somewhere in 1973-74 at the University's computer center with an IBM 1620, a second generation mainframe computer.

The University started one-year Post Graduate Diploma in Computer Applications (PGDCA) course in the academic year 1975, Master of Computer Applications (MCA) in the year 1986, M Sc (Computer Science) in 1988, M. Sc. (Bioinformatics) in 2004, M. Phil. (Computer Science) in the year 2008, Ph. D. (Computer Science) in 1990 and Ph. D. (Bioinformatics) in 2011.

Besides these programmes, the University also started offering computer related short-term programmes from time to time. The computing resources were also used by different postgraduate departments of the University for their Research Work. The institute took lead in establishing links with national and international institutes.

The department started a CSI chapter (CSI – the Computer Society of India – is a national professional body having links with various professional bodies in India and abroad) in 1985-86. Various workshops, seminars and symposia have been organized under the CSI banner so far, which have strengthened both the teaching and research activities of the department.

In the year 1988, Late Shree Gordhanbhai Hathibhai Patel donated money to the University for a separate building of the Post Graduate Department of Computer Science. The department was also recognized by the UGC to provide technical training to personnel at various levels of academia and administration. Several PC based systems had been installed and major research work was carried out in the areas of CAI (Computer Aided Instruction), KBS (Knowledge Based Systems) and DSS (Decision Support Systems). In 1992, the M.Sc. in Computer Science programme was terminated and intake of the MCA programme was increased from 30 to 40. Three faculty members were selected on the basis of merit for the CICC-Japan training in the years 1992, 1994 and 1995.

Early 2000 was the time when vast technological changes took place in the IT industry all over the world. The department could meet the technological requirements through support from the UGC, AICTE and various bodies of the state. A networked laboratory was established at the department, providing state-of-the-art facilities. The intake to MCA was increased to 100 by introducing self-financed seats in the year 2000, and a separate self-financed batch of MCA was started.

In the year 2002, a special MCA programme was introduced for providing lateral entry into the second year to computer science graduates. In a short span, the department grew to the extent that a new building was required.

1.2 Company Profile



Tech Elecon Pvt. Ltd. is the IT division of the Elecon group of companies and has more than 25 years of experience in the fields of hardware, software, and networking solutions.

It is situated in the heart of Vithal Udyognagar Industrial Estate and in the proximity of the educational town of Vallabh Vidyanagar.

Tech Elecon is all set to reach new heights in the field of IT solutions. Tech Elecon is ready with all sorts of solutions and delivers any application that is web based and further our solutions are designed to adapt your business rather than your business adapting the software. Their solutions are 100% fruitful and empower you to take control of client's business online and in real time.

Tech Elecon have more than 100 employees with specialized skills in software development, custom software development, and e-commerce software development using custom software programming including .NET, C#.NET, PHP, and Open Source and Oracle.

Tech Elecon delivers quality products and services with a focus on integrating the same with existing technologies, providing the required automation to our customers to help them achieve their business objectives.

Mr. Nilesh Naik, the company's Vice President, is at the helm of the Tech Elecon organization. Mr. Satyam Raval, as Deputy General Manager, and after that, Manager and Associate Manager positions are listed. At the

bottom, there are trainees at entry level, who follow up to engineer, senior engineer, also executive and senior executive manager.

➤ **Different Service's of the Company**

Tech Elecon has extensive experience in providing IT services and has successfully adapted to technological advancements, making it the leading IT infrastructure management service provider in the region. Our cutting-edge delivery model covers all the stages of the solution lifecycle, including planning, deploying, managing, maintaining, auditing, upgrading, and improving.

Tech Elecon recognize that each client has unique needs and expectations when it comes to infrastructure and service providers. Our clients have the flexibility to choose from a wide range of IT infrastructure management and performance services based on their specific requirements. They can opt for on-site services or hybrid solutions that include on-site troubleshooting and support services.

Tech Elecon provides various services for business:

- Hardware maintenance and repairing
- Service desk management
- Desktop management
- Network management
- Messaging administrator
- Back-up management

Other services:

- Software Development Services
- Software Licensing
- Microsoft Product Implementation
- Linux Servers/ Desktop Implementation

PROJECT PROFILE

CHAPTER 2: PROJECT PROFILE

2.1 Project Details

Project Title	<u>Project Management System</u>
Company Name	Tech Elecon Pvt. Ltd.
Tools	Microsoft Visual Studio Code, Microsoft Visual Studio 2019, SQL Server Management Studio 19 (SSMS)
Methodology	Agile (Scrum)
Duration	4 Months
Team Size	2
Team Members	MG22013 - Divya S. Makhija MS22152 – Rishi H. Prajapati
Internal Guide	Dr. Raina D. Gaharwar
External Guide	Satyam Raval

2.2 Team Information

Name	Pid	Exam No	Email id
Divya Makhija	MG22013	31	makhijadivya26@gmail.com
Rishi Prajapati	MS22152	89	rhp1508@gmail.com

2.3 Division of Work

Name	Analysis	Design	Coding	Testing	Documentation
Divya Makhija	✓	✓	✓	✓	✓
Rishi Prajapati	✓	✓	✓	✓	✓

2.4 Division of Modules

Name	Admin	Project Leader	Employee	Reports
Divya Makhija	✓	✓		✓
Rishi Prajapati	✓		✓	✓

2.5 Tools and Technology

Sr. No.	Category	Tools and Technology
1.	Programming Languages	C# and JavaScript
2.	Frameworks	.NET MVC, ASP.NET
3.	Database Management	SQL Server Management Studio 19 (SSMS)
4.	Integrated Development Environment (IDE)	Visual Studio 2019
5.	Frontend Technologies	Html, CSS, Bootstrap, JQuery
6.	Software Requirements	Visual Studio Code
7.	Documentation Tool	Microsoft Word 2007
8.	Operating System	Microsoft Windows 10

2.6 Introduction to Tools

2.6.1 Front End: HTML, CSS, Bootstrap, JavaScript

➤ **HTML**

- HTML stands for Hypertext Markup Language. It's the standard markup language used to create web pages and define their structure.
- HTML provides a set of elements or tags that describe the content of a web page, including text, images, links, multimedia, and more.
- Technically, HTML (Hypertext Markup Language) is not a programming language, but rather a markup language.
- HTML5 is the latest and most enhanced version of HTML.
- HTML5 is cooperation between the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG).

❖ Here are some key points about HTML:

1) Markup Language

HTML is a markup language, not a programming language. It uses tags to define the elements within a webpage and their relationships.

2) Structured Elements

HTML defines the structure of a webpage, including headings, paragraphs, lists, links, images, tables, forms, and more.

3) Tag-based

HTML documents are comprised of HTML elements, which are enclosed within opening and closing tags. Tags are written using angle brackets (< and >).

4) Attributes

HTML tags may contain attributes that provide additional information about the element. Attributes are written within the opening tag and provide characteristics such as styling, behavior, or data.

5) Nesting

HTML elements can be nested within one another, creating a hierarchical structure that defines the layout and organization of content on the webpage.

6) Semantic Markup

HTML5 introduced semantic elements that provide meaning and context to the content within a webpage. Semantic elements like <header>, <nav>, <main>, <section>, <article>, <footer>, etc., help search engines, screen readers, and developers understand the purpose and structure of the content.

7) Content and Formatting

HTML tags are used to define different types of content and formatting within a web page. For example, <p> tags are used to define paragraphs, <h1> to <h6> tags are used to define headings of different levels, <a> tags are used to create hyperlinks, and so on.

8) Compatibility

HTML is supported by all major web browser and is considered the backbone of the World Wide Web.

➤ CSS

- CSS stands for Cascading Style Sheets. It is a style sheet language which is used to describe the look and formatting of a document written in markup language.
- It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces.
- It can also be used with any kind of XML documents including plain XML, SVG and XYL.
- CSS is designed to enable the separation of content and presentation, including layout, colors, and fonts.
- CSS describes how HTML elements are to be displayed on screen, paper, or in other media.
- CSS saves a lot of work. It can control the layout of multiple web pages all at once.
- With CSS, you can control the color, font, and the size of text, the spacing between elements, how elements are positioned and laid out, what background images or background colors are to be used, different displays for different devices and screen sizes, and much more!
- CSS can be added to HTML documents in 3 ways:

Inline - by using the `style` attribute inside HTML elements

Internal - by using a `<style>` element in the `<head>` section

External - by using a `<link>` element to link to an external CSS file

➤ **Bootstrap**

- Bootstrap is the most popular CSS Framework for developing responsive and mobile-first websites.
- Bootstrap is a free, open source front-end development framework for the creation of websites and web apps.
- Bootstrap 5 is the newest version of Bootstrap.
- As a framework, Bootstrap includes the basics for responsive web development, so developers only need to insert the code into a pre-defined grid system.
- The Bootstrap framework is built on Hypertext Markup Language (HTML), cascading style sheets (CSS) and JavaScript.
- Web developers using Bootstrap can build websites much faster without spending time worrying about basic commands and functions.
- Bootstrap makes responsive web design a reality. It makes it possible for a web page or app to detect the visitor's screen size and orientation and automatically adapt the display accordingly.

❖ **Here are some key points about Bootstrap:**

- 1) It is Faster and Easier way for Web-Development.
- 2) It creates Platform-independent web-pages.
- 3) It creates Responsive Web-pages.
- 4) It designs responsive web pages for mobile devices too.
- 5) It is a free and open-source framework.

❖ **Applications of Bootstrap:**

1) Responsive Web Design

Bootstrap empowers developers to create websites that seamlessly adapt to different screen sizes and devices, providing a consistent and optimal user experience.

2) Mobile-First Development

Bootstrap's mobile-first approach ensures that websites are designed and optimized for mobile devices, catering to the increasing usage of smart phones and tablets.

3) Efficient Prototyping

With its extensive collection of pre-designed components and templates, bootstrap facilitates rapid prototyping, enabling developers to quickly create functional website layouts and UIs

4) Consistent Cross-Browser Compatibility

Bootstrap's standardized CSS and JavaScript codebase ensures consistent rendering functionality across various web browsers, saving developers time and effort in browser-specific troubleshooting.

5) Customizable Themes and Styling

Bootstrap offers a wide range of customizable themes and styles, allowing developers to create visually appealing and unique designs that align with their brand or project requirements.

6) Customizable Themes and Styling

By leveraging the power of Bootstrap, developers can save significant time and effort in front-end development, resulting in faster project delivery and cost savings.

➤ JavaScript

- JavaScript is a lightweight, cross-platform, single-threaded, and interpreted compiled programming language.
- It is also known as the scripting language for webpages. It is well-known for the development of web pages, and many non-browser environments also use it.
- JavaScript is a weakly typed language (dynamically typed). JavaScript can be used for Client-side developments as well as Server-side developments. JavaScript is both an imperative and declarative type of language.
- JavaScript contains a standard library of objects, like Array, Date, and Math, and a core set of language elements like operators, control structures, and statements.

❖ Linking JavaScript fine in HTML file:

- 1) **Internal JS:** We can add JavaScript directly to our HTML file by writing the code inside the `<script>` tag. The `<script>` tag can either be placed inside the `<head>` or the `<body>` tag according to the requirement.
- 2) **External JS:** We can write JavaScript code in another files having an extension.js and then link this file inside the `<head>` tag of the HTML file in which we want to add this code.

❖ **Applications of JavaScript:**

1) Web Development Applications

Adding interactivity and behavior to static sites JavaScript was invented to do this in 1995. By using Angular JS, that can be achieved so easily.

2) Server Applications

With the help of Node.js, JavaScript made its way from client to server and Node.js is the most powerful on the server side.

3) Games

Not only in websites, but JavaScript also helps in creating games for leisure. The combination of JavaScript and HTML 5 makes JavaScript popular in game development as well.

4) Smartwatches

JavaScript is being used in all possible devices and applications. This framework works for applications that require the Internet for their functioning.

5) Machine Learning

This JavaScript ml5.js library can be used in web development by using machine learning.

6) Mobile Applications

JavaScript can also be used to build an application for non-web contexts. This is a Framework for building web and mobile apps using JavaScript. Using React Native, we can build mobile. Write once use it anywhere!

2.6.2 Back End: ASP.NET MVC

- ASP.NET MVC is a web application framework that helps developers build web applications using well-established programming architecture and software engineering practices. It also gives you a highly testable presentation layer because it decouples the view from the controller and makes both easy to review and test at run time.

❖ Here are some key features of ASP .NET MVC:

- 1) The framework is based on existing .NET Framework concepts and web standards.
- 2) It separates the code of UI from logic through the use of controllers and views.
- 3) Supports unit testing through dependency injection, unobtrusive scripting, and action result return types.
- 4) Supports XML and JSON encoding for clean, Restful services.
- 5) MVC provides routing capability that allows URLs to map to actions in controllers.

❖ MVC Architectural Pattern

There are mainly three components in MVC Application: Model, View and Controller.

1) Model

The business and data logic of the application is isolated and encapsulated in models. All application logic is written in models. Models are unaware of the view layer.

2) View

The views are responsible for rendering the model data into HTML markup. They contain presentation logic that manipulates the data and generates HTML markup based on Model data.

3) Controller

Controls page flow, routing, model validation, and security. It also updates the view with any changes to business data. The controller receives input from a user, calls business logic for processing the request, and then sends a response back to the client. The controller validates input data from the client and updates the model with any changes.

❖ Advantages of ASP .NET MVC

- A well-defined programming interface provides support for testability.
- Separation of concerns is enforced.
- It is a "pure" MVC framework – this means that the system's interface, controllers, and models – all three of them, represent one concept that is very clear and concise (the term purely refers to the absence of sharing). This makes it easier to understand and maintain.
- Views can be customized using XML.
- Data Binding is performed with the help of HTML helpers, which are available for rendering forms and links.

SYSTEM STUDY

CHAPTER 3: SYSTEM STUDY

3.1 Introduction

- The “Project Management System” has been developed to override the problems in the practising manual system.
- This software is supported to eliminate and in some cases reduce the hardships faced by this existing system.
- Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.
- The application is reduced as much as possible to avoid errors while entering the data.
- It also provides error message while entering the invalid data. No formal knowledge is needed for the user to understand the system. Thus by this all, it proves it is user-friendly.
- Project Management System, as described above, can lead to error free, secure, reliable and fast management system.
- It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.
- This system is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. This system will ultimately allow you to better manage resources.

3.2 Existing System

- Manual project management systems come with a host of challenges that can hinder project success.
- Some common problems include:

1) Data Discrepancies

Without a centralized system, project data is often scattered across multiple documents, spreadsheets, and emails leading to inconsistencies, version control issues, and errors.

2) Inefficient Communication

Communication among team members, stakeholders, and clients may be disjointed and time-consuming, relying on email chains or in-person meetings, which can lead to delays and misunderstandings.

3) Risk of Human Error

There are much more chances of human errors in manual project management system. It refers to the potential for mistakes, inaccuracies, or oversights to occur due to human involvement in managing projects using manual methods.

4) Difficulty in Scaling

It refers to the challenges or limitations encountered when attempting to accommodate an increasing workload, team size, or project complexity within the current system framework.

5) Limited Capacity

Manual project management systems often rely on spreadsheets, documents, or physical boards to track tasks, timelines, and resources. As the number of projects, tasks, and team members grows, the capacity of these systems to handle and organize data becomes limited.

6) Time-Consuming Processes

Manual processes such as data entry, task assignment, progress tracking, and reporting tend to become more time-consuming and labor-intensive as the volume of work increases. This can result in delays, bottlenecks, and a decrease in overall productivity.

7) **Dependency on Individuals**

Manual project management systems may heavily rely on specific individuals to maintain records, track progress, or disseminate information. If these individuals are unavailable or make mistakes, it can disrupt the entire project workflow and jeopardize project success.

- Overall, the manual project management system was labor-intensive, time-consuming, and more prone to errors compared to modern automated solutions. It requires significant manpower and resources to maintain accurate project records.

3.3 Proposed System

- The proposed Project Management System aims to streamline and automate project tracking processes, reducing manual effort, minimizing errors, and increasing overall workflow efficiency.
- Here's how the proposed system will ease up the workflow:

1) Increased Efficiency and Productivity

The online Project Management System will automate repetitive tasks, such as data entry, scheduling, and reporting, reducing the time and effort required to manage projects.

Features such as task automation, notifications and reminders will streamline workflow processes, enabling teams to accomplish tasks more efficiently and meet project deadlines.

2) Enhanced Collaboration and Communication

The proposed system will provide a centralized platform for team members to collaborate, communicate, and share project-related information in real-time.

3) Improved Project Visibility and Tracking

The proposed system will offer real-time visibility into project status, progress, and performance metrics through customizable dashboards, Gantt charts, and reporting tools.

Project Leaders will have access to up-to-date information on tasks, milestones, resource allocation, and budgeting, enabling them to make informed decisions and identify potential risks proactively.

4) Better Resource Management and Allocation

The proposed system will enable project managers to allocate resources effectively by providing visibility into resource availability, workload distribution, and task dependencies.

5) Enhanced Document Management and Version Control

The online project management system will offer centralized document storage, version control, and access controls, ensuring that team members have access to the latest project documents and information.

6) Increased Flexibility and Accessibility

The proposed system will be accessible anytime, anywhere, and from any device with an internet connection, providing team members with the flexibility to work remotely or on the go.

Responsive web interfaces will enable team members to access project information, update tasks, and communicate with colleagues seamlessly from their smart phones or tablets.

7) Enhanced Security and Data Protection

The online project management system will implement robust security measures, such as encryption, authentication, and access controls, to protect sensitive project data from unauthorized access, breaches, or cyber threats.

- Overall, the proposed Project Management System offers a comprehensive solutions to streamline workflow process, improve project visibility and tracking.

3.4 System Features

❖ Advantages of the proposed system

- Increased efficiency
- Centralized storage of project-related data
- Seamless collaboration among team members
- Efficient resource allocation and utilization
- Comprehensive project tracking and reporting features
- Flexibility to adapt to changing project requirements
- Improved security and data protection
- User-friendly interface
- Enhanced document management
- Facilitated client or stakeholder involvement through transparent project visibility
- Enhanced team accountability through clear task assignments and deadlines
- Improved project coordination with real-time updates and notifications

3.5 Feasibility Study

- After doing the project “Project Management System”, study and analyzing all the existing or required functionalities of the system, the next task is to do the feasibility study of the project.
- All projects are feasible – given unlimited resources and infinite time.
- Feasibility study includes consideration of all the possible ways to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements.
- The feasibility of the system checks whether the system can efficiently provide the facility for which it was intended.
- An important outcome of the preliminary investigation is the determination that the system requested is feasible or not.
- There are three study aspects in the feasibility study portion of the preliminary investigation.
 - 1) Economical Feasibility
 - 2) Technical Feasibility
 - 3) Operational Feasibility

1) Economical Feasibility

- This is a very important aspect to be considered while developing a project.
- It examines whether economically the system cost is effective.

- That is whether finance is available for implementing the proposed solutions and whether the returns are proportionate to the cost of the project.
- We decided the technology based on minimum possible cost factor.
- All hardware and software cost has to be borne by the organization.
- Overall we have estimated that the benefits the organization is going to receive from the proposed system will surely overcome the initial costs and then later on running cost for the system.

2) Technical Feasibility

- This included the study of function, performance and constraints that may affect the ability to achieve an acceptable system.
- For this feasibility study, we studied complete functionality to be provided in the system and checked if everything was possible using different type of frontend and backend platforms.

3) Operational Feasibility

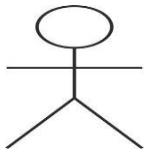
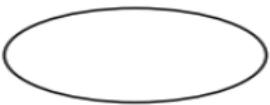
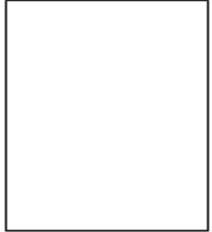
- Proposed system is beneficial only if it can be turned into information system that will meet the organization's operating requirements.
- Operational feasibility examines whether the proposed system can fit in with existing operation and whether the right information at the right time is provided to users.

SYSTEM DESIGN

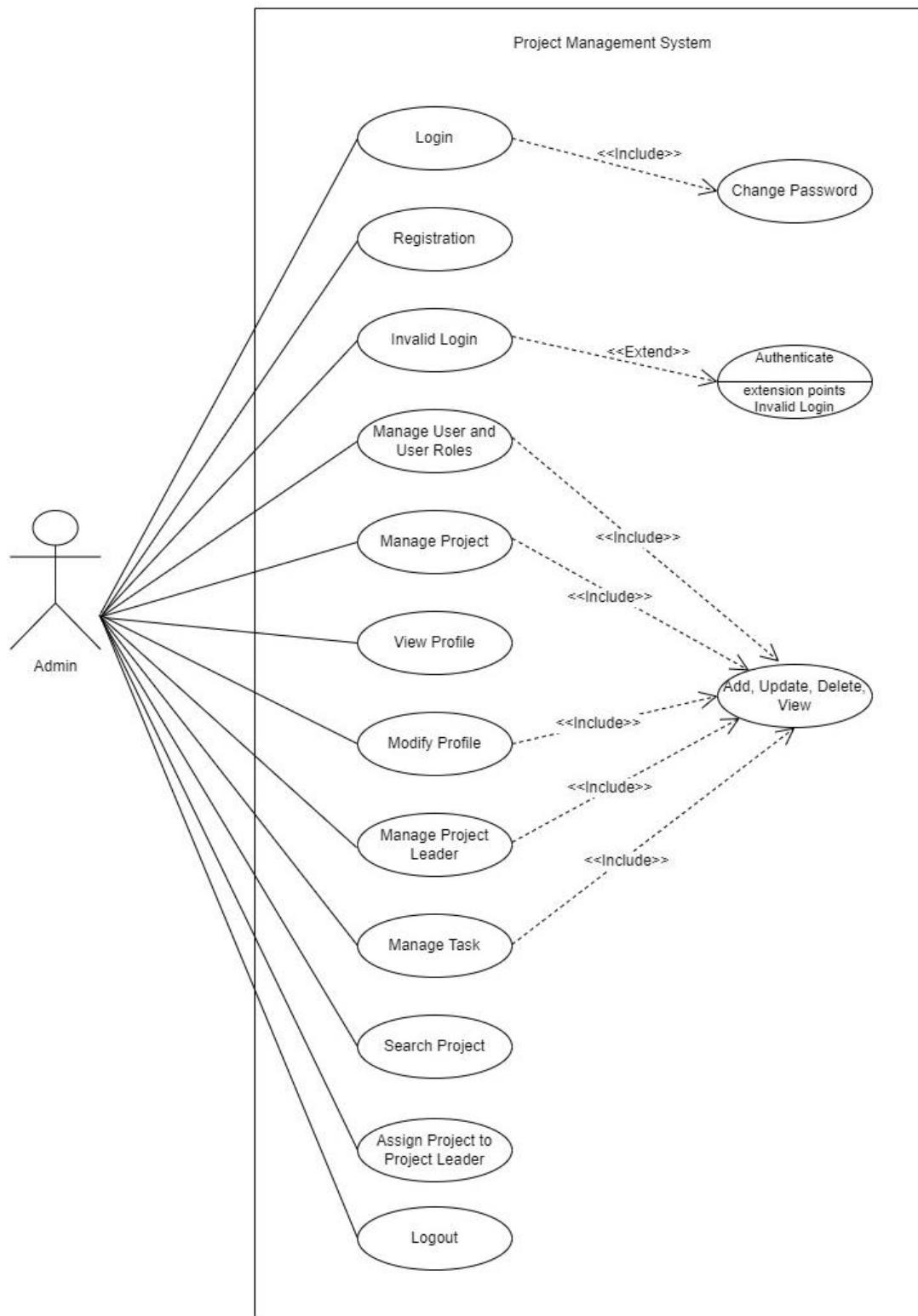
CHAPTER 4: SYSTEM DESIGN

4.1 Use Case Diagram

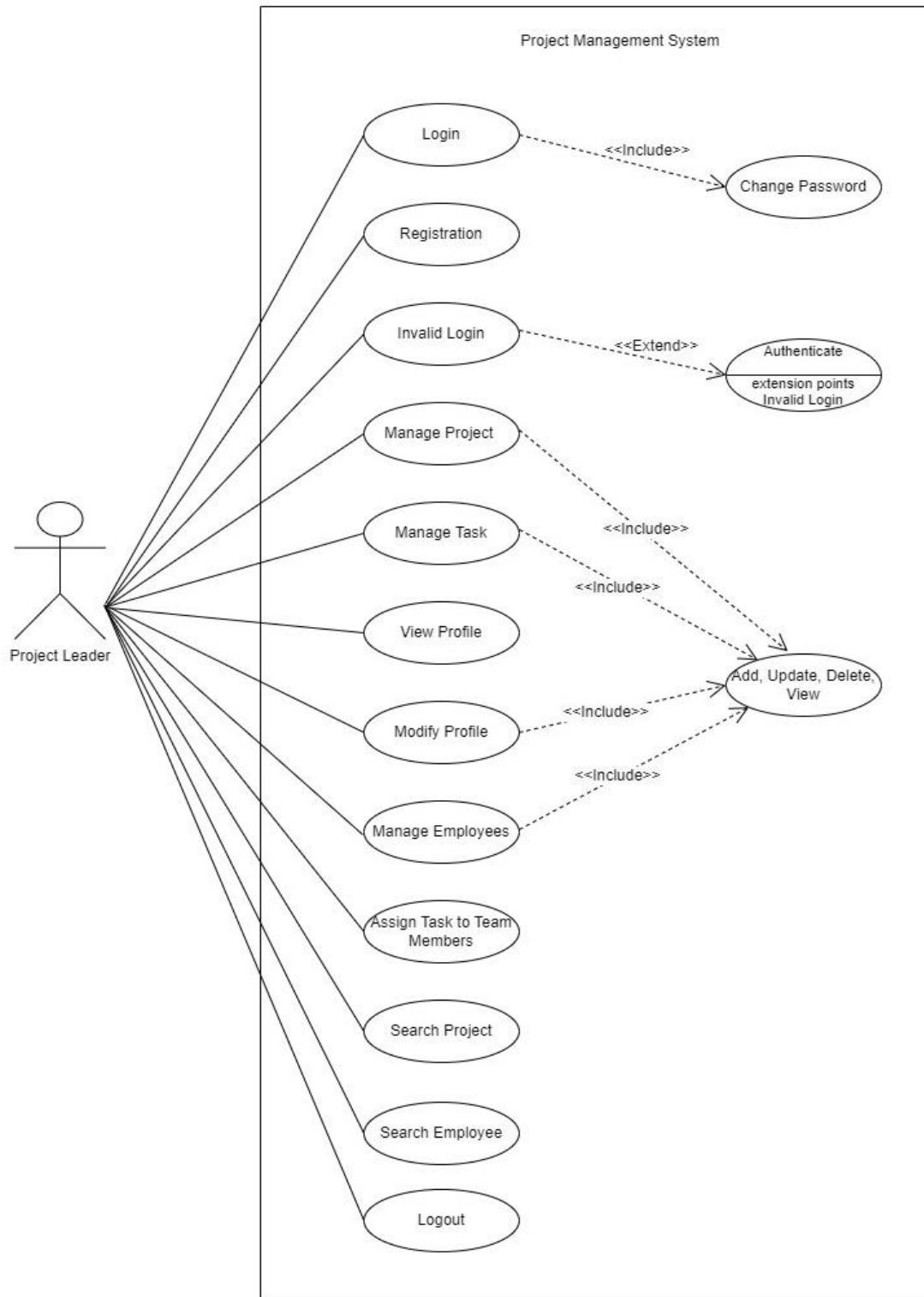
- A Use Case Diagram is a vital tool in system design, it provides a visual representation of how users interact with a system.
- A Use Case Diagram is a type of Unified Modeling Language (UML) diagram that represents the interaction between actors (users or external systems) and a system under consideration to accomplish specific goals.

<u>Symbol</u>	<u>Name</u>	<u>Description</u>
	Actor	Actors are external entities that interact with the system. These can include users, other systems.
	Use Case	Use cases are like scenes in the play. They represent specific things your system can do
	Boundary	The system boundary is a visual representation of the scope or limits of the system you are modeling. It defines what is inside the system and what is outside.

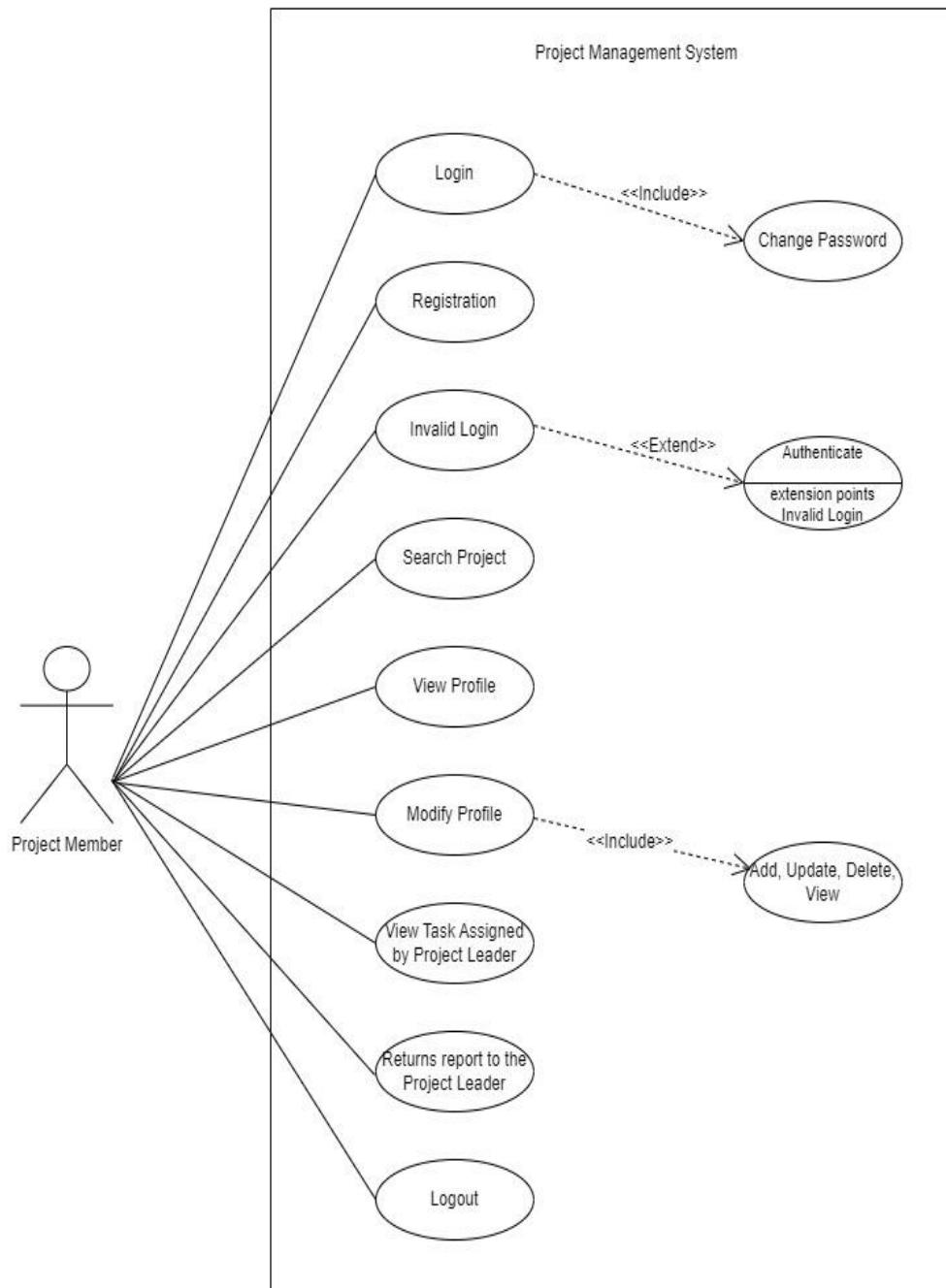
➤ **Use Case of Admin**



➤ **Use Case of Project Leader**



➤ **Use Case of Project Member**

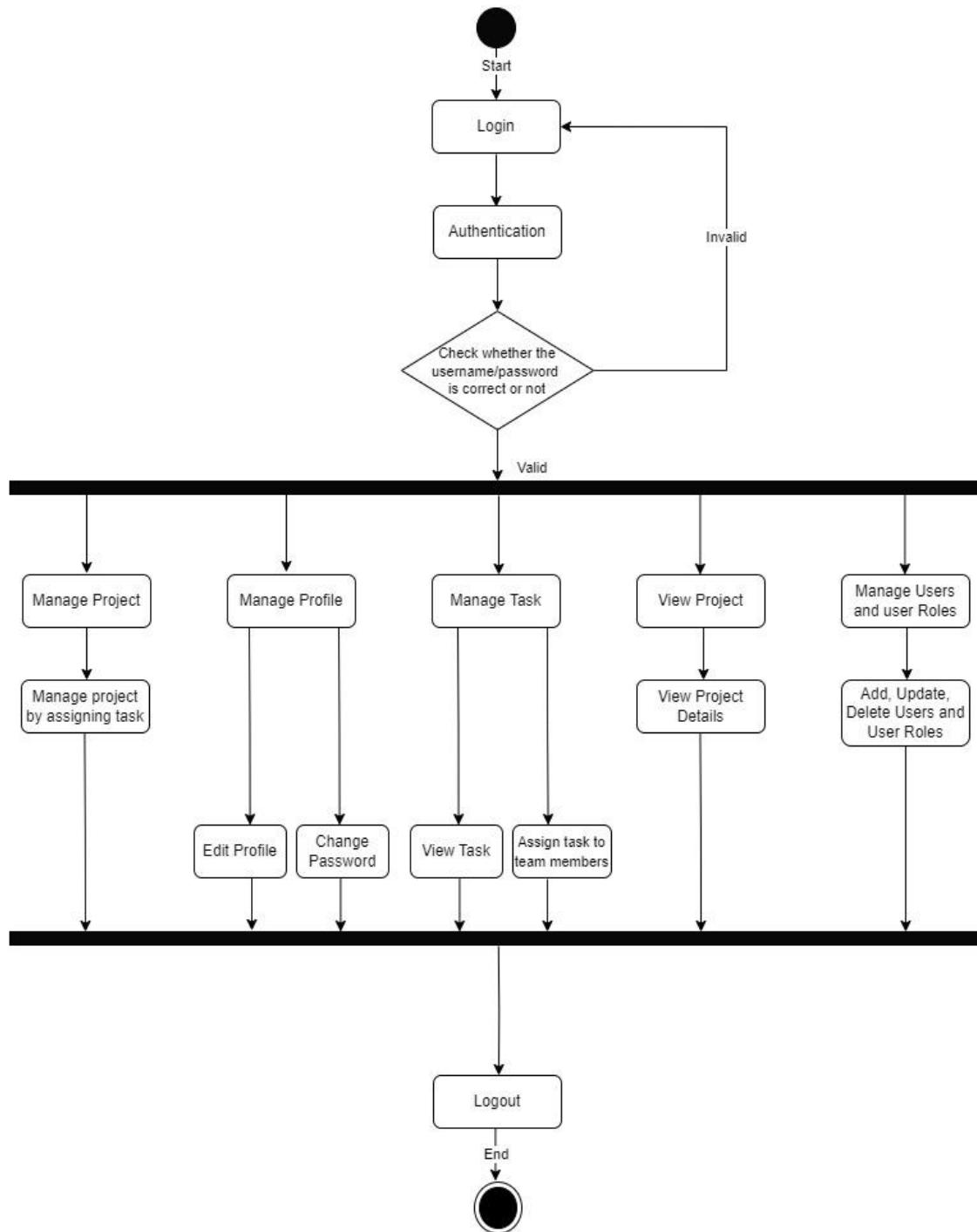


4.2 Activity Diagram

- Activity diagram represents the dynamic aspects of the system.
- Activity diagram is basically a flowchart to represent the flow from one activity to another activity.
- **Activity Diagram Notations:** Activity diagram notations can be generated using the following notations.

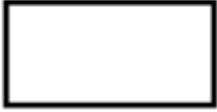
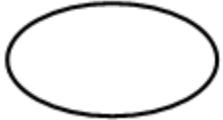
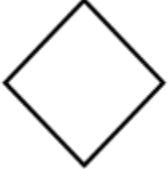
<u>Symbol</u>	<u>Name</u>	<u>Description</u>
	Initial State	The starting stage before an activity takes place is depicted as the initial state.
	Activity Box	It represents an activity that is connected to other activities.
	Decision Box	It is a diamond shape box which represents a decision with alternate paths. It represents the flow of control.
	Parallel Activity	It is long, flat rectangle that is used to represent the parallel activities.
	Final State	The state where a system reaches when a specific process ends is known as final state.

➤ Activity Diagram

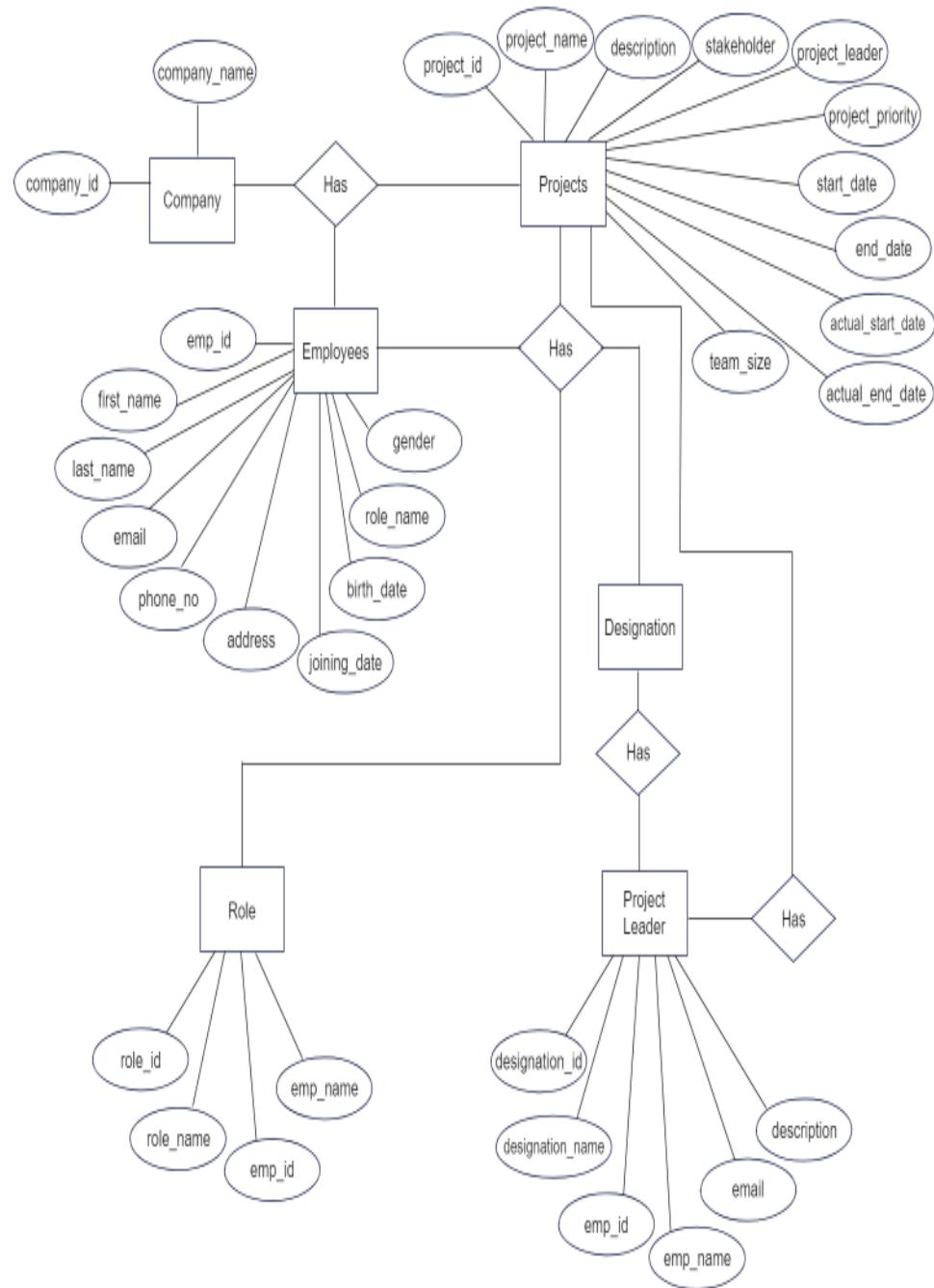


4.3 ER Diagram

- The Entity Relational Model is a model for identifying entities to be represented in the database and representation of how those entities are related.
- The ER data model specifies enterprise schema that represents the overall logical structure of a database graphically.
- The Entity Relationship Diagram explains the relationship among the entities present in the database.
- **ER Diagram Notations:** Activity diagram notations can be generated using the following notations.

<u>Symbol</u>	<u>Name</u>	<u>Description</u>
	Rectangle	It represents the entities in ER Model
	Ellipse	It represents the attributes in ER Model
	Diamond	It represents the relationships in ER Model
	Line	It represents the attributes to entities and entity sets with other relationship types

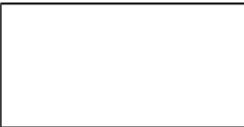
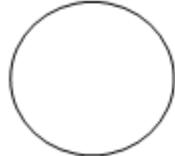
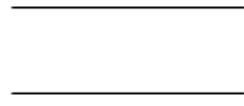
➤ **ER Diagram**



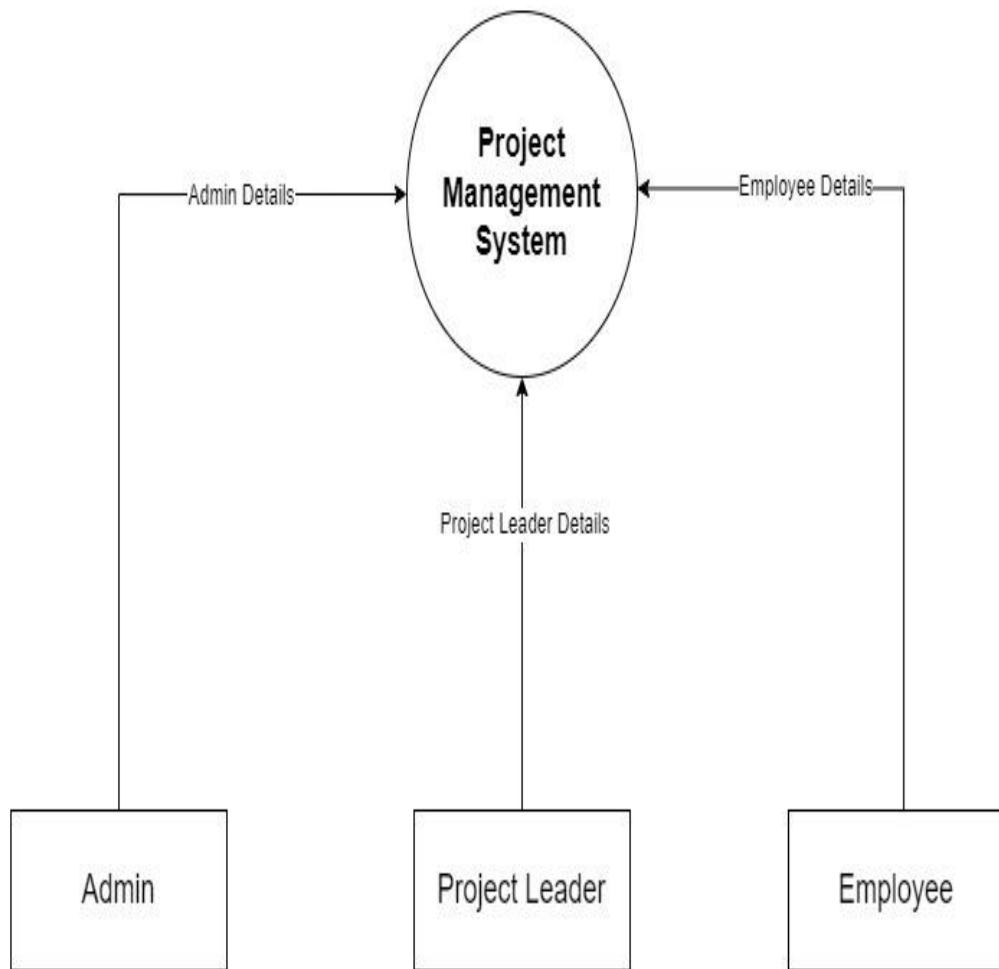
4.4 DFD

- A data flow diagram is a graphical tool used to describe and analyze movement of data through a system.
- These are the central tool and the basis from which the other components are developed.
- The transformation of data from input to output, through processed, may be described logically and independently of physical components associated with the system. These are known as the logical data flow diagrams.
- The physical data flow diagrams show the actual implements and movement of data between people, departments and workstations.
- A full description of a system actually consists of a set of data flow diagrams. Process is further identified with a number that will be used for identification purpose.
- The development of DFD'S is done in several levels. Each process in lower-level diagrams can be broken down into a more detailed DFD in the next level.
- The top-level diagram is often called context diagram. The process in the context level diagram is exploded into other process at the first level DFD.
- Larry Constantine first developed the DFD as a way of expressing system requirements in a graphical form, this lead to the modular design.
- A DFD is also known as a "Bubble Chart".

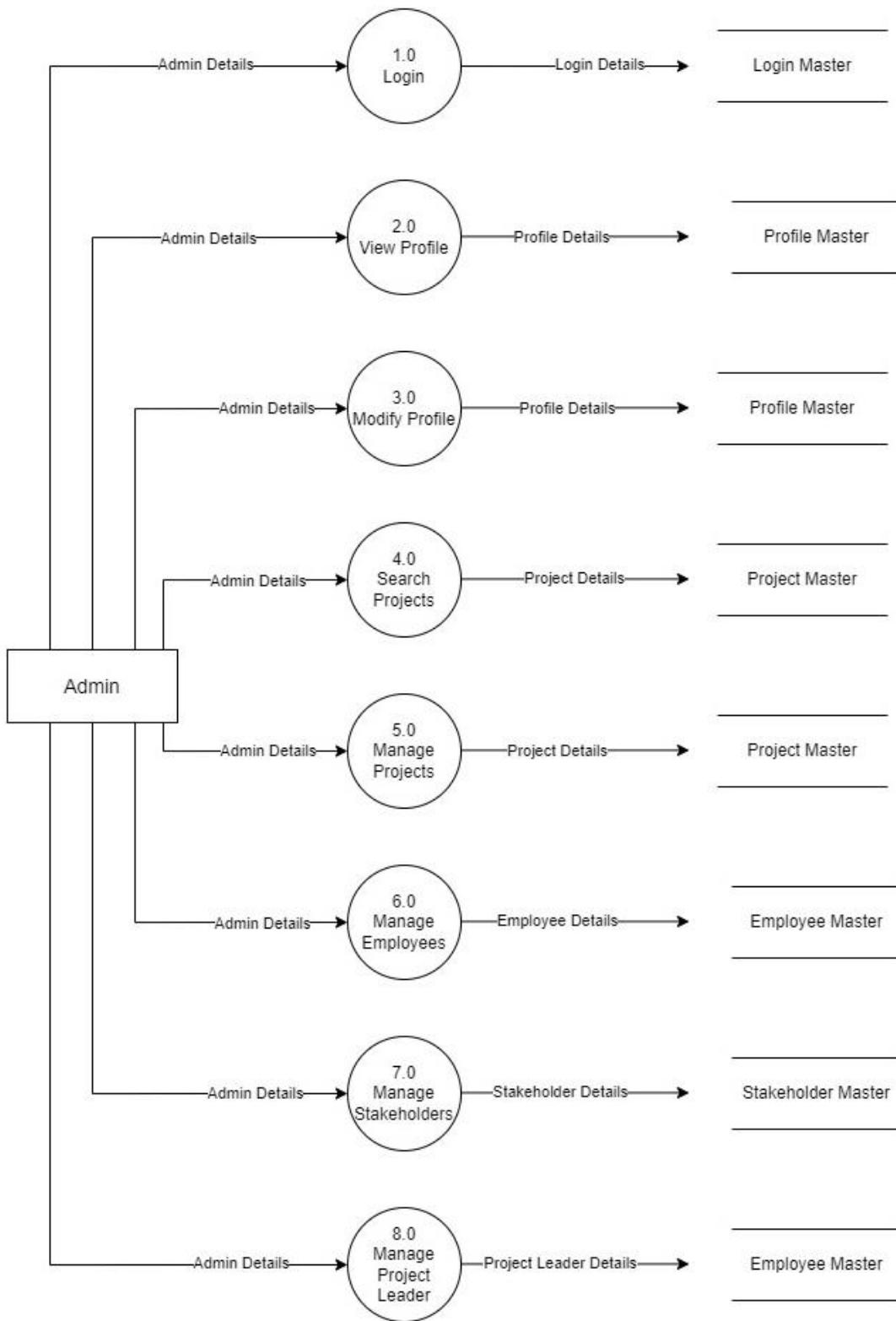
➤ **Symbols used in DFD**

<u>Symbol</u>	<u>Name</u>	<u>Description</u>
	External Entity	Entities include source and destination of the data. Entities are represented by rectangle with their corresponding names. For Example, Customer, Manager, etc....
	Process	The task performed on the data is known as process. Process is represented by circle. For Example, insertion of new item, updating the existing item, etc.
	Data Flow	The movement of data in the system is known as dataflow. It is represented with the help of arrow. The tail of the arrow is source and the head of the arrow is destination.
	Data Store	Data storage includes the database of the system. It is represented by rectangle with both smaller sides missing or in other words within two parallel lines.

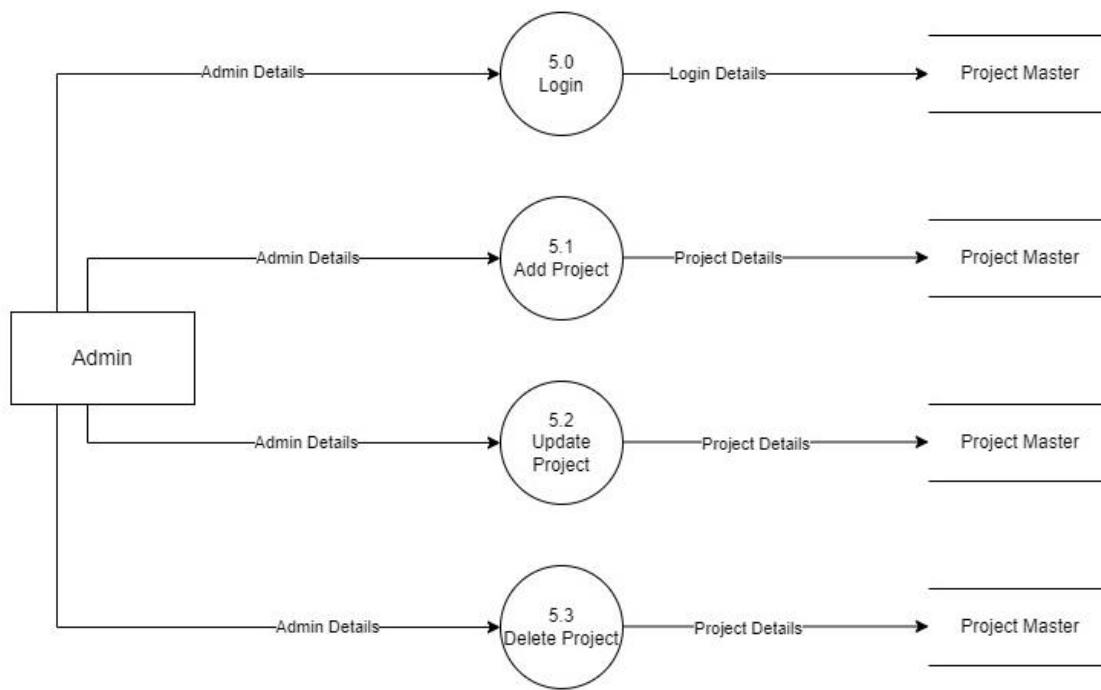
➤ **Context Level DFD**



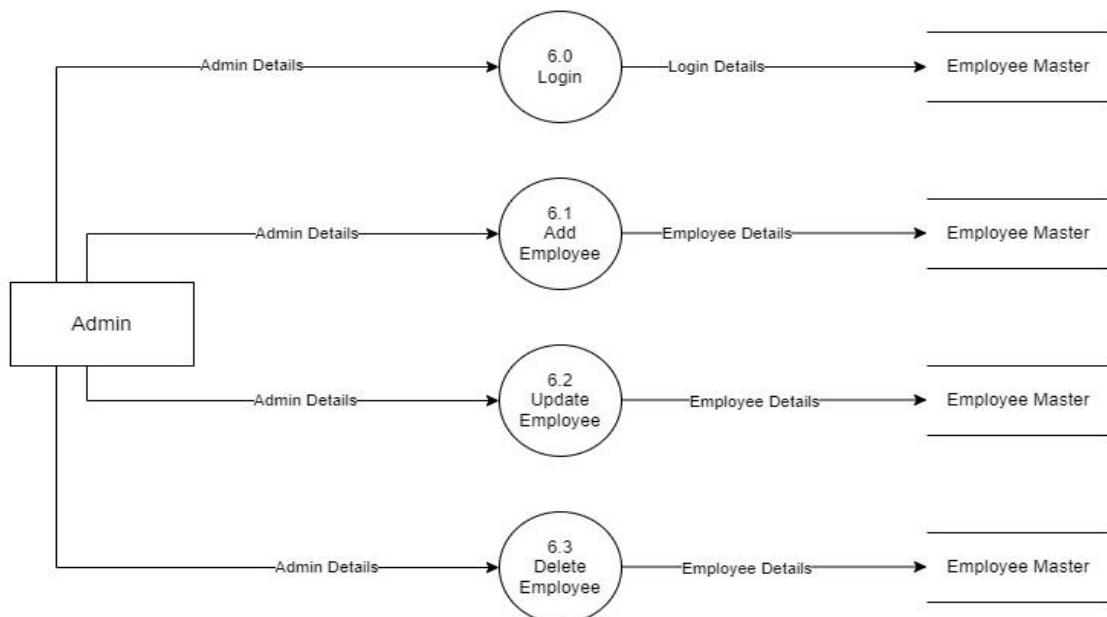
➤ **First Level DFD of Admin**



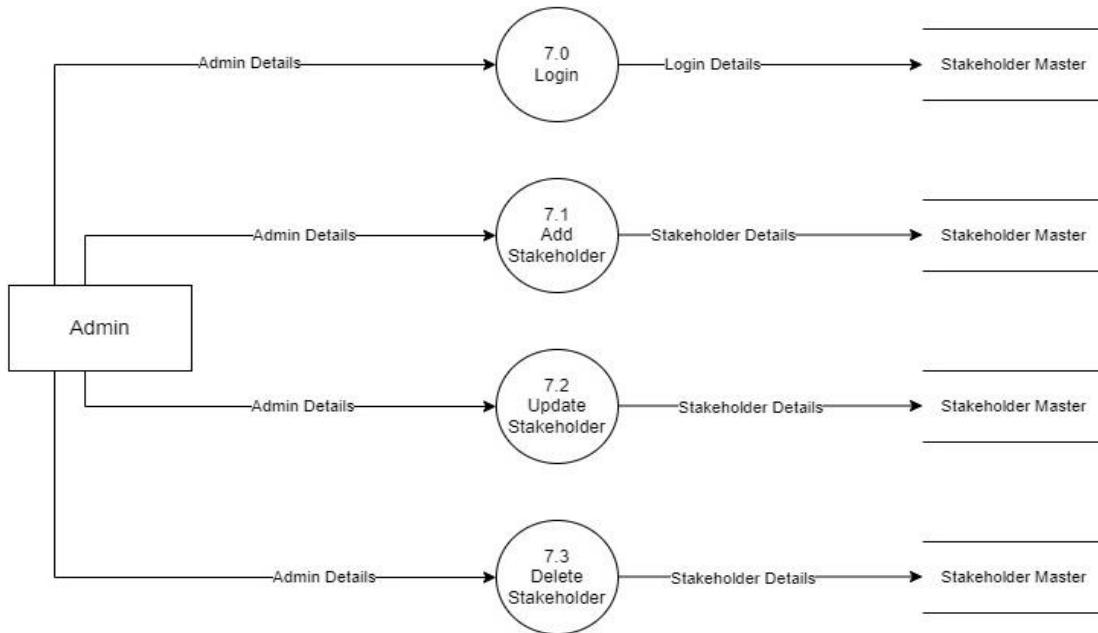
➤ **Second Level DFD of Admin (5.0)**



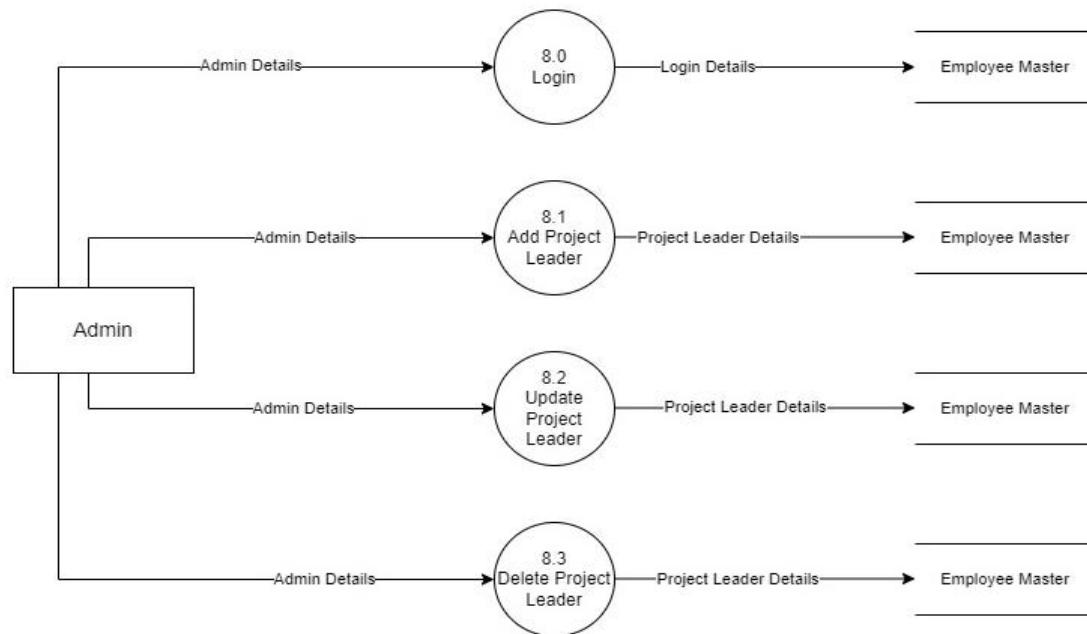
➤ **Third Level DFD of Admin (6.0)**



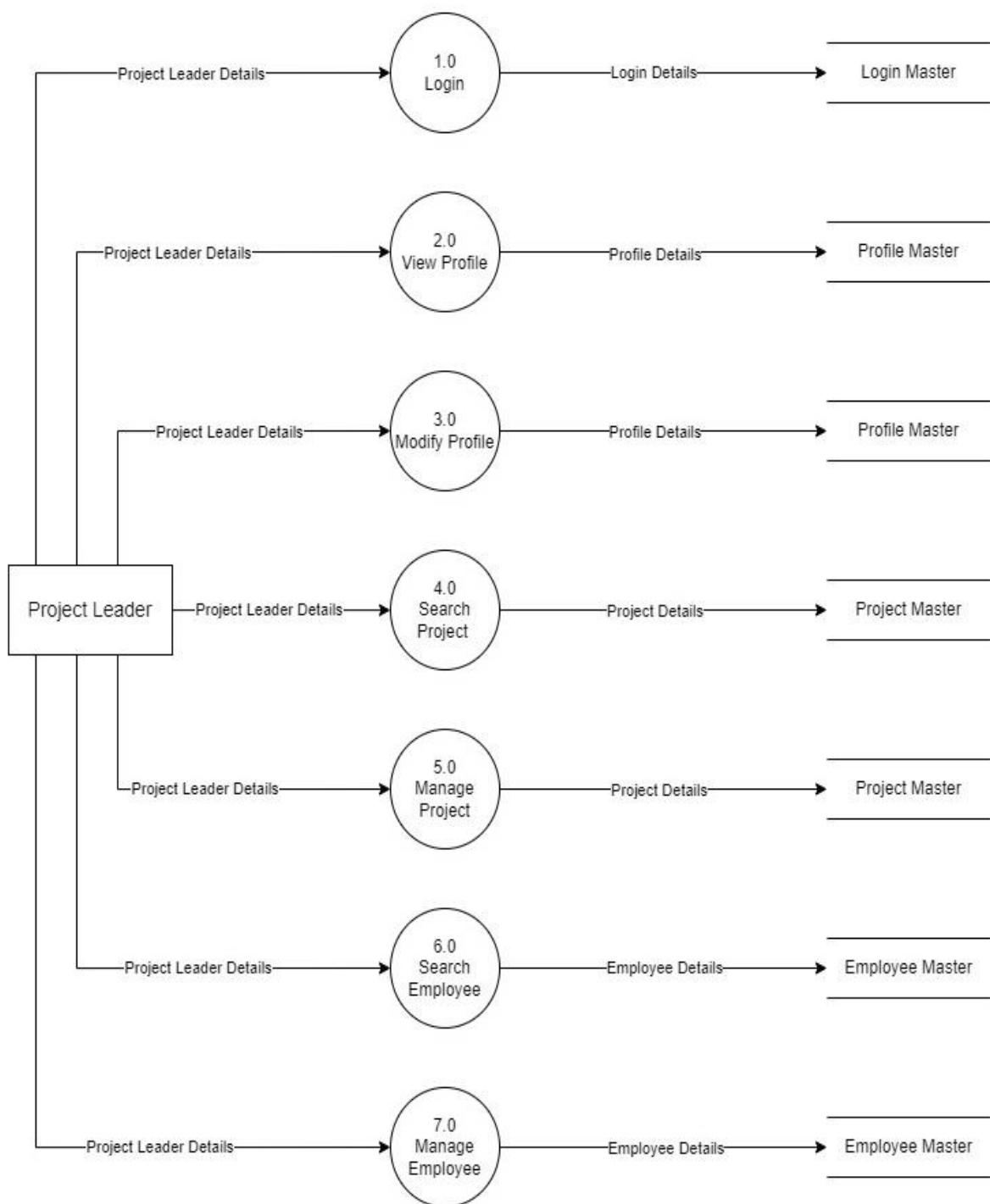
➤ **Fourth Level DFD of Admin (7.0)**



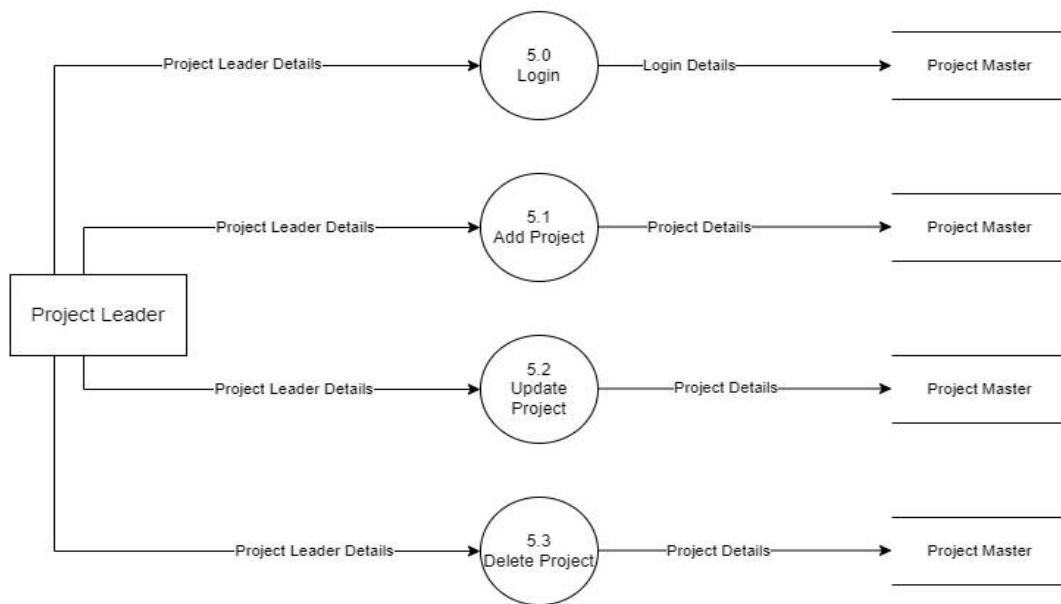
➤ **Fifth Level DFD of Admin (8.0)**



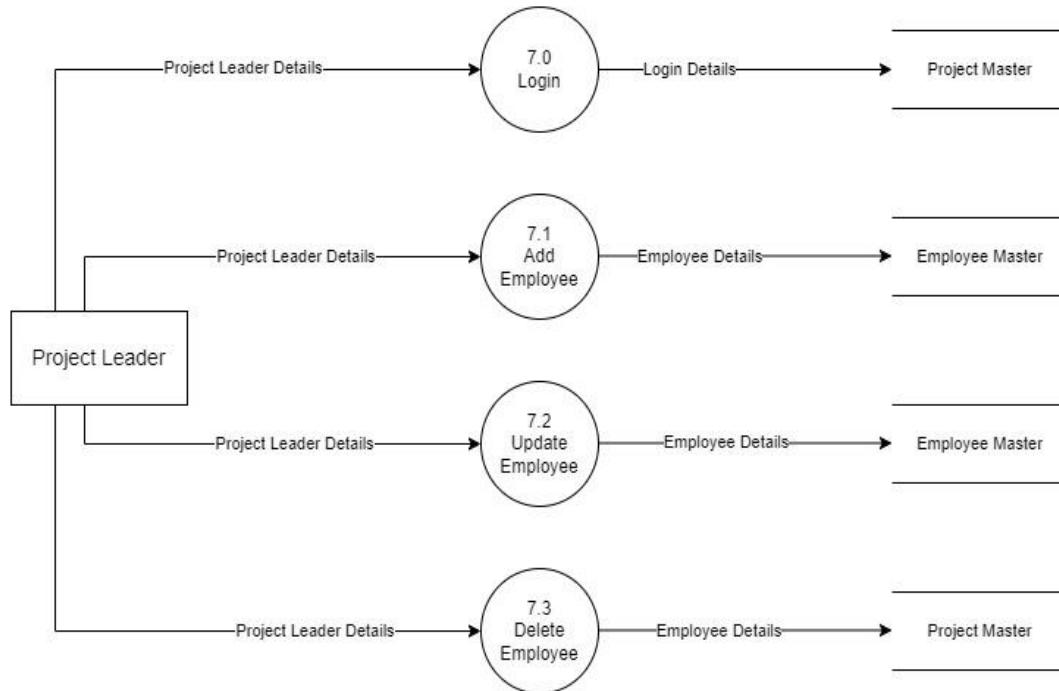
➤ **First Level DFD of Project Leader**



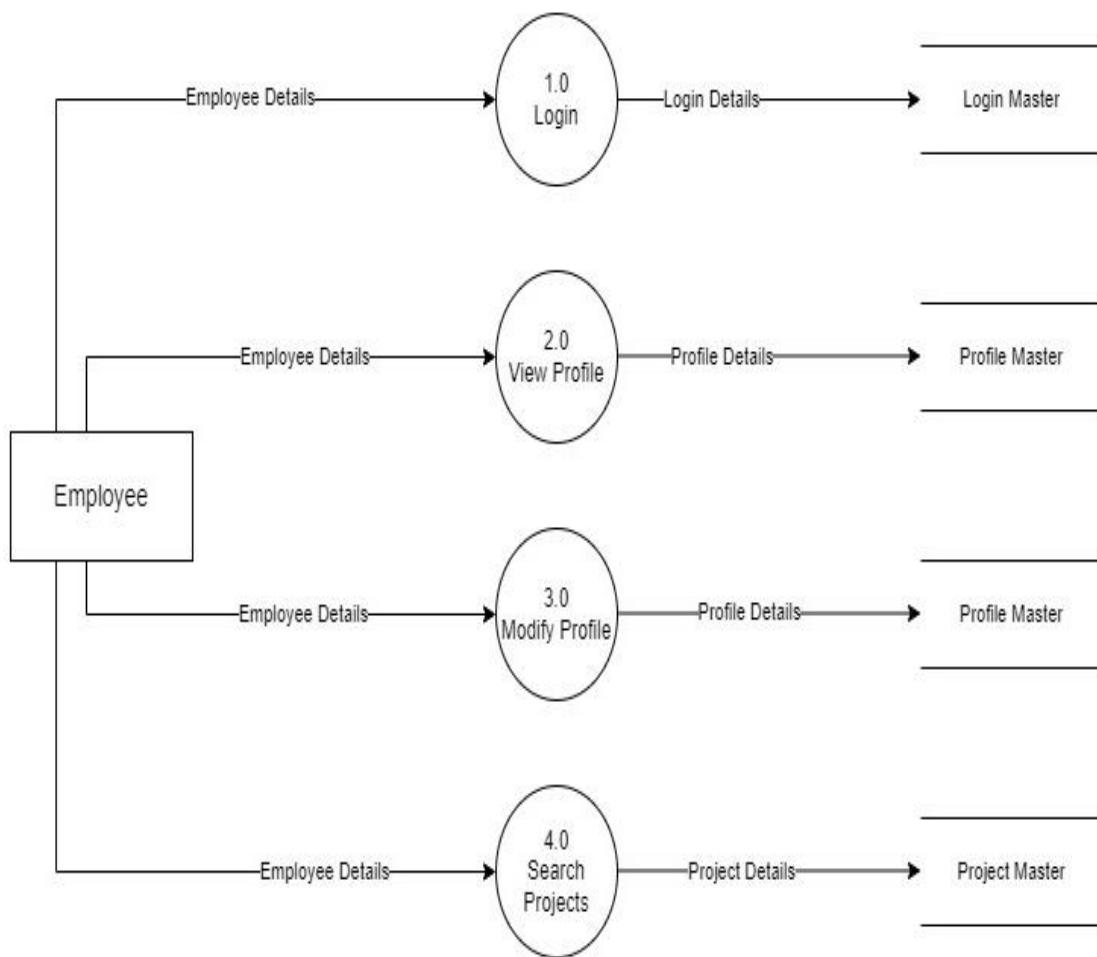
➤ **Second Level DFD of Project Leader (5.0)**



➤ **Second Level DFD of Project Leader (7.0)**



➤ **First Level DFD of Employee**



4.5 Data Dictionary

- A Data Dictionary is a document or repository that contains information about the data elements, attributes, and entities used in a particular information system or database.
- It provides a detailed description of the structure and content of the data used in an organization, including the data types, field lengths, relationships between data elements, and any other relevant information.

➤ Login Table

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
email	varchar2(30)	Not Null	Email of the person
password	varchar2(10)	Not Null	Password of the person
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ **Company Table**

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
company_id	varchar2(10)	Not Null	Company Id
company_name	varchar2(30)	Not Null	Name of the company
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ Stakeholder Table

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
stakeholder_id	varchar2(10)	Not Null	Stakeholder's Id
stakeholder_name	varchar2(30)	Not Null	Stakeholder's Name
company_id	varchar2(10)	Not Null	Company Id
company_name	varchar2(30)	Not Null	Name of the company
email	varchar2(30)	Not Null	Stakeholder's Email
phone_no	int(10)	Not Null	Stakeholder's Phone Number
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ Project Table

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
project_id	varchar2(10)	Not Null	Project Id
project_name	varchar2(30)	Not Null	Project Name
description	varchar(MAX)	Not Null	Description of the project
stakeholder	varchar2(20)	Not Null	Name of the customer/client
project_leader	varchar2(20)	Not Null	Name of the project leader
project_priority	varchar2(20)	Not Null	Priority of the project
start_date	date	Not Null	Starting date of the project
end_date	date	Not Null	Ending date of the project
actual_start_date	date	Not Null	Actual starting date of the project
actual_end_date	date	Not Null	Actual ending date of the project
team_size	varchar2(20)	Not Null	Team members of the project
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ **Designation Table**

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
designation_id	varchar2(10)	Not Null	Designation id of the user
designation_name	varchar2(50)	Not Null	Designation name of the user
emp_id	varchar2(10)	Not Null	Employee Id
email	varchar2(30)	Not Null	Employee's name
description	varchar2(MAX)	Not Null	Description of the designation
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ **Role Table**

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
role_id	varchar2(10)	Not Null	Employee role id
role_name	varchar2(20)	Not Null	Employee role name
emp_id	varchar2(10)	Not Null	Employee id
emp_name	varchar2(30)	Not Null	Employee name
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ Profile Table

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
first_name	varchar2(20)	Not Null	First name of the project leader, employee
last_name	varchar2(20)	Not Null	Last name of the project leader, employee
emp_id	varchar(10)	Not Null	Employee id of the project leader, employee
email	varchar2(30)	Not Null	Email of the project leader, employee
phone_no	int(10)	Not Null	Contact number of the project leader, employee
address	varchar2(300)	Not Null	Address of the project leader, employee
joining_date	date	Not Null	Joining date of the project leader, employee
birth_date	date	Not Null	Birthdate of the project leader, employee
role_name	varchar2(30)	Not Null	Designation of the project leader, employee
gender	varchar2(10)	Not Null	Gender of the project leader, employee
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ Employee Table

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
first_name	varchar2(20)	Foreign Key	First name of the employee
last_name	varchar2(20)	Foreign Key	Last name of the employee
emp_id	varchar2(10)	Foreign Key	Employee Id
email	varchar2(30)	Foreign Key	Employee's Email
role_name	varchar2(30)	Foreign Key	Description of the employee
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

➤ **Task Table**

<u>Column Name</u>	<u>Data Type</u>	<u>Constraint</u>	<u>Description</u>
id	int	Primary Key	Id
code	varchar2(10)	Not Null	Task code
task_type	varchar2(50)	Not Null	Type of the task
task_category	varchar2(30)	Not Null	Employee id
email	varchar2(30)	Foreign Key	Employee's Email
role_name	varchar2(30)	Foreign Key	Description of the employee
is_deleted	bit	Not Null	Soft delete
deleted_by	varchar2(20)	Not Null	By whom the data is deleted

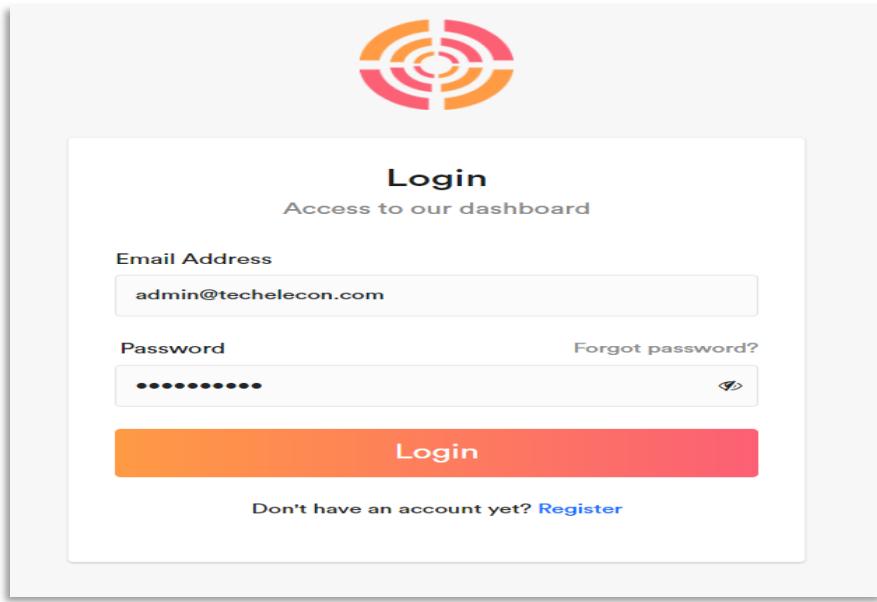
INTERFACE HIGHLIGHTS

CHAPTER 5: INTERFACE HIGHLIGHTS

5.1 Design of Input/Output Screen

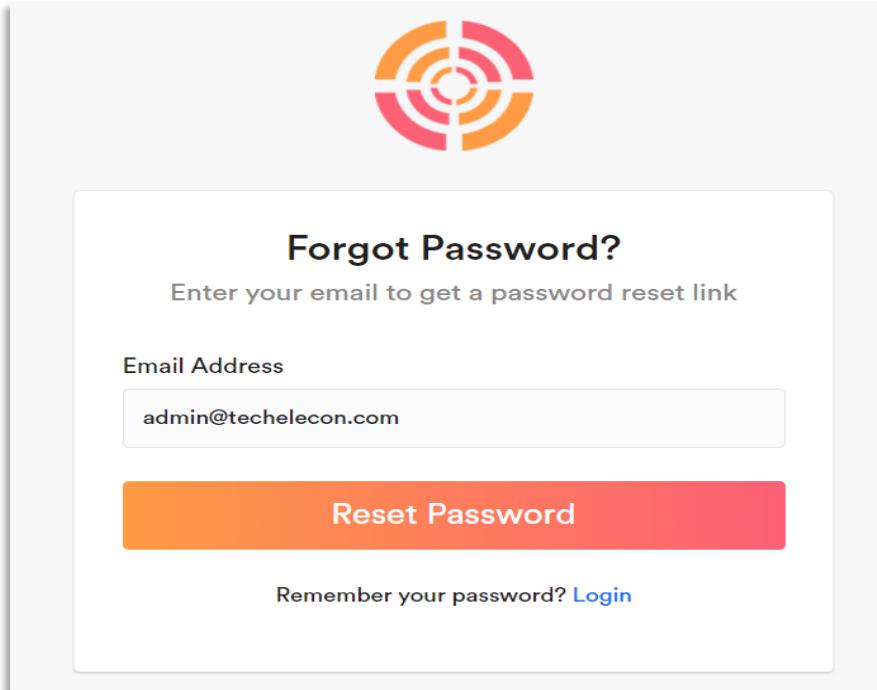
Admin Panel

➤ Login



The login screen features a central orange and pink circular logo at the top. Below it, the word "Login" is displayed in a bold, black font, followed by the subtext "Access to our dashboard". There are two input fields: "Email Address" containing "admin@techelecon.com" and "Password" containing a series of asterisks. To the right of the password field is a "Forgot password?" link and a small icon. A large orange "Login" button is centered below the inputs. At the bottom, a link "Don't have an account yet? Register" is visible.

➤ Forgot Password



The forgot password screen features a central orange and pink circular logo at the top. Below it, the words "Forgot Password?" are displayed in a bold, black font, followed by the subtext "Enter your email to get a password reset link". There is one input field labeled "Email Address" containing "admin@techelecon.com". A large orange "Reset Password" button is centered below the input field. At the bottom, a link "Remember your password? Login" is visible.

➤ Admin Dashboard

The screenshot displays the Admin Dashboard of the Project Management System. The top navigation bar includes a search bar, a notification bell icon with 3 notifications, and a user profile for 'Admin'.

Welcome Admin! (Dashboard / Admin)

Project Statistics:

- Projects: 45
- Tasks: 2500
- Project Leaders: 4
- Employees: 16

Statistics:

Category	Value
Ongoing Projects	15
Completed Projects	10
Hold Projects	20
Total Projects	45

Task Statistics:

Category	Value
Total Tasks	2500
Completed Tasks	750
Inprogress Tasks	500
On Hold Tasks	600
Pending Tasks	400
Review Tasks	250

Stakeholders:

Name	Email	Status	Action
Satyam Raval CEO	ssraval@techelecon.com	Active	⋮
Ajay Gupta Manager	ajgupta@techelecon.com	Inactive	⋮
Mohit Dutta Manager	mdupta2@techelecon.com	Inactive	⋮
Nilesh Nayak CEO	nnayak3@techelecon.com	Active	⋮
Divyansh Bhatnagar CEO	dbhatnagar@techelecon.com	Inactive	⋮

[View all Stakeholders](#)

Recent Projects:

Project Name	Stakeholders	Status	Progress
Office Management 1 open tasks, 9 tasks completed	Satyam Raval CEO	Active	Progress bar (~80%)
Visitor Management 5 open tasks, 2 tasks completed	Satyam Raval CEO	Active	Progress bar (~40%)
Video Calling App 3 open tasks, 3 tasks completed	Divyansh Bhatnagar CEO	Inactive	Progress bar (~0%)
Hospital Administration 3 open tasks, 12 tasks completed	Mohit Dutta Manager	Active	Progress bar (~80%)
Cafe Management 7 open tasks, 14 tasks completed	Nilesh Nayak CEO	Inactive	Progress bar (~50%)

➤ View All Stakeholders

The screenshot shows the 'Stakeholder' section of the Project Management System. The left sidebar includes 'Dashboard', 'Admin Dashboard', 'Project Leader Dashboard', 'Employee Dashboard', 'Project Leader', 'Employees', and 'Reports'. The main area has a search bar for 'Stakeholders ID' and 'Stakeholders Name', and a green 'SEARCH' button. A table lists stakeholders with columns: Name, Stakeholders ID, Contact Person, Email, Mobile, Status, and Action. The data includes:

Name	Stakeholders ID	Contact Person	Email	Mobile	Status	Action
Tech Elecon	TPLSR128	Satyam Raval	ssraval@techelecon.com	8594261820	Active	⋮
VMC Tech Elecon	VMCSR142	Ajay Gupta	ajgupta@techelecon.com	9432107850	Inactive	⋮
Radicon Pvt	ESGSR101	Ruby Bartlett	rubybartlett@radicon.com	70644218952	Active	⋮
Wellware Company	WWRST114	Misty Tison	mistytiison@wellware.com	7012501460	Active	⋮
Mustang Technologies	MUTST142	Daniel Deacon	danieldeacon@mustang.com	8521470236	Active	⋮
Tech Elecon	TPLST012	Mohit Dutta	mdutta2@techelecon.com	9542001320	Active	⋮
Mercury Software Inc	MRSSR254	Amanda Warren	amandawarren@microsoft.com	7418514720	Active	⋮
Pluga Franklin	PPLSR015	Rohan Dave	rohand@ppluga.com	9689785247	Inactive	⋮
TechnoHeaven Pvt. Ltd.	TPLSR158	Dhaval Patel	dpatel@theaven.com	9152698968	Inactive	⋮
Eleon Information Tech	EETSR140	Nilesh Nayak	bettycarlson@eetech.com	8521473025	Inactive	⋮

➤ Edit Stakeholder

The screenshot shows the 'Edit Stakeholder' dialog box over the stakeholder list. The dialog fields include: First Name * (Satyam), Last Name (Raval), Username * (ssraval), Email * (ssraval@techelecon.com), Password * (*****), Confirm Password * (*****), Stakeholder ID * (TPLSR128), Phone * (8594261820), and Company Name * (Tech Elecon). The 'Save' button is at the bottom. The background shows the same stakeholder list as the previous screenshot.

➤ Delete Stakeholder

The screenshot shows the Project Management System's Stakeholders page. On the left, there is a sidebar with navigation links: Dashboard, Admin Dashboard, Project Leader Dashboard, Employee Dashboard, Project Leader, Employees, and Reports. The main content area has a header "Project Management System" with a search bar, a notification bell icon, and an "Admin" dropdown. Below the header is a table titled "Stakeholders" with columns for Name, Email, Status, and Action. A modal dialog box titled "Delete Stakeholders" is centered over the table, asking "Are you sure want to delete?" with "Delete" and "Cancel" buttons. At the bottom of the table, there is a link "View all Stakeholders".

➤ Project Leader Dashboard

The screenshot shows the Project Leader Dashboard. The sidebar includes links for Dashboard, Admin Dashboard, Project Leader Dashboard, Employee Dashboard, Project Leader, Employees, and Reports. The main area features a welcome message "Welcome Admin!" and a breadcrumb trail "Dashboard / Project Leader". It contains several data visualization components: three cards showing "Projects" (7), "Tasks" (490), and "Employees" (4); a "Statistics" section with four progress bars for Ongoing Projects (2), Completed Projects (4), Hold Projects (1), and Total Projects (7); and a "Task Statistics" section with a total tasks count of 490 and a progress bar divided into five colored segments (purple, yellow, green, red, blue) representing different task statuses. Below the progress bar is a list of task categories with their counts: Completed Tasks (147), Inprogress Tasks (108), On Hold Tasks (118), Pending Tasks (103), and Review Tasks (14).

➤ Employee Dashboard

The screenshot displays the Project Management System Employee Dashboard. At the top, there is a navigation bar with a search bar, a notification bell icon with a '1' notification, and an 'Admin' user profile. The main dashboard area includes:

- A sidebar on the left with links: Dashboard (selected), Admin Dashboard, Project Leader Dashboard, Employee Dashboard, Project Leader, Employees, and Reports.
- A header section showing the user's name, Khush Patel, and the date, Monday, 20 March 2024.
- A "TODAY" section listing three tasks:
 - Design Database Schema for Office Management System
 - Implement Task Notification for Video Calling App
 - Build Task Dashboard for Office Management System
- A "Recent Projects" section showing four projects with their names, status, and progress bars:

Project Name	Status	Progress
Office Management	Active	High
Visitor Management	Active	Medium
Hospital Administration	Active	High
Human Resource Management	Inactive	Low
- A "Projects" summary section with the following data:

Category	Value
TOTAL TASKS	60
PENDING TASKS	25
TOTAL PROJECTS	4

Project Leader Panel

➤ Register



Register

Access to our dashboard

Email*

Password*

Repeat Password*

Register

Already have an account? [Login](#)

➤ Login



Login

Access to our dashboard

Email Address

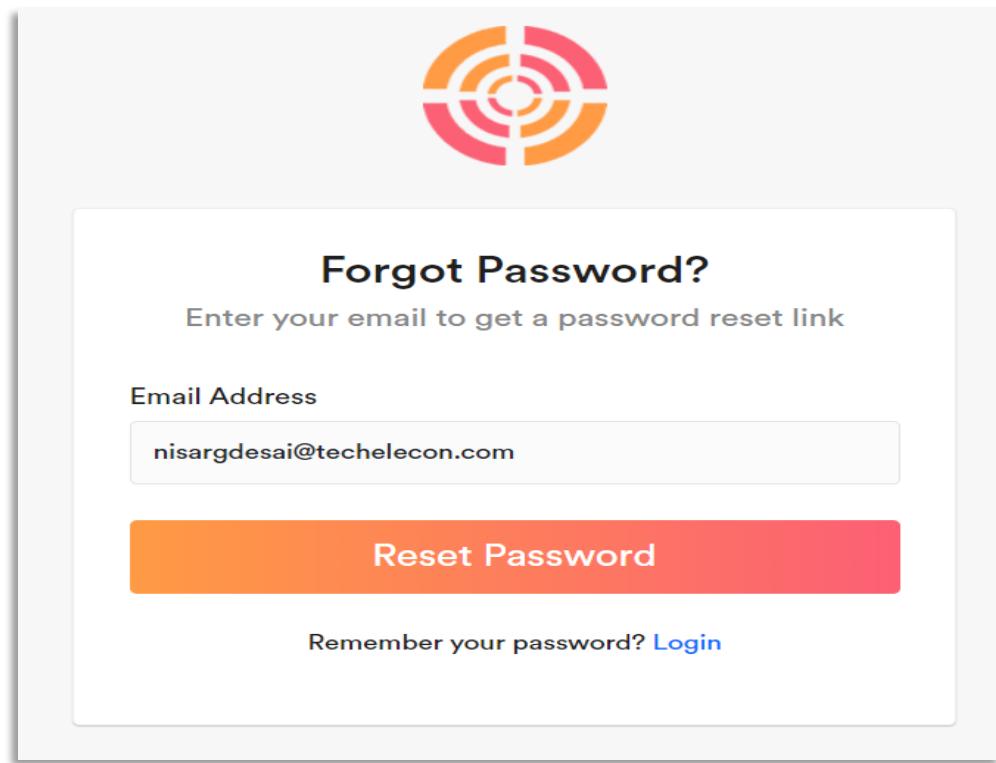
Password

 [Forgot password?](#)

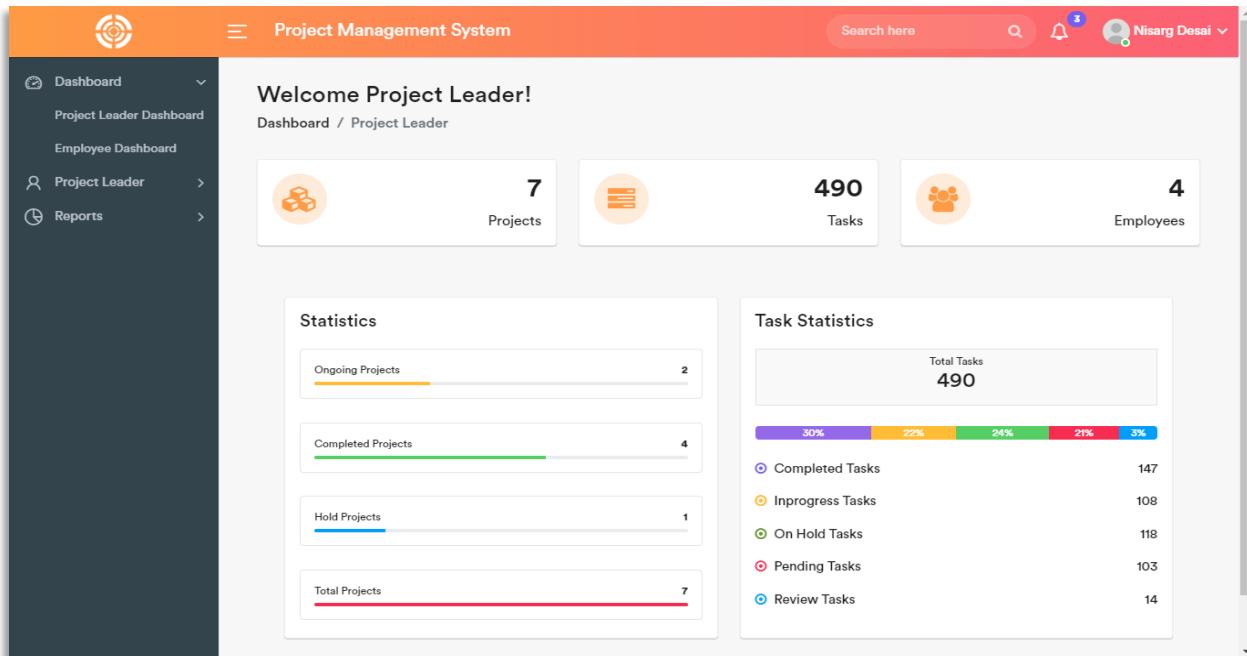
Login

Don't have an account yet? [Register](#)

➤ Forgot Password



➤ Project Leader Dashboard



➤ My Profile

The screenshot shows the 'Project Management System' interface. The top navigation bar is orange with the title 'Project Management System'. On the right side of the top bar, there is a search bar, a notification bell icon with a '3' notification, and a user profile dropdown for 'Nisarg Desai'.

The left sidebar has a dark background with white icons and text. It includes links for 'Dashboard', 'Project Leader Dashboard', 'Employee Dashboard', 'Project Leader' (selected), and 'Reports'.

The main content area is titled 'Profile' and shows the details for 'Nisarg Desai', who is a 'Senior Engineer'. His employee ID is TPLSR112 and he joined on 1 May 2017. To the right of his profile picture, there is a table with his contact information: Phone: 7754102530, Email: nbdesai@techelecon.com, Birthday: 27th Aug, Address: "Karamvir", B/h Real Bakery, Mota Bazar, Vallabh Vidyanagar, and Gender: Male. There is also a small edit icon next to the address field.

➤ Change Password

The screenshot shows the 'Welcome Project Leader!' dashboard. The top navigation bar is orange with the title 'Project Management System'. On the right side of the top bar, there is a search bar, a notification bell icon with a '3' notification, and a user profile dropdown for 'Nisarg Desai'.

The left sidebar has a dark background with white icons and text. It includes links for 'Dashboard', 'Project Leader Dashboard', 'Employee Dashboard', 'Project Leader' (selected), and 'Reports'.

The main content area features four cards: 'Projects' (7), 'Tasks' (490), 'Employees' (4), and 'Statistics'. The 'Statistics' card displays the count of ongoing, completed, hold, and total projects. The 'Task Statistics' card shows a progress bar for total tasks (490) and a breakdown of completed, in-progress, on-hold, pending, and review tasks.

The screenshot shows the 'Change Password' form. The top navigation bar is orange with the title 'Project Management System'. On the right side of the top bar, there is a search bar, a notification bell icon with a '3' notification, and a user profile dropdown for 'Nisarg Desai'.

The left sidebar has a dark background with white icons and text. It includes links for 'Dashboard', 'Project Leader Dashboard', 'Employee Dashboard', 'Project Leader' (selected), and 'Reports'.

The main content area is titled 'Change Password' and contains three input fields: 'Old password' (with placeholder '*****'), 'New password' (with placeholder '*****'), and 'Confirm password' (with placeholder '*****'). Below these fields is an orange 'Update Password' button.

➤ Employee Dashboard

The screenshot displays the Project Management System Employee Dashboard. At the top, there's a header bar with the title "Project Management System" and a search bar. On the right side of the header, there are icons for search, notifications (with a blue badge), and user profile ("Nisarg Desai").

The left sidebar contains navigation links: "Dashboard" (selected), "Project Leader Dashboard", "Employee Dashboard", "Project Leader" (disabled), and "Reports".

The main content area starts with a user profile section for "Khush Patel" (Monday, 20 March 2024). Below this is a "TODAY" section listing three tasks:

- X Design Database Schema for Office Management System
- Bell icon Implement Task Notification for Video Calling App
- List icon Build Task Dashboard for Office Management System

Below these tasks is a "Recent Projects" section with a table:

Project Name	Status	Progress
Office Management	Active	<div style="width: 80%;">[progress bar]</div>
Visitor Management	Active	<div style="width: 20%;">[progress bar]</div>
Hospital Administration	Active	<div style="width: 90%;">[progress bar]</div>
Human Resource Management	Inactive	<div style="width: 50%;">[progress bar]</div>

To the right of the recent projects is a summary box titled "Projects" containing the following statistics:

- 60 TOTAL TASKS
- 25 PENDING TASKS
- 4 TOTAL PROJECTS

➤ Projects

The screenshot shows the 'Projects' section of the Project Management System. On the left, a sidebar menu includes 'Dashboard', 'Project Leader', 'Profile', 'Projects', 'Employees', 'Task Board', and 'Reports'. The main area displays a grid of project cards:

- Office Management**: Deadline 17 May 2024, Project Leader (placeholder), Team (3 members), Progress 66%.
- Visitor Management**: Deadline 26 Jun 2025, Project Leader (placeholder), Team (3 members), Progress 30%.
- Video Calling App**: Deadline 07 May 2024, Project Leader (placeholder), Team (3 members), Progress 49%.
- Hospital Administration**: Deadline 27 Sept 2025, Project Leader (placeholder), Team (3 members), Progress 56%.
- Cafe Management**: Deadline 09 Aug 2024, Project Leader (placeholder), Team (3 members), Progress 81%.
- BookShop Management**: Deadline 05 Dec 2025, Project Leader (placeholder), Team (3 members), Progress 35%.
- Human Resource Management**: Deadline 18 Oct 2024, Project Leader (placeholder), Team (3 members), Progress 68%.

A search bar at the top right includes fields for 'Project Name' and 'Employee Name', and a green 'SEARCH' button. A red '+' Create Project button is also present.

➤ Edit Project

The screenshot shows the 'Edit Project' modal overlaid on the main 'Projects' list. The modal has the following fields:

- Project Name**: Office Management
- Project Leader Name**: Nisarg Desai
- Start Date**: 25 Dec 2023
- End Date**: 17 May 2024
- Stakeholder**: Tech Elecon
- Priority**: High
- Rate**: 1.5 Crore
- Team Leader**: (placeholder)
- Team Members**: (placeholder)
- Description**: Enter your message here

A large orange 'Save' button is at the bottom of the modal. The background shows the same project cards as the previous screenshot, with the 'Hospital Administration' card partially visible.

➤ Delete Project

The screenshot shows a Project Management System interface. On the left is a dark sidebar with navigation options: Dashboard, Project Leader (selected), Profile, Projects, Employees, Task Board, and Reports. The main area is titled 'Projects' and shows a grid of project cards. One card for 'Office Management' is selected, and a modal dialog box is overlaid on it. The dialog box has a title 'Delete Project' and the question 'Are you sure want to delete?'. It contains two buttons: 'Delete' (highlighted with an orange border) and 'Cancel'.

➤ In detail Project

The screenshot shows the 'Office Management' project details page. The top navigation bar includes a logo, the title 'Project Management System', a search bar, and a user profile 'Nisarg Desai'. The left sidebar is identical to the previous screenshot. The main content area has a title 'Office Management' and a subtitle 'Dashboard / Project'. The left panel contains sections for 'Aim' and 'Objectives', both listing several bullet points. The right panel is titled 'Project details' and lists various project metrics: Cost (1.5 Crore), Total Hours (250 Hours), Created (25 Dec 2023), Deadline (17 May 2024), Priority (High), Created by (Khush Patel, Janvi Pandya, Ankur Patel, Zalak Mistry), Status (Working), and Progress (66%). A button '+ Edit Project' is located at the top right of the main content area.

➤ Create Project

The screenshot shows the 'Project Management System' interface. On the left, a dark sidebar menu includes 'Dashboard', 'Project Leader', 'Profile', 'Projects', 'Employees', 'Task Board', and 'Reports'. The main content area has a header 'Projects' and a search bar. In the center, a modal window titled 'Create Project' is open, containing fields for 'Project Name', 'Description', 'Stakeholder', 'Project Priority' (radio buttons for High, Medium, Low), 'Start Date' and 'End Date' (date pickers), 'Actual Start Date' and 'Actual End Date' (date pickers), 'Team Leader' (with a small profile picture), and 'Team Members' (with three small profile pictures). A 'Submit' button is at the bottom right of the modal. In the background, there are three project cards: 'Office Management' (Deadline: 17 May 2024, Progress: 49%), 'Cafe Management' (Deadline: 09 Aug 2024, Progress: 8%), and 'Hospital Administration' (Deadline: 27 Sept 2025, Progress: 56%). The top right corner shows a user profile for 'Nisarg Desai'.

➤ Employees

The screenshot shows the 'Project Management System' interface. The left sidebar menu is identical to the previous screenshot. The main content area has a header 'Employees' and a search bar. A button '+ Add Employee' is in the top right. Below it is a table listing employees:

Name	Employee ID	Email	Mobile	Join Date	Role	Action
Khush Patel	TPLSR012	kkpatel@techelecon.com	9898526892	1 Jan 2023	Frontend Developer	
Janvi Pandya	TPLSR006	janvipandya@techelecon.com	9689547896	18 Mar 2019	UI/UX Developer	
Zalak Mistry	TPLSR020	zalakm@techelecon.com	6351458965	19 Apr 2021	Software Engineer	
Ankur Patel	TPLSR011	apatel@techelecon.com	9228887898	15 Jun 2023	Software Tester	

➤ Edit Employee

Project Management System

Edit Employee

First Name * Khush Patel

Employee ID * TPLSR012 kkpatel@techelecon.com

Mobile 9898526892 Address Aashirwad, B/h C.P.College, Bhalej Road, Anand

Join Date * 1 Jan 2023 Birth Date * 27th Sept

Role * Select Role

Gender Male

Submit

SEARCH

Name	Employee ID	Email	Mobile	Join Date	Role	Action
Frontend Developer	UI/UX Developer	Software Engineer	Software Tester

➤ Delete Employee

Project Management System

Employees

Dashboard / Employee

SEARCH

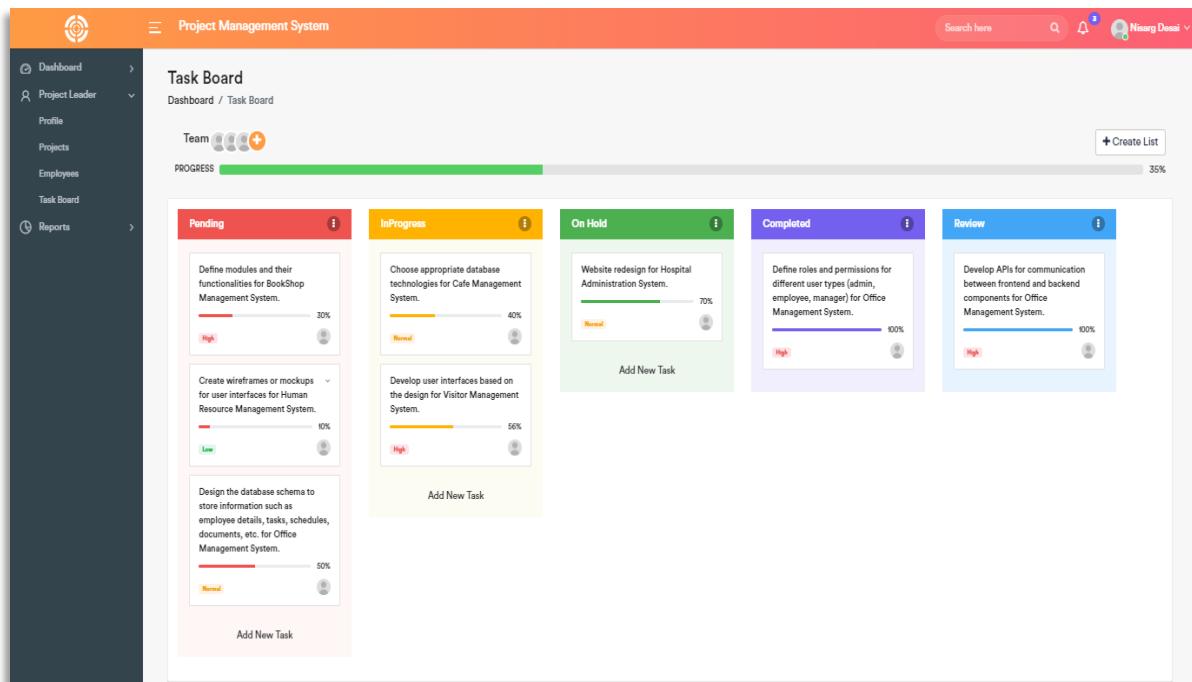
Name	Employee ID	Email	Mobile	Join Date	Role	Action
Khush Patel	TPLSR0121	apatel@techelecon.com	9228887898	1 Jan 2023	Frontend Developer	...
Janvi Pandya				18 Mar 2019	UI/UX Developer	...
Zalak Mistry				19 Apr 2021	Software Engineer	...
Ankur Patel				15 Jun 2023	Software Tester	...

Delete Project
Are you sure want to delete?
Delete Cancel

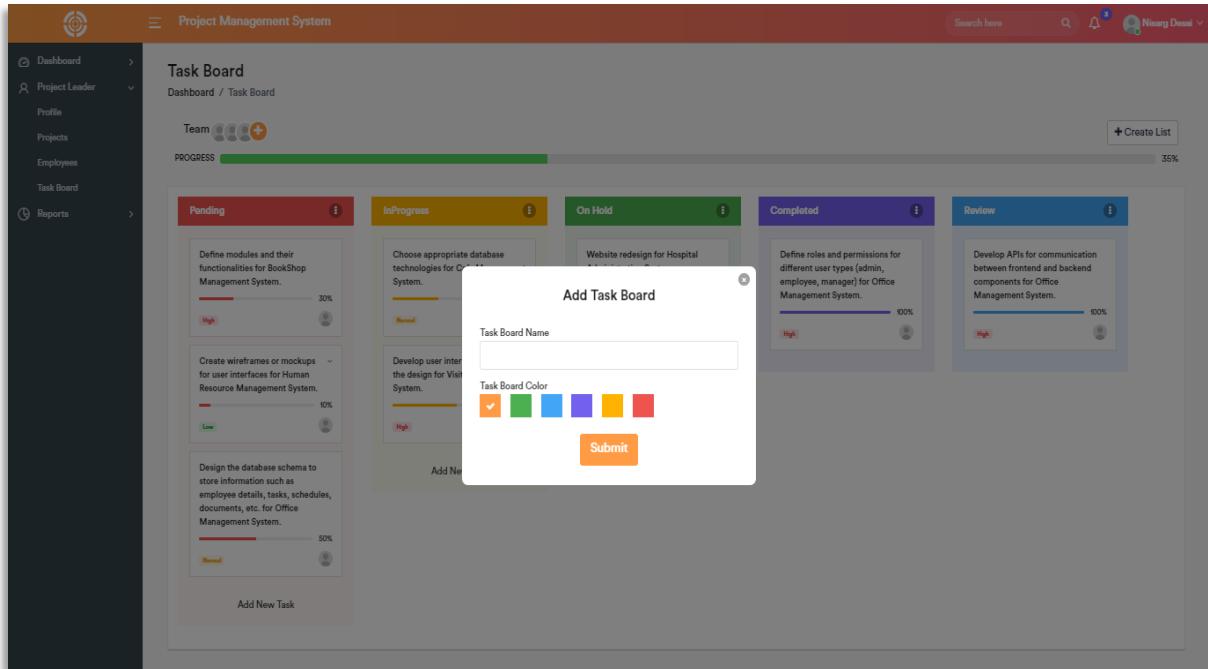
➤ Add Employee

The screenshot shows a modal window titled "Add Client" over a dark-themed dashboard. The modal contains fields for First Name, Last Name, Employee ID, Email, Mobile, Address, Join Date, Birth Date, Role (dropdown), Gender (radio buttons for Male/Female), and a "Submit" button. To the right of the modal, there is a sidebar with a list of roles: Frontend Developer, UI/UX Developer, Software Engineer, and Software Tester, each with a dropdown arrow and three vertical dots.

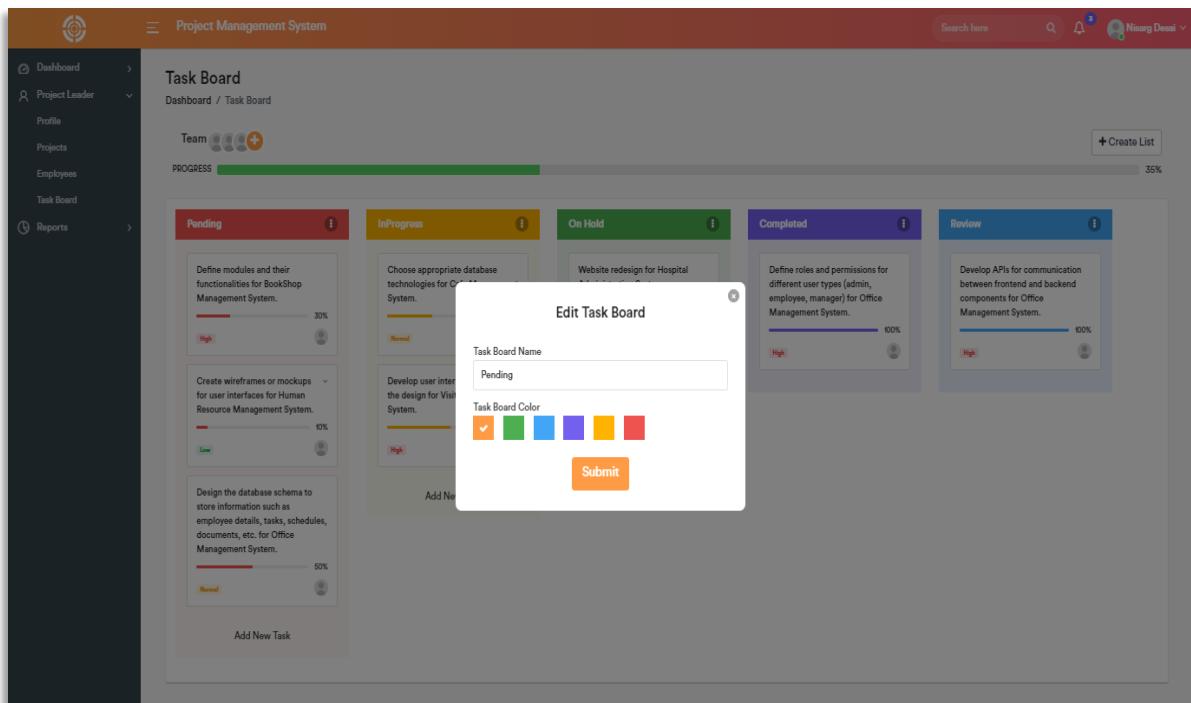
➤ Task Board



➤ Create List



➤ Edit List



➤ Add Task

The screenshot shows the 'Task Board' section of the Project Management System. On the left, a sidebar menu includes 'Dashboard', 'Project Leader', 'Profile', 'Projects', 'Employees', 'Task Board', and 'Reports'. The main area displays a 'PROGRESS' bar at the top. Below it, five cards represent different stages: 'Pending' (red), 'InProgress' (yellow), 'On Hold' (green), 'Completed' (purple), and 'Review' (blue). Each card contains a list of tasks with progress bars. A central modal window titled 'Add Task' is open, containing fields for 'Task Name' (with placeholder 'New Task'), 'Task Priority' (with placeholder 'Select'), and a 'Submit' button.

➤ Reports → Project Report

The screenshot shows the 'Project Reports' section of the Project Management System. The sidebar menu includes 'Dashboard', 'Project Leader', 'Reports' (selected), 'Project Report', 'Task Report', 'User Report', and 'Employee Report'. The main area features a search bar with 'Project Name' and 'Status' fields, and a large green 'SEARCH' button. Below is a table with columns: Sr No, Project Title, Stakeholder Name, Start Date, End Date, Status, and Team. The table lists seven projects:

Sr No	Project Title	Stakeholder Name	Start Date	End Date	Status	Team
1	Office Management	Satyam Raval CEO	9 Jan 2023	17 May 2024	Active	4 people
2	Visitor Management	Satyam Raval CEO	10 Dec 2023	26 Jun 2025	Active	2 people
3	Hospital Administration	Mohit Dutta Manager	25 Jan 2022	27 Sept 2025	Active	3 people
4	Human Resource Management	Rohan Dave	24 Jan 2022	18 Oct 2024	Active	2 people
5	Cafe Management	Nillesh Nayak CEO	10 Jan 2023	09 Aug 2024	Inactive	3 people
6	BookShop Management	Ajay Gupta Manager	19 Jan 2024	05 Dec 2025	Active	1 person
7	Video Calling App	Divyansh Bhatnagar CEO	12 Jan 2023	07 May 2024	Inactive	3 people

➤ Reports → Task Report

The screenshot shows the 'Task Reports' page of the Project Management System. The left sidebar has a 'Reports' section expanded, showing 'Project Report', 'Task Report', 'User Report', and 'Employee Report'. The main content area has a title 'Task Reports' and a breadcrumb 'Dashboard / Task Reports'. There are two search input fields: 'Project Name' and 'Status', followed by a green 'SEARCH' button. A table lists tasks with columns: Sr No, Task Name, Start Date, End Date, Status, and Assigned To. The tasks are:

Sr No	Task Name	Start Date	End Date	Status	Assigned To
1	Create wireframes or mockups for user interfaces for Human Resource Management System.	26 Mar 2024	01 May 2024	Pending	[User Icon]
2	Define roles and permissions for different user types (admin, employee, manager) for Office Management System.	16 Feb 2023	25 March 2023	Completed	[User Icon]
3	Design the database schema to store information such as employee details, tasks, schedules, documents, etc. for Office Management System.	09 Feb 2024	29 Apr 2024	Pending	[User Icon]
4	Develop user interfaces based on the design for Visitor Management System.	09 Mar 2024	29 Apr 2024	Pending	[User Icon]
5	Develop APIs for communication between frontend and backend components for Office Management System.	01 Feb 2024	29 Apr 2024	Pending	[User Icon]
6	Website redesign for Hospital Administration System.	01 Mar 2024	29 Apr 2024	Pending	[User Icon]
7	Define modules and their functionalities for BookShop Management System.	26 Mar 2024	01 May 2025	Pending	[User Icon]
8	Choose appropriate database technologies for Cafe Management System.	01 Mar 2024	05 May 2024	Pending	[User Icon]

➤ Reports → User (Stakeholder) Report

The screenshot shows the 'User Report' page of the Project Management System. The left sidebar has a 'Reports' section expanded, showing 'Project Report', 'Task Report', 'User Report', and 'Employee Report'. The main content area has a title 'User Report' and a breadcrumb 'Dashboard / User Reports'. There are two search input fields: 'User Role' and a green 'SEARCH' button. A table lists users with columns: Sr No, Name, Company, Email, Role, and Status. The users are:

Sr No	Name	Company	Email	Role	Status
1	Satyam Raval	Tech Elecon	ssravalt@techelecon.com	Stakeholder	Active
2	Ajay Gupta	VMC Tech Elecon	ajgupta@techelecon.com	Stakeholder	Active
3	Rohan Dave	Pluga Franklin	rohand@ppluga.com	Stakeholder	Active
4	Dhaval Patel	TechnoHeaven Pvt. Ltd.	dpatel@theaven.com	Stakeholder	Active

➤ Reports → Employee Report

Employee Report

Dashboard / Employee Report

Employee Name	Email	Designation	Joining Date	DOB	Martial Status	Gender	Terminated Date
Khush Patel	kkpatel@techelecon.com	Frontend Developer	01 Jan 2023	27 Sept 2001	Unmarried	Male	-
Janvi Pandya	janvipandya@techelecon.com	UI/UX Developer	18 Mar 2019	11 Mar 2002	Unmarried	Female	-
Zalak Mistry	zalakm@techelecon.com	Software Engineer	19 Apr 2021	16 Jun 1999	Unmarried	Female	-
Ankur Patel	mikelitorus@example.com	Software Tester	15 Jun 2023	27 Jul 1998	Married	Male	-

Employee Report

Dashboard / Employee Report

Terminated Date	Relieving Date	Salary	Address	Contact Number	Emergency Contact Details	Status
-	-	50,000 rs	"Aashirwad", B/h C.P. College, Bhalej Road, Anand	9898526892	9998522562	Active
-	-	50,000 rs	"HariKrupa", Hariom Nagar, Anand	9689547896	7894561235	Active
-	-	51,000 rs	"Mahal", Sindhu Bhavan society, Anand	6351458965	7852639686	Active
-	-	60,000 rs	"Ankur Nivas", Shalimar Nagar, Anand	9228887898	9995785986	Active

Employee Panel

➤ Register



Register

Access to our dashboard

Email*

Password*

Repeat Password*

Register

Already have an account? [Login](#)

➤ Login



Login

Access to our dashboard

Email Address

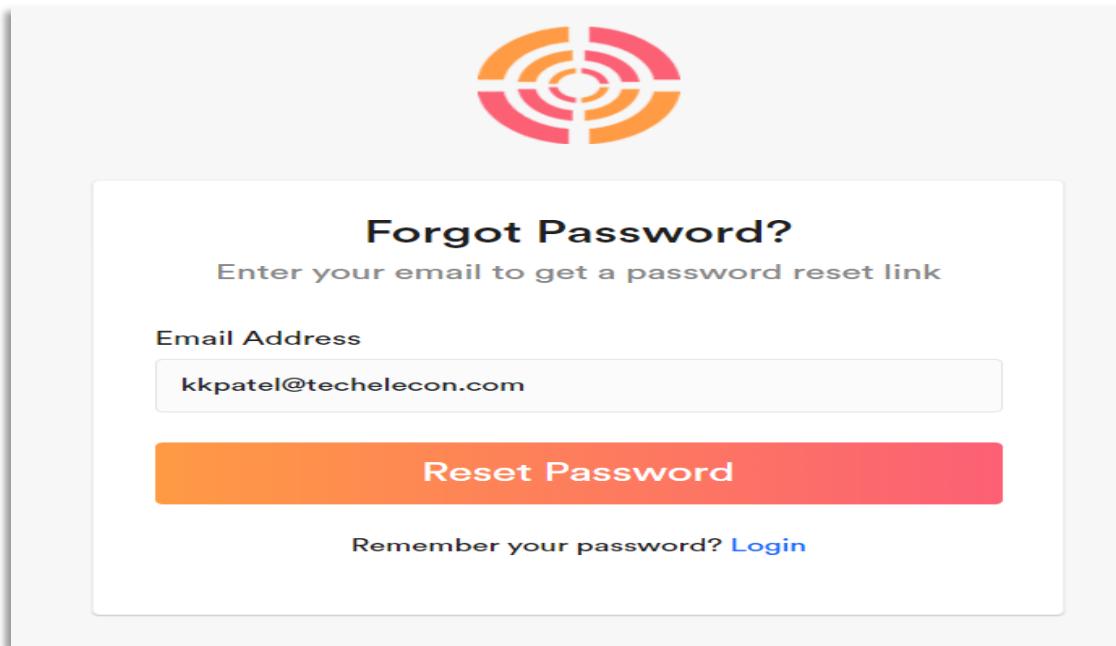
Password

 [Forgot password?](#)

Login

Don't have an account yet? [Register](#)

➤ Forgot Password



➤ Employee Dashboard

A screenshot of the 'Project Management System' dashboard. The header includes the system name, a search bar, and user profile for 'Khush Patel'. The left sidebar has a 'Dashboard' section with 'Employee Dashboard' selected, and other options like 'Project Leader', 'Employees', and 'Reports'. The main area shows a 'TODAY' section with three tasks: 'Design Database Schema for Office Management System', 'Implement Task Notification for Video Calling App', and 'Build Task Dashboard for Office Management System'. Below this is a 'Recent Projects' table with four rows: 'Office Management' (Active, Progress ~80%), 'Visitor Management' (Active, Progress ~20%), 'Hospital Administration' (Active, Progress ~80%), and 'Human Resource Management' (Inactive, Progress ~20%). To the right is a 'Projects' summary box showing '60 TOTAL TASKS', '25 PENDING TASKS', and '4 TOTAL PROJECTS'.

➤ Project Leader Profile

The screenshot shows the Project Management System interface. The left sidebar is dark blue with white icons and text. It includes 'Dashboard', 'Project Leader' (selected), 'Profile', 'Employees', and 'Reports'. The main content area has an orange header bar with the text 'Project Management System' and a search bar. Below the header, the title 'Profile' is displayed, followed by 'Dashboard / Leader Profile'. A profile card for 'Nisarg Desai' is shown, featuring a placeholder profile picture, the name 'Nisarg Desai' in bold, 'Senior Engineer' as the designation, and Employee ID 'TPLSR112'. The date of join is listed as '1 May 2017'. To the right of the card, detailed information is provided: Phone (7754102530), Email (nbdesai@techelecon.com), Birthday (27th Aug), Address ('Karamvir', B/h Real Bakery, Mota Bazar, Vallabh Vidhyanagar), and Gender (Male). There is also a small edit icon next to the address.

➤ My Profile

This screenshot shows the same Project Management System interface. The left sidebar now includes 'Employees' (selected), 'Profile', 'Projects', 'Task', 'Task Board', and 'Reports'. The main content area shows a profile card for 'Khush Patel' (Placeholder image), 'Frontend Developer', Employee ID 'TPLSR012', and Date of Join '1 Jan 2023'. To the right, detailed information is provided: Phone (9898526892), Email (kkpatel@techelecon.com), Birthday (27th Sept), Address ('Aashirwad', B/h C.P. College, Bhalej Road, Anand), Gender (Male), and Reports to (Nisarg Desai, Placeholder image).

➤ Edit Profile

This screenshot shows the 'Edit Profile' form for 'Khush Patel'. The left sidebar is identical to the previous screenshots. The main content area shows a profile card for 'Khush Patel' (Placeholder image), 'Frontend Developer', Employee ID 'TPLSR012', and Date of Join '1 Jan 2023'. A modal window titled 'Profile Information' is open, containing fields for First Name (Khush), Last Name (Patel), Birth Date (27/09/2001), Gender (Male), Address (Aashirwad, B/h C.P. College, Bhalej Road, Anand), Date of Join (01/01/2023), Email (kkpatel@techelecon.com), Phone Number (9898526892), Designation (Select Designation dropdown), and Reports To (Nisarg Desai, Placeholder image). A large orange 'Submit' button is at the bottom of the modal.

➤ Employee Projects

The screenshot shows a Project Management System interface. On the left is a dark sidebar with navigation items: Dashboard, Project Leader, Employees (with Profile, Projects, Task, Task Board), and Reports. The main area has a red header bar with the title 'Project Management System' and a search bar. Below the header is a section titled 'Projects' with a breadcrumb 'Dashboard / Projects'. There are four project cards: 'Office Management' (Deadline: 17 May 2024, Progress: 66%), 'Visitor Management' (Deadline: 26 Jun 2025, Progress: 30%), 'Hospital Administration' (Deadline: 27 Sept 2025, Progress: 56%), and 'Human Resource Management' (Deadline: 18 Oct 2024, Progress: 68%). Each card includes a brief description, project leader, team members, and a progress bar.

➤ In detail Project

The screenshot shows the 'Office Management' project details page. The sidebar and header are identical to the previous screenshot. The main content area has a large box for 'Office Management' with a detailed description: 'An Office Management System (OMS) is a software solution designed to streamline administrative tasks in an office environment. It includes features like employee attendance tracking, task management, scheduling, document storage, communication tools, resource allocation, expense management, security measures, and analytics/reporting. OMS helps improve efficiency, collaboration, and productivity within organizations by centralizing administrative processes.' Below this are sections for 'Aim' (designed to computerize office management), 'Objectives' (improve productivity, reduce lead time, support collaboration, enhance document sharing, reduce costs, prevent security accidents, and enhance access control), and 'Project details' (Cost: 1.5 Crore, Total Hours: 250 Hours, Created: 25 Dec 2023, Deadline: 17 May 2024, Priority: High, Created by: Khush Patel, Janvi Pandya, Ankur Patel, Zalak Mistry, Status: Working, Progress: 66%).

➤ Edit Project

The screenshot shows the Project Management System interface. On the left, there's a sidebar with navigation links: Dashboard, Project Leader, Employees, Profile, Projects, Task, Task Board, and Reports. The main content area has a title 'Office Management' and a sub-section 'Dashboard / Project'. A central modal window titled 'Edit Project' is open. It contains a 'Description' field with placeholder text 'Enter your message here'. Below the modal is an orange 'Save' button. To the right of the modal, there's a 'Project details' panel with various fields: Budget (1.5 Crore), Total Hours (250 Hours), Created (25 Dec 2023), Deadline (17 May 2024), Priority (High), Created by (Khush Patel, Janvi Pandya, Ankur Patel, Zalak Mistry), Status (Working), and Progress (66%).

➤ Tasks → All Tasks

The screenshot shows the Project Management System interface. The sidebar includes: Dashboard, Project Leader, Employees, Profile, Projects, Task, Task Board, and Reports. The main content area has a title 'Tasks' and a sub-section 'Dashboard / Tasks'. Below this, there are three tabs: 'All Tasks' (selected), 'Pending Tasks', and 'Completed Tasks'. The 'All Tasks' tab displays a list of tasks with checkmarks: 'Create wireframes or mockups for user interfaces for Human Resource Management System.', 'Define roles and permissions for different user types (admin, employee, manager) for Office Management System.', 'Design the database schema to store information such as employee details, tasks, schedules, documents, etc. for Office Management System.', 'Develop user interfaces based on the design for Visitor Management System.', 'Develop APIs for communication between frontend and backend components for Office Management System.', and 'Website redesign for Hospital Administration System.'

➤ Tasks → Pending Tasks

The screenshot shows the 'Tasks' page of the Project Management System. The left sidebar has a dark theme with white icons and text. The main header is 'Project Management System'. The top right corner shows a search bar, a notification bell with 3 notifications, and a user profile for 'Khush Patel'. The main content area is titled 'Tasks' and shows a breadcrumb 'Dashboard / Tasks'. Below the breadcrumb are three tabs: 'All Tasks' (selected), 'Pending Tasks', and 'Completed Tasks'. Under 'Pending Tasks', there are two items:

- Create wireframes or mockups for user interfaces for Human Resource Management System.
- Design the database schema to store information such as employee details, tasks, schedules, documents, etc. for Office Management System.

➤ Tasks → Completed Tasks

The screenshot shows the 'Tasks' page of the Project Management System. The left sidebar has a dark theme with white icons and text. The main header is 'Project Management System'. The top right corner shows a search bar, a notification bell with 3 notifications, and a user profile for 'Khush Patel'. The main content area is titled 'Tasks' and shows a breadcrumb 'Dashboard / Tasks'. Below the breadcrumb are three tabs: 'All Tasks' (selected), 'Pending Tasks', and 'Completed Tasks'. Under 'Completed Tasks', there is one item:

- Define roles and permissions for different user types (admin, employee, manager) for Office Management System.

➤ Task Board

The screenshot shows the 'Task Board' page of the Project Management System. The left sidebar has a dark theme with white icons and text. The main header is 'Project Management System'. The top right corner shows a search bar, a notification bell with 3 notifications, and a user profile for 'Khush Patel'. The main content area is titled 'Task Board' and shows a breadcrumb 'Dashboard / Task Board'. The board is divided into five columns representing task status: 'Pending' (red), 'In Progress' (orange), 'On Hold' (green), 'Completed' (purple), and 'Review' (blue). Each column contains a card with a task description, its progress bar, and a small circular icon.

Status	Task Description	Progress (%)
Pending	Create wireframes or mockups for user interfaces for Human Resource Management System.	10%
In Progress	Develop user interfaces based on the design for Visitor Management System.	56%
On Hold	Website redesign for Hospital Administration System.	70%
Completed	Define roles and permissions for different user types (admin, employee, manager) for Office Management System.	100%
Review	Develop APIs for communication between frontend and backend components for Office Management System.	0%

➤ Reports → Project Report

The screenshot shows the Project Management System interface. The top navigation bar has a logo, the title "Project Management System", a search bar, and a user profile for "Khush Patel". The left sidebar includes links for Dashboard, Project Leader, Employees, Reports (with sub-options for Project Report and Task Report), and Employee Report. The main content area is titled "Project Reports" and shows a breadcrumb path "Dashboard / Project Reports". It features a search bar with fields for "Project Name" and "Status", and a green "SEARCH" button. Below is a table listing four projects:

Sr No	Project Title	Stakeholder Name	Start Date	End Date	Status	Team
1	Office Management	Satyam Raval CEO	9 Jan 2023	17 Apr 2024	Active	3 people
2	Visitor Management	Satyam Raval CEO	10 Dec 2023	26 Jun 2025	Active	2 people
3	Hospital Administration	Mohit Dutta Manager	25 Jan 2022	27 Sept 2025	Active	3 people
4	Human Resource Management	Rohan Dave	24 Jan 2022	18 Oct 2024	Active	2 people

➤ Reports → Task Report

The screenshot shows the Project Management System interface. The top navigation bar has a logo, the title "Project Management System", a search bar, and a user profile for "Khush Patel". The left sidebar includes links for Dashboard, Project Leader, Employees, Reports (with sub-options for Project Report and Task Report), and Employee Report. The main content area is titled "Task Reports" and shows a breadcrumb path "Dashboard / Task Reports". It features a search bar with fields for "Project Name" and "Status", and a green "SEARCH" button. Below is a table listing six tasks:

Sr No	Task Name	Start Date	End Date	Status	Assigned To
1	Create wireframes or mockups for user interfaces for Human Resource Management System.	26 Mar 2024	01 May 2024	Pending	1 person
2	Define roles and permissions for different user types (admin, employee, manager) for Office Management System.	16 Feb 2023	25 March 2023	Completed	1 person
3	Design the database schema to store information such as employee details, tasks, schedules, documents, etc. for Office Management System.	09 Feb 2024	29 Apr 2024	Pending	1 person
4	Develop user interfaces based on the design for Visitor Management System.	09 Mar 2024	29 Apr 2024	Pending	1 person
5	Develop APIs for communication between frontend and backend components for Office Management System.	01 Feb 2024	29 Apr 2024	Pending	1 person
6	Website redesign for Hospital Administration System.	01 Mar 2024	29 Apr 2024	Pending	1 person

➤ Reports → Employee Report

Employee Report

Dashboard / Employee Report

Employee Name	Email	Designation	Joining Date	DOB	Martial Status	Gender	Terminated Date
Khush Patel	kpatel@techelecon.com	Frontend Developer	01 Jan 2023	27 Sept 2001	Unmarried	Male	-
Janvi Pandya	janvipandya@techelecon.com	UI/UX Developer	18 Mar 2019	11 Mar 2002	Unmarried	Female	-
Zalak Mistry	zalakm@techelecon.com	Software Engineer	19 Apr 2021	16 Jun 1999	Unmarried	Female	-
Ankur Patel	mikelitorus@example.com	Software Tester	15 Jun 2023	27 Jul 1998	Married	Male	-

Employee Report

Dashboard / Employee Report

Terminated Date	Relieving Date	Salary	Address	Contact Number	Emergency Contact Details	Status
-	-	50,000 rs	"Aashirwad", B/h C.P. College, Bhalej Road, Anand	9898526892	9998522562	Active
-	-	50,000 rs	"HariKrupa", Hariom Nagar, Anand	9689547896	7894561235	Active
-	-	51,000 rs	"Mahal", Sindh Bhavan society, Anand	6351458965	7852639686	Active
-	-	60,000 rs	"Ankur Nivas", Shalimar Nagar, Anand	9228887898	9995785986	Active

TESTING & ENHANCEMENT

CHAPTER 6: TESTING & ENHANCEMENT

6.1 Testing Methods

Testing methods are a set of systematic procedures and techniques used to assess software quality and ensure that applications meet specified requirements.

They are crucial throughout the software development lifecycle to identify defects, validate functionality, and guarantee that the software behaves as intended.

Here are some common testing methods:

1. Unit Testing

- Unit testing involves testing individual components or modules of the software in isolation from the rest of the system.
- Developers write unit tests to validate the behavior of functions, methods or classes.
- It helps to detect defects early in the development process and facilitates code refactoring.

2. Integration Testing

- Integration testing verifies the interactions between different components or modules of the software.
- It ensures that integrated units work together as expected and communicate correctly.

- Tools like Postman, Rest Assured, or SOAPUI are used for testing API integrations.

3. Regression Testing

- Regression testing ensures that recent code changes or enhancements do not adversely affect existing functionalities.
- It involves re-running previously executed test cases to verify that no new defects have been introduced.
- Regression tests are essential for maintaining software stability and preventing regression errors.

4. End-to-End Testing

- End-to-end testing evaluates the entire software application from start to finish.
- It simulates real-world user scenarios and interactions with the system.
- End-to-end tests validate the functionality of the entire application stack, including the user interface, backend services, and databases.

5. Performance Testing

- Performance testing assesses the responsiveness, scalability, and stability of the software under different conditions.
- Load testing, stress testing, and endurance testing are common types of performance testing.
- Performance tests help identify performance bottlenecks, resource limitations, and system weaknesses.

6. Security Testing

- Security testing identifies vulnerabilities and weaknesses in the software that could be exploited by malicious actors.
- It includes techniques such as penetration testing, vulnerability scanning, and code review for security flaws.
- Security tests ensure that sensitive data is protected, and the software complies with security standards and best practices.

7. User Acceptance Testing (UAT)

- User acceptance testing involves validating the software against user requirements and business objectives.
- It is performed by end-users or stakeholders to ensure that the software meets their needs and expectations.
- UAT helps validate the usability, functionality, and overall user experience of the software.
- Feedback from UAT sessions is used to make necessary adjustments and improvements to the software.

6.2 Future Enhancement

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can include more advance software for Project Management System including more facilities.
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers.
- Develop a mobile-friendly version of the project management system or create native mobile apps for iOS and Android platforms so that it allow project leaders to access essential project management features and functionalities on their mobile devices, such as creating tasks, updating project status, and communicating with team members.

CONCLUSION & BIBLIOGRAPHY

CHAPTER 7: CONCLUSION & BIBLIOGRAPHY

7.1 Conclusion

The project management system presented offers a robust solution for efficient project planning, execution, and monitoring. With its core features, solid technical architecture, and commitment to continuous improvement, it serves as a valuable tool for enhancing collaboration and productivity. Moving forward, we remain dedicated to evolving the system to meet the changing needs of users and industry standards.

7.2 Bibliography

- 1) <https://dotnet.microsoft.com/en-us/apps/aspnet/mvc>
- 2) https://www.tutorialspoint.com/mvc_framework/mvc_framework_introduction.htm
- 3) Additionally, we had utilized Google for resolving doubts and errors.

This bibliography encompasses a range of resources that guided our development journey, providing valuable insights and best practices essential for the successful implementation of the “Project Management System” project.