CDAC Delhi

A

Project Report on

“Project Management Tool”

Submitted in partial fulfillment of the requirements of
Diploma in Advanced Computing

SUBMITTED BY

MARCH 2024

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CERTIFICATE

This is to certify that the Report work entitled

"Project Management Tool"

Has been duly completed by the following students under the my guidance, in a satisfactory manner as a partial fulfillment of the requirement for the award of the E- Diploma in Advanced Computing, Delhi

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Declaration

I declare that this written submission represents our ideas in our own words and where others' ideasor words have been included, we have adequately cited and referenced the original sources. We also declarethat we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. We understand that any violation of theabove will be cause for disciplinary action by the Institute and can also evoke penal action from the sourceswhich have thus not been properly cited or from whom proper permission has not been taken when needed.

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Our special thanks to our parents and all of friends for help us exchanging any ideas and give the enjoyable study environment . At last we special gratify to almighty God for blessing us with the hidden power to completing this study work.

PROJECT TEAM

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ABSTRACT

Project management software helps in planning, organizing, and managing resources effectively. It can handle various tasks such as scheduling, cost control, resource allocation, communication, and decision-making.

These tools have evolved from early methods like the Gantt chart and the Critical Path Method, to modern software that supports collaborative and visual project management. They cater to both complex and straightforward projects, ensuring tasks are completed efficiently and within budget.

The term project management was not used prior to 1954 when US Air Force General Bernard Adolph Schriever introduced it for military purposes. In the years to follow, project management gained relevance in the business world — a trend that had a lot to do with the formation of the American Association of Engineers AACE (1956), and Rang and DuPont's Critical Path Method, which has been used to calculate project duration ever since 1957.[2]

CHAPTER 2

Introduction

The goal of this project is to develop a comprehensive project management platform tailored to small-scale businesses. The software will facilitate seamless project execution, team collaboration, and task management, thereby enhancing productivity and profitability. Users can manage all project phases, from planning and execution to monitoring and closure, through a single, integrated platform.

2.1 Description

This project is a web-based project management application where Admins, Project Managers, and Team Members can register and manage projects. The platform will offer features such as project segmentation, task management, resource allocation, and real-time collaboration tools. Admins will have the authority to create and manage categories, assign roles, and oversee all ongoing projects. Project Managers can manage tasks, assign them to team members, and track progress. Team Members can view, update, and complete tasks assigned to them, ensuring that all project activities are streamlined and on schedule.

2.2 Problem Formulation

The key challenge addressed by this project is the lack of a unified platform that effectively manages all aspects of small-scale project management. Traditional tools often fall short in terms of flexibility, collaboration, and real-time updates, making it difficult for small teams to execute projects efficiently. This platform will connect team members across various locations, enabling them to manage projects with ease and ensuring that tasks are completed on time.

2.3 Motivation

In an increasingly digital and remote work environment, traditional project management tools fail to address the dynamic needs of small businesses. This project management tool is designed to provide an accessible, feature-rich platform that simplifies project execution, enhances collaboration, and supports remote teams, making it ideal for small-scale businesses seeking to optimize their project management processes.

2.4 Proposed System

The Project Management System will gain recognition by offering superior project management features, such as customizable dashboards, real-time notifications, and detailed reporting tools. It will allow users to efficiently manage tasks, track project progress, and allocate resources, all within a secure and user-friendly interface. Additionally, the system will provide enhanced privacy and security measures, including encrypted data storage and secure payment processing for any financial transactions related to project management.

2.5 Scope

The primary scope of this project is to offer a comprehensive project management platform that supports the diverse needs of small businesses. By providing a centralized tool for managing tasks, resources, and timelines, the system will enable small businesses to execute projects more efficiently. The platform aims to connect teams across different regions, offering a unique and effective solution for project management that caters to the specific needs of small-scale operations.

CHAPTER 3

System Analysis

3.1 Functional Requirements

3.1.1 Admin Login

- The Admin will be able to manage all projects and tasks.
- The Admin will be able to add and delete projects.
- The Admin will be able to create and manage categories for different projects.
- The Admin will be able to view and manage all registered users.

3.1.2 Project Manager Login

- The Project Manager will be able to register and log in.
- The Project Manager will be able to create, update, and delete tasks within projects.
- The Project Manager will receive notifications via email after registration.
- The Project Manager will be able to assign tasks to team members and update project statuses.
- The Project Manager will be able to view all project details and progress.

3.1.3 Team Member Login

- The Team Member will be able to register and log in.
- The Team Member will be able to view all assigned tasks.
- The Team Member will receive notifications via email after registration.
- The Team Member will be able to update task progress and collaborate with other members.

3.2 Non-functional Requirements

3.2.1 Performance Requirements

The system should store all database records of assigned projects, tasks, completed tasks, task statuses, and requests. The application should be available 24/7 via the server, ensuring continuous access. It must feature a user-friendly interface that allows easy navigation and efficient access to all options for user convenience.

3.2.2 Safety Requirements

All login credentials (Admin, Project Manager, Team Member) should be securely protected for privacy, with necessary constraints applied to the database and the application.

3.2.3 Security Requirements

All passwords should be securely stored as a hash and protected against unauthorized access. The system must safeguard against attacks, ensuring all project records and interfaces remain secure from threats.

3.3 Software Quality Attribute

3.3.1 Availability

The system should run on a variety of operating systems that support the Java language. The system should run on a variety of hardware.

3.3.2 Accessibility

The software will be accessible to admin.

3.3.3 Compatibility

The software will be compatible with multiple platforms.

3.3.4 Durability

The software will be tested for working with multiple users.

3.3.5 Effectiveness

The software will be made to handle operations effectively.

3.3.6 Maintainability

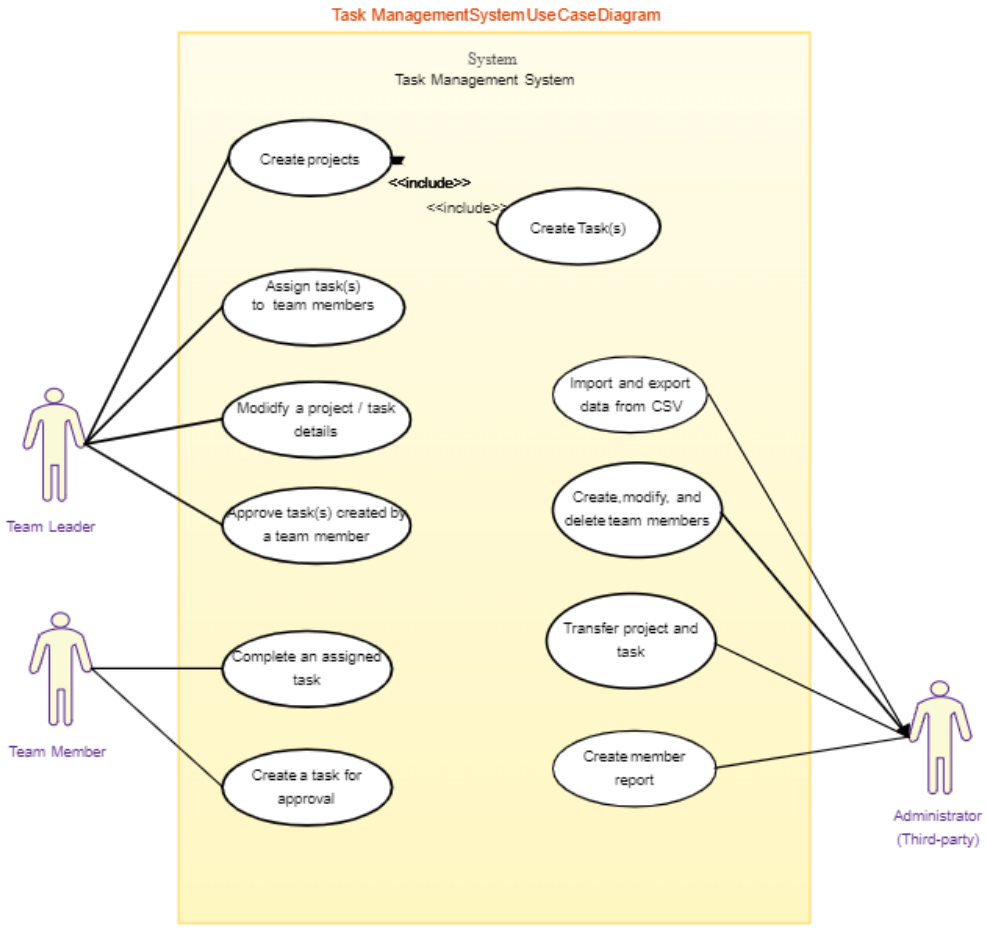
The system should be easy to maintain. There should be a clear separation between theinterface and the business logic code. There should be a clear separation between the data

.

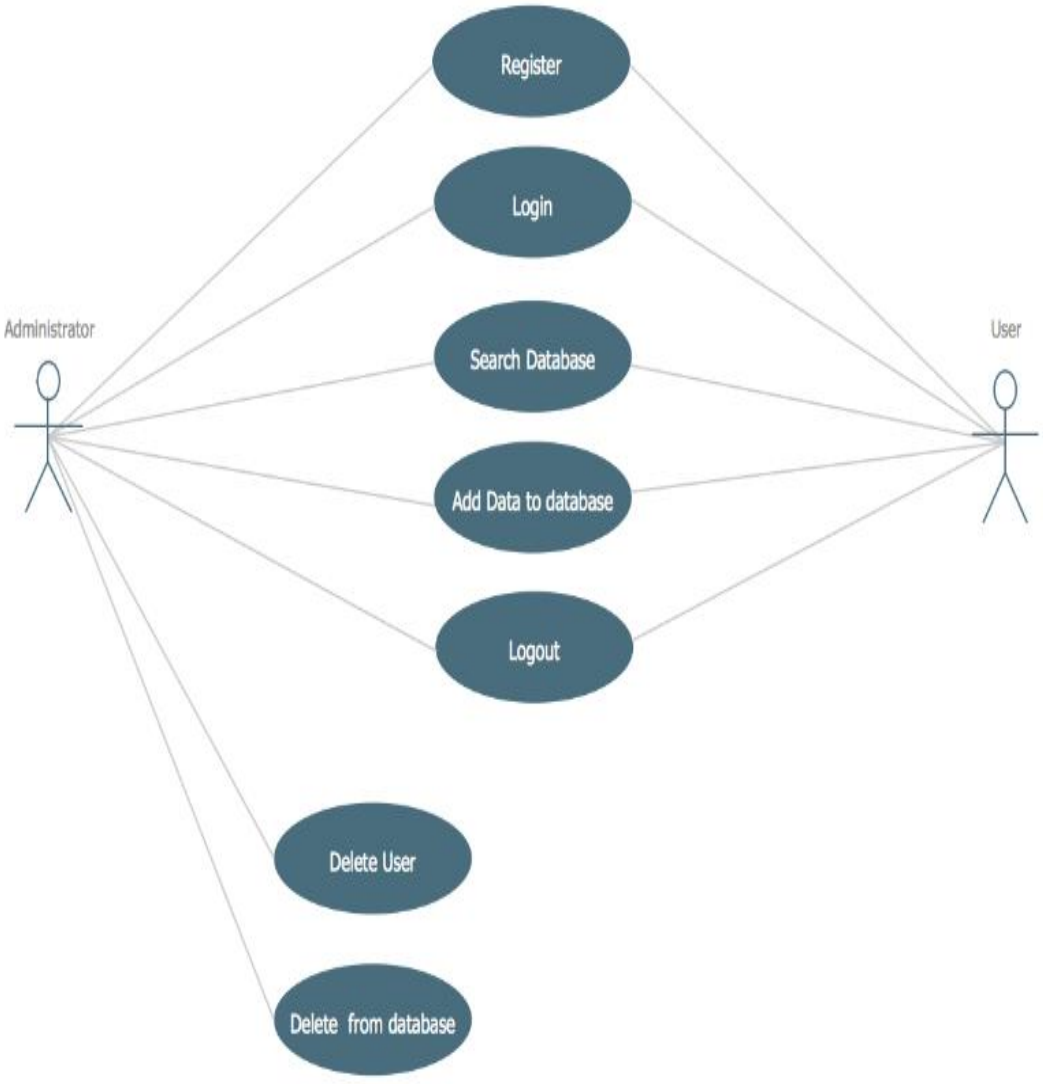
CHAPTER 4

Analysis Modeling

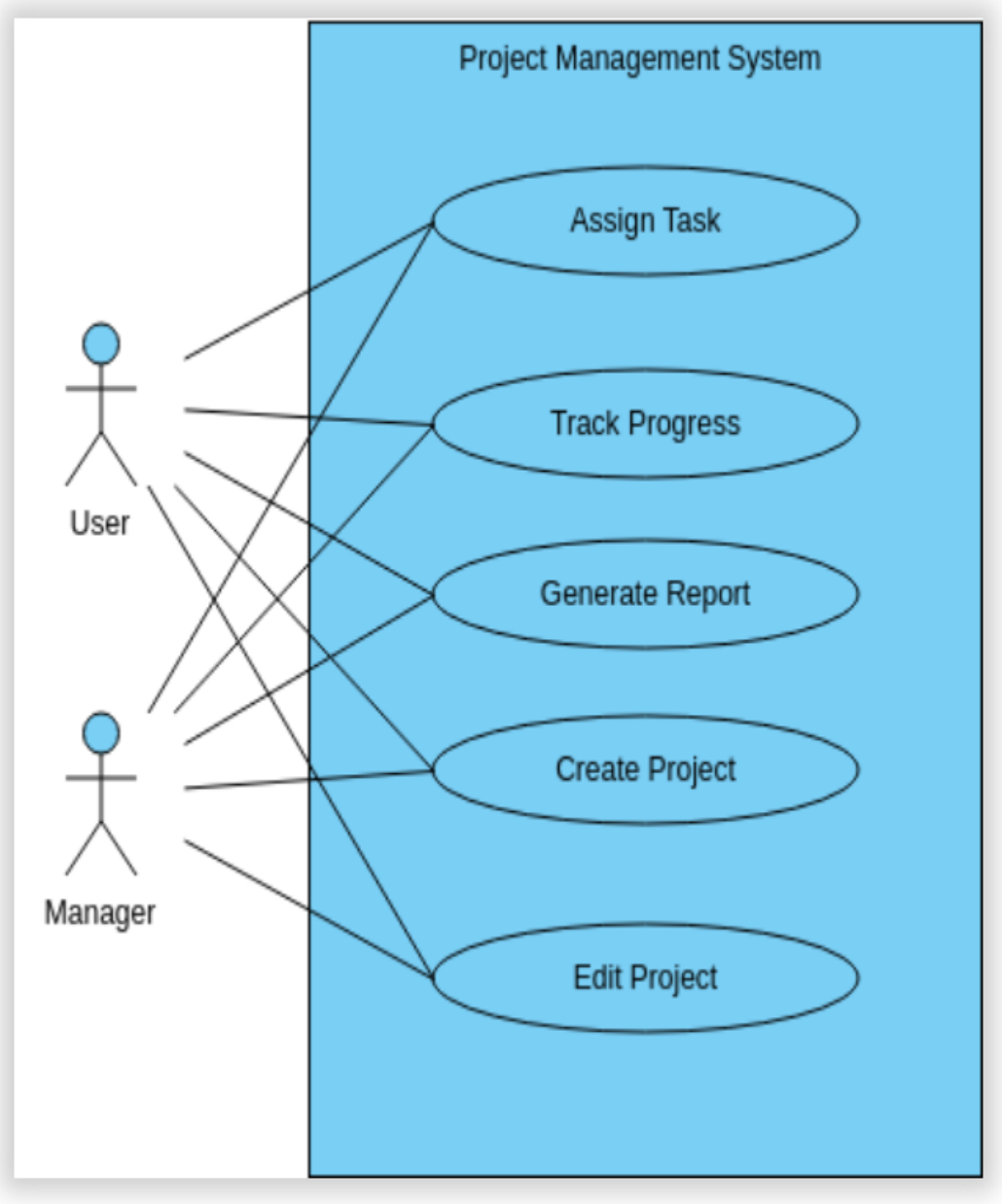
4.1 Use Case Diagram: -



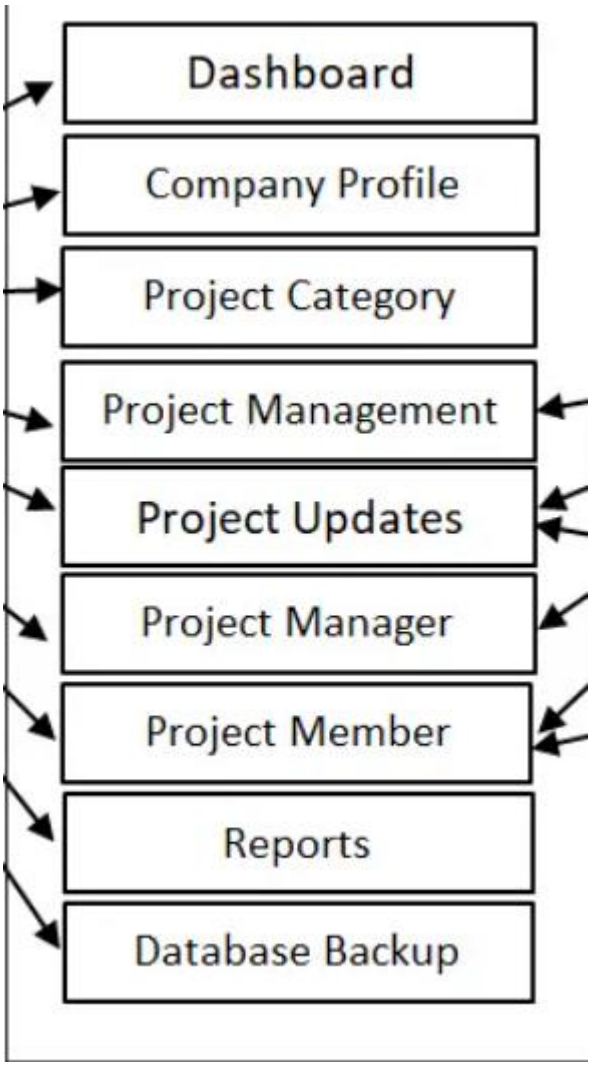
Home :


Register
Login
Search Database
Add Data to database
Logout
Delete User
Delete from database
Administrator
User

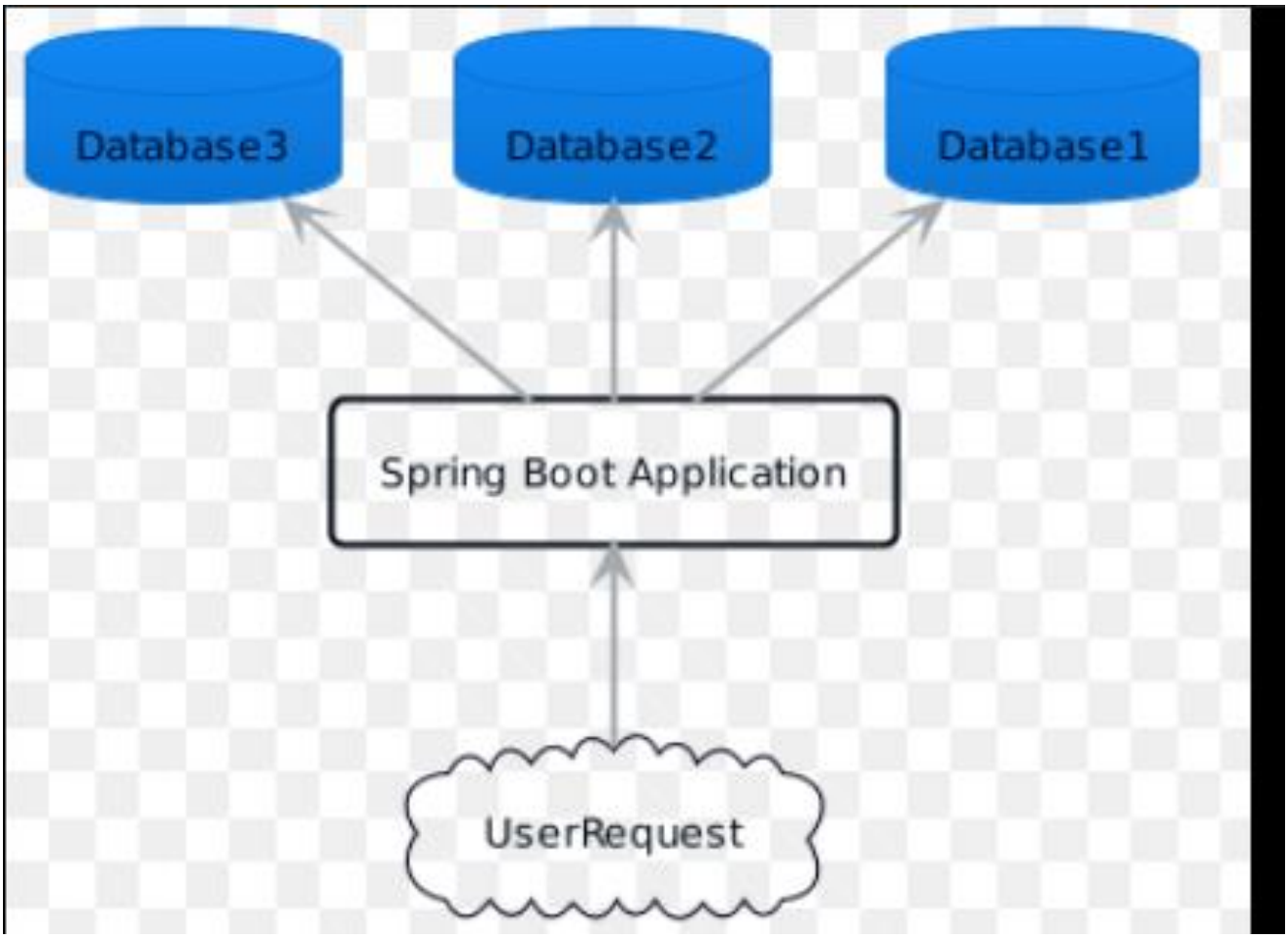
4.3.2 Admin


Project Management System
Assign Task
Track Progress
Generate Report
Create Project
Edit Project
User
Manager

4.3.3 Project Assigning Outlook:



4.3.4 Database connection:

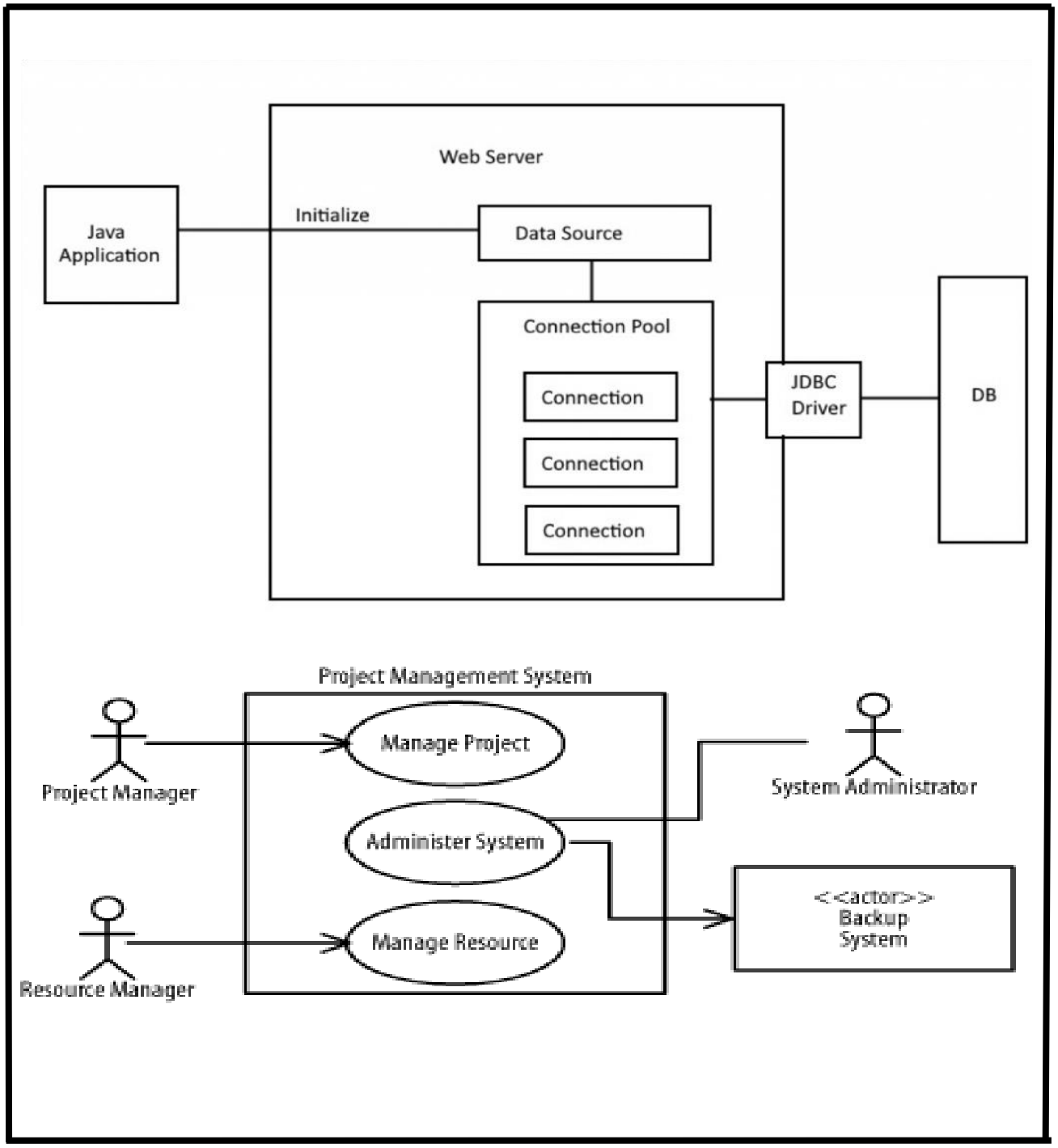


CHAPTER 5

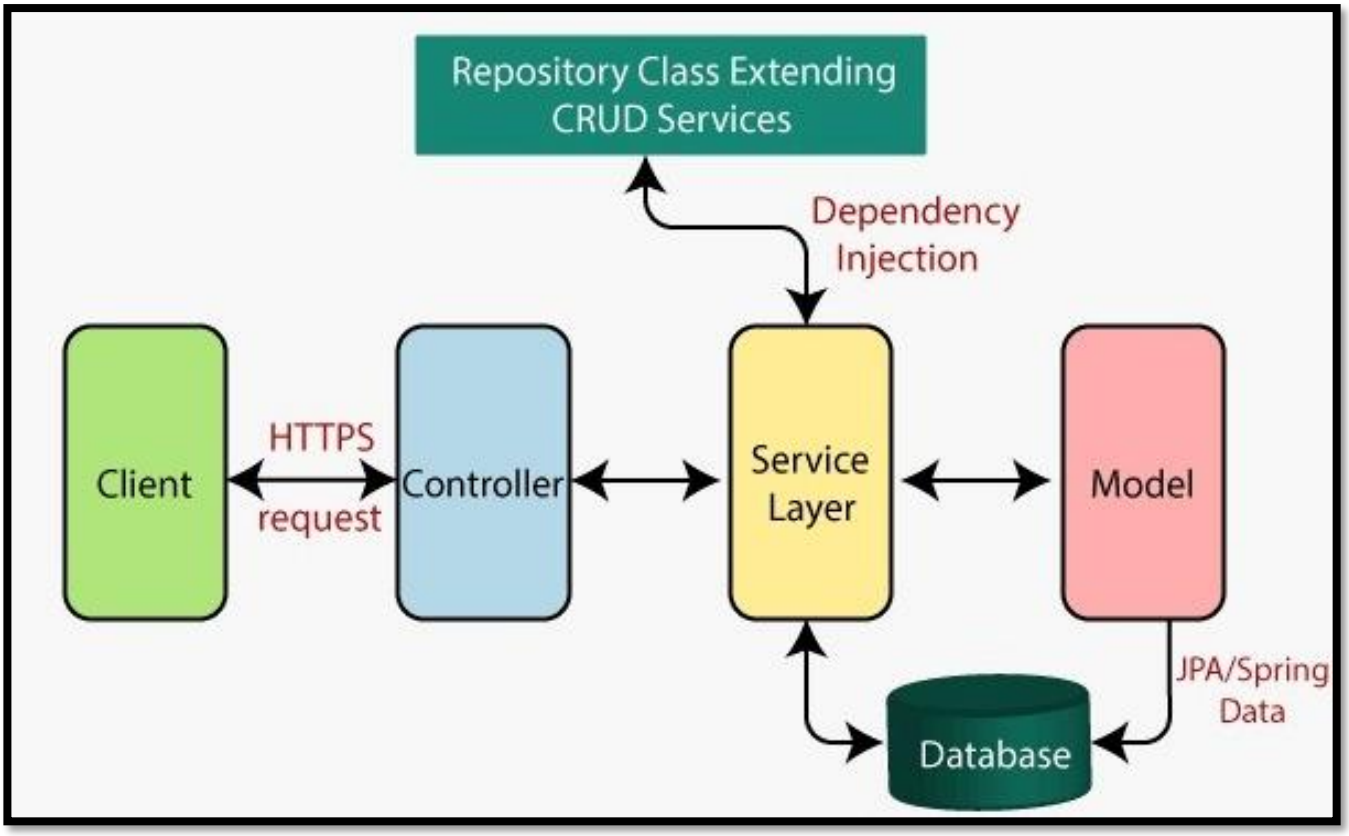
DESIGN

5.1 Data Modeling :

ER Diagram :

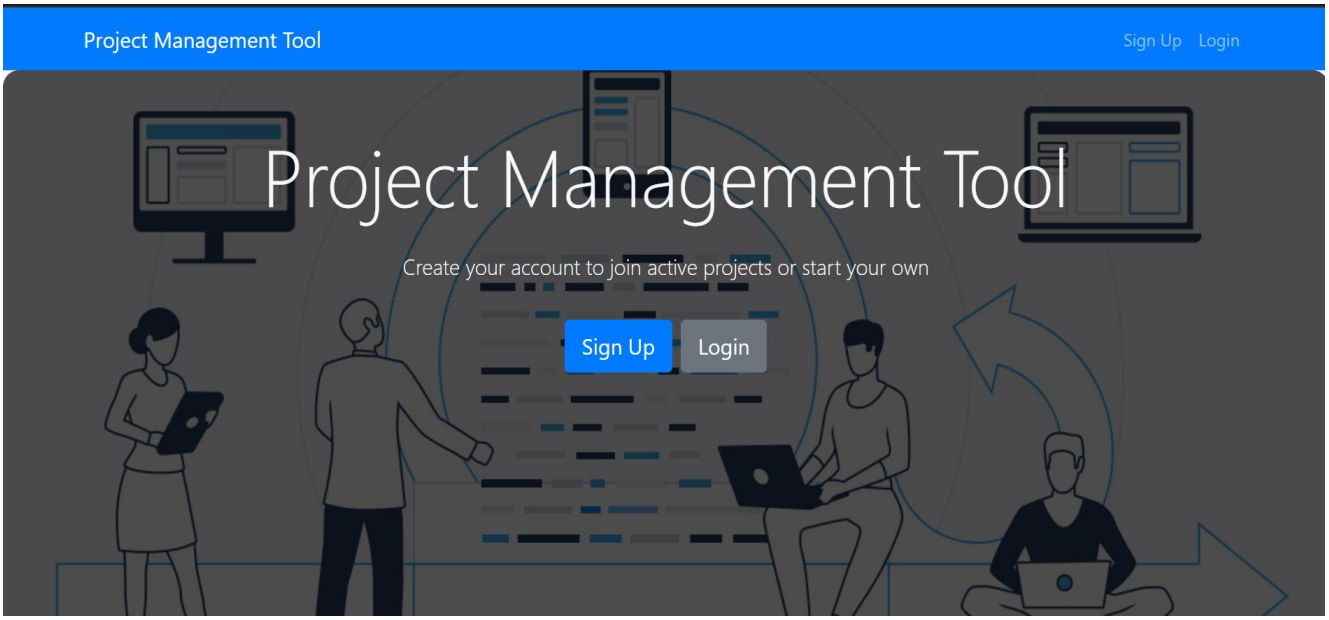


5.2 Architectural Design

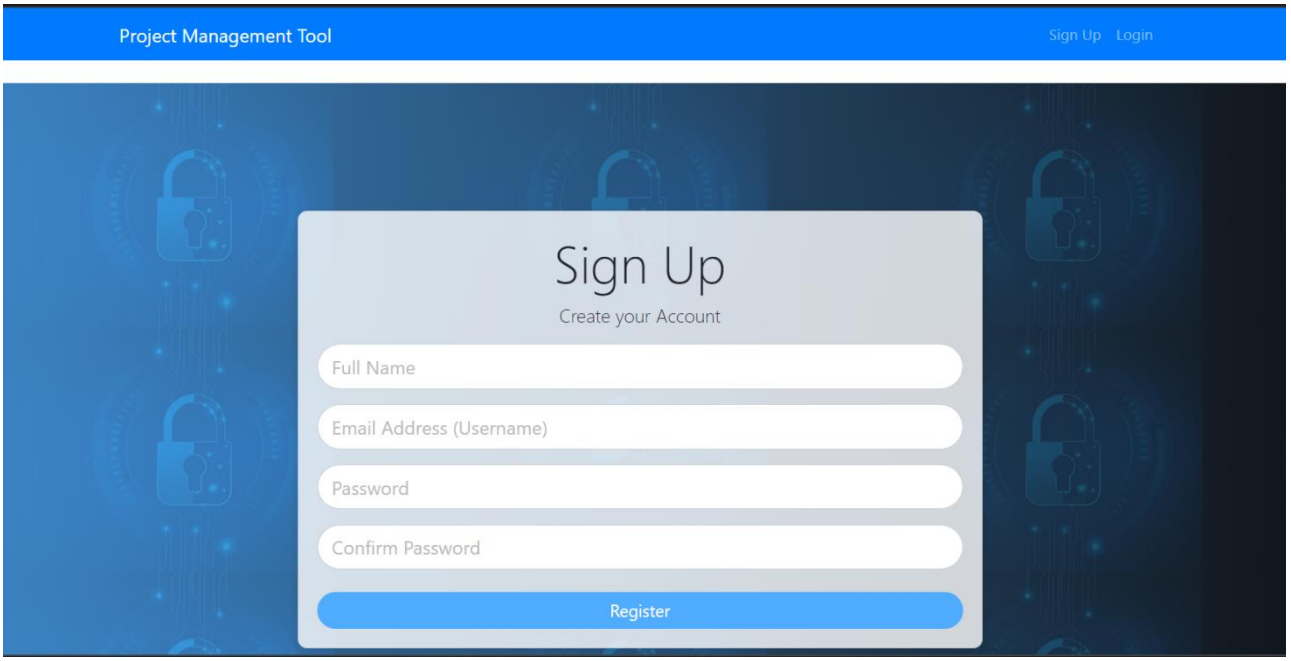


5.3 User Interface Design(GUI):

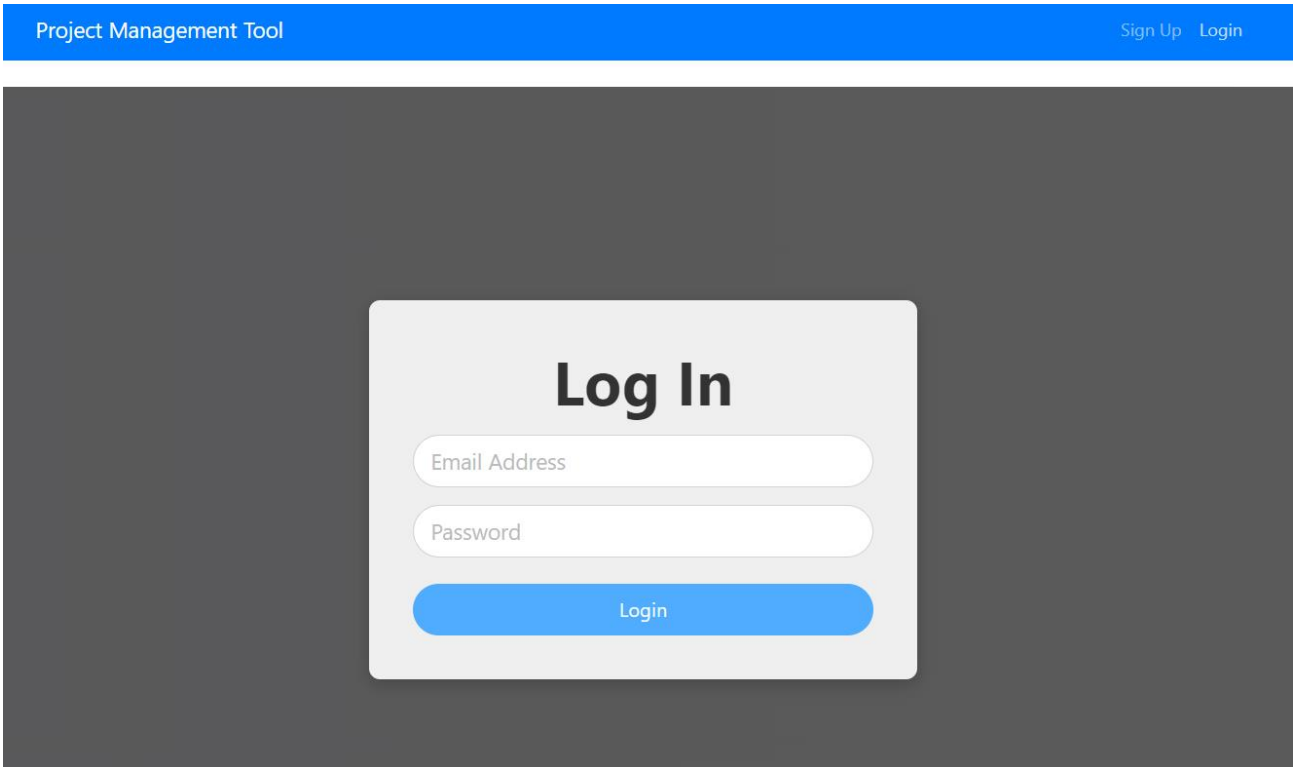
Home Page :



Register Page :

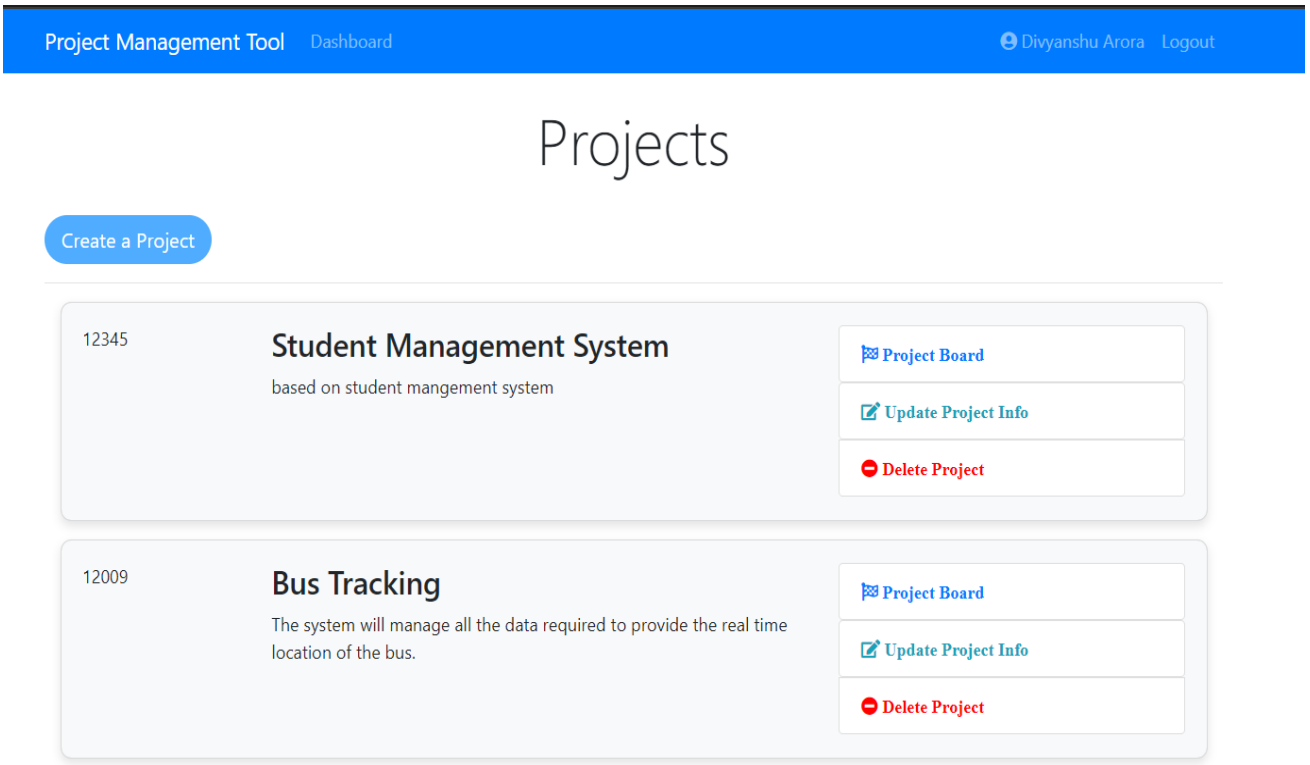


Login Page :


Project Management Tool
Sign Up
Login
Log In
Email Address
Password
Login

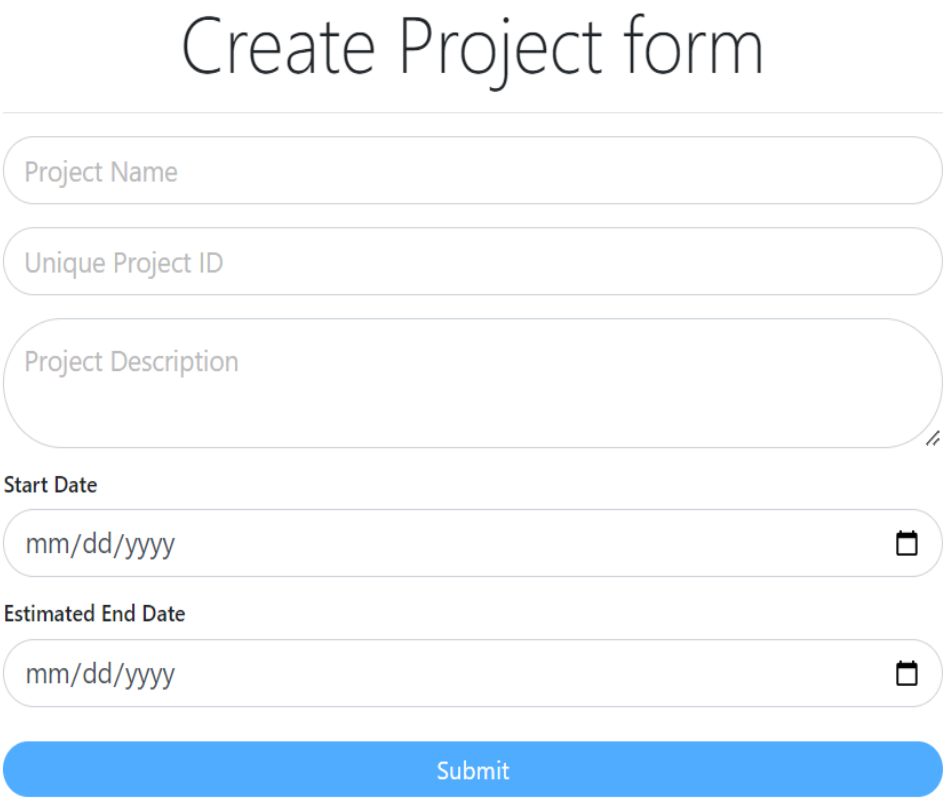
Admin :

User Home Page :



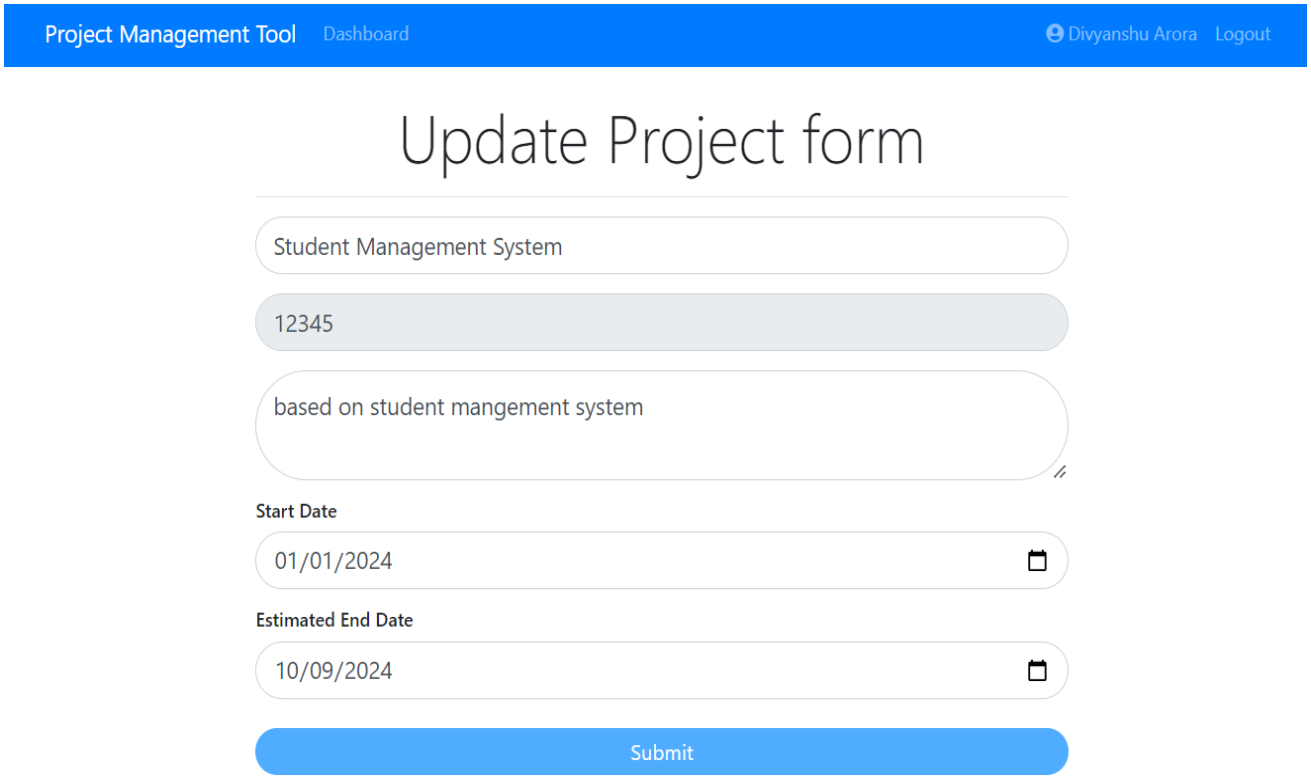
Category :

Add Project :

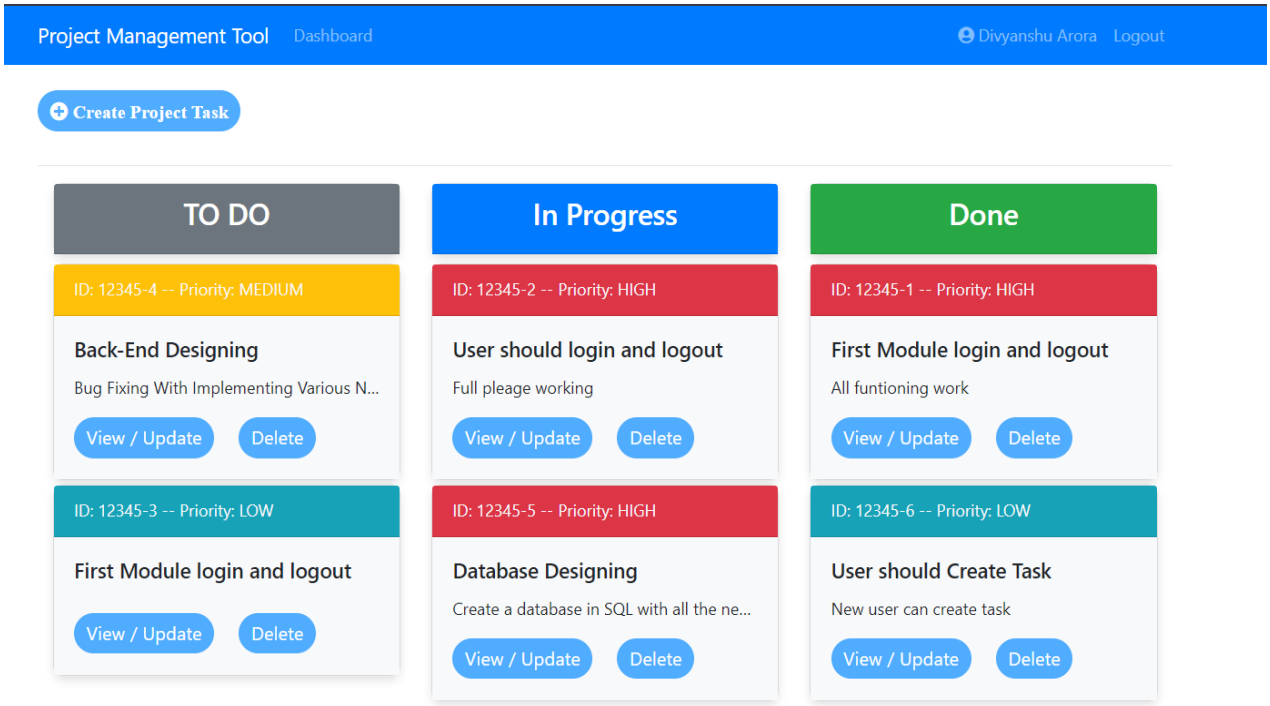


Project :

Update Project:

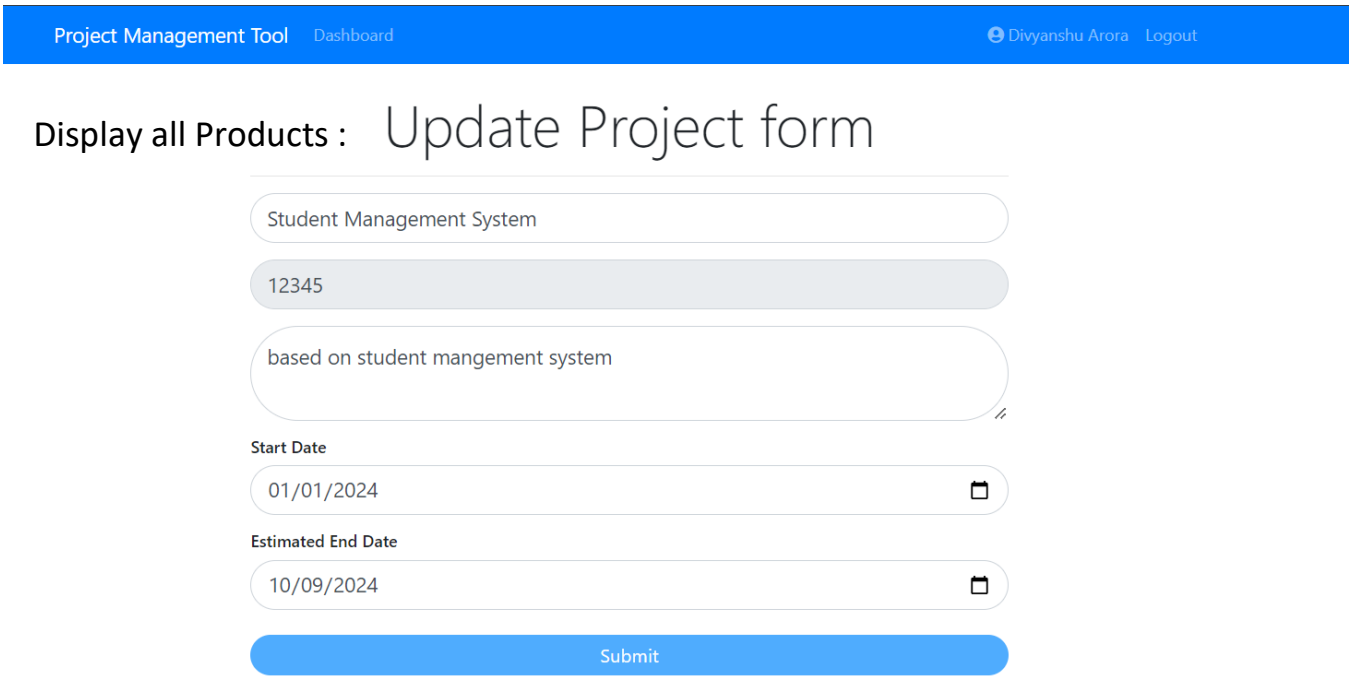


Project Board :

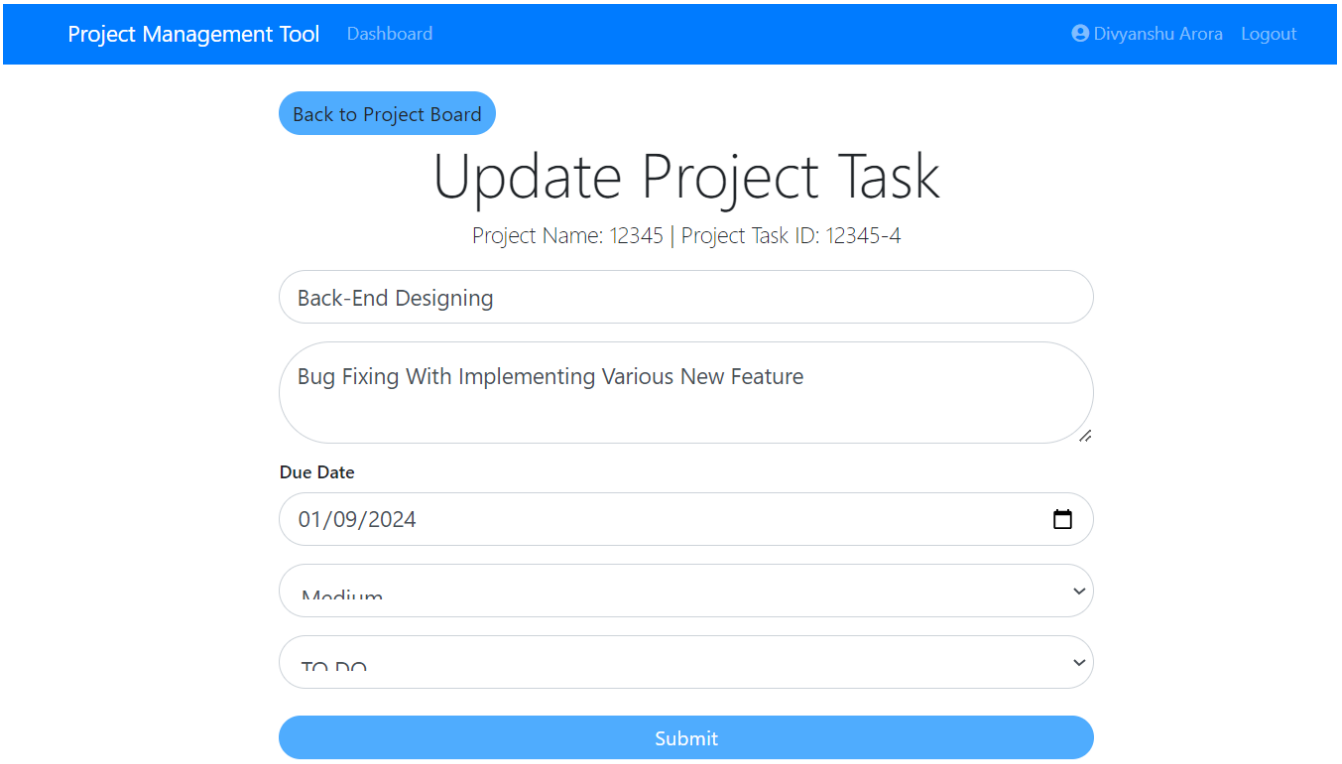


Update Project Details :

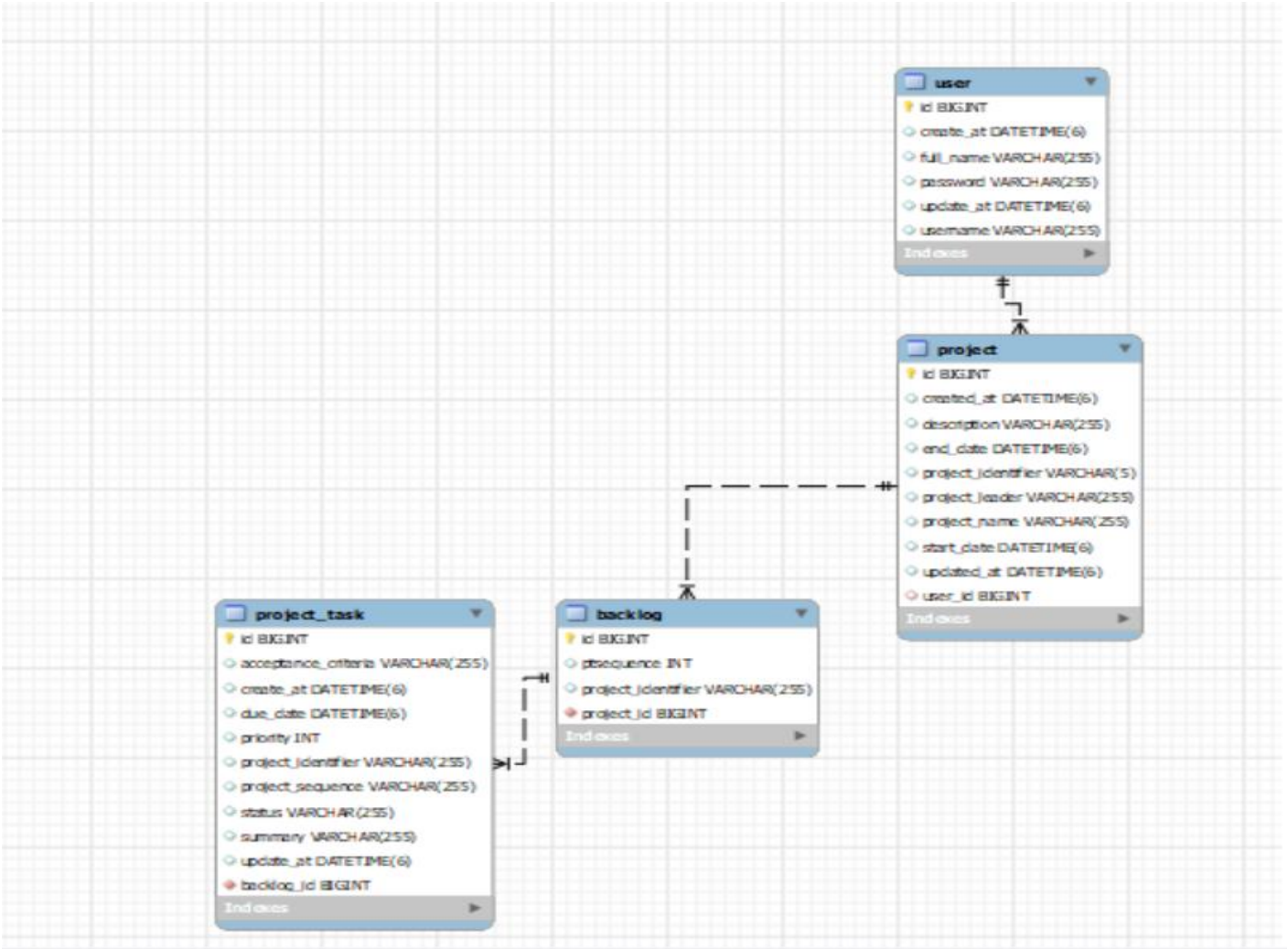
Display all Products :



Update Project Task Details :



Database Design :



CHAPTER 6

TESTING

7.1 Test cases :

Test Id	Item to beTested	Steps	Input	Actual Output	Expected Output	Pass/Fail
1	Project Id	User enters Project Id	Project Id	Display Success	Display Message successful	Pass
2	System check for proper username and password entered by users	System compares the data entered by user and the entered data in database				
		If username and		Make Connection	Make connection	Pass

		password is valid				
		If username and password is invalid		**Report invalid user id**	**Report error**	**Pass**
3	**System checks whether details of user are entered as per the format**	**System checks the data entered by user is in valid form or not.**				
		If valid	**User entered data**	**Entered in database**	**Entered in database**	**Pass**
		If invalid	**User entered data**	**“Invalid Data” message will be printed**	**“Invalid Data” message will be printed**	**Pass**

6.2 Type of Testing used

Alpha Testing:-

Alpha testing allows the team to test the software in a real-world environment. One of the reasons todo alpha testing is to ensure the success of the software product. Alpha testing validates the quality, functionality of the software, and effectiveness of the software before it released in the real world. Itis the most common type of testing used in the Software industry. The objective of this testing is toidentify all possible issues or defects before releasing it into the market or to the user.

CHAPTER 7

Results and Discussions

The core focus of this project management tool is to provide a user-friendly platform for individuals and businesses to manage their projects efficiently. It will help teams stay organized, ensure timely delivery of tasks, and provide a clear view of project timelines and progress. The platform aims to connect team members with ease, ensuring effective collaboration and smooth project execution.

CHAPTER 8

Conclusions

In today’s fast-paced and demanding work environment, teams and individuals need an easy and convenient way to manage their projects effectively. The ability to organize, track, and collaborate in one centralized platform is essential to streamline productivity and ensure project success. Providing a reliable and efficient project management solution was the primary goal of our platform, so we developed this tool to address the diverse needs of businesses and freelancers alike.

Our platform brings together all the essential project management features—task tracking, resource allocation, communication tools, and data analytics—into one comprehensive solution. Whether you're managing a small project or overseeing multiple complex initiatives, this tool will help you stay on top of your goals and deadlines.

Working on this project has been both fun and insightful. It has allowed us to gain a deeper understanding of project management best practices while leveraging modern technologies like Spring to create a powerful and scalable platform. We believe this tool will empower users to efficiently manage their projects and achieve success with ease.

Appendix

- MySQL is an open-source relational database management system (RDBMS).
- Spring Boot is an open source Java-based framework used to create a micro Service.
- Java Persistence API. It’s a specification which is part of Java EE and defines an API for objectrelational mappings and for managing persistent objects.
- Eclipse is an integrated development environment (IDE). Eclipse is written mostly in Java andits primary use is for developing Java applications.

Reference

Links:

- https://getbootstrap.com/docs/5.1/customize
- https://www.w3schools.com/css/
- https://docs.oracle.com/javase/8/docs/api/
- https://stackoverflow.com/
- https://javaee.github.io/javaee-spec/javadocs/
- https://developer.mozilla.org/en-US/docs/Web/JavaScript
- https://hibernate.org/orm/
- https://reactjs.org/