A
PROJECT REPORT ON

Online Blog Management System

SUBMITTED IN
PARTIAL FULFILLMENT OF

DIPLOMA IN ADVANCED COMPUTING (PG-DAC)

BY

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UNDER THE GUIDENCE OF

Mrs. Pooja Jaiswal

AT

SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY, PUNE

SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY, PUNE.

CERTIFICATE

This is to certify that the project

Online Blog Management System

Has been submitted by

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Kompala Mahesh Chandra
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In partial fulfillment of the requirement for the Course of **PG Diploma in Advanced Computing (PG-DAC AUG-2024)** as prescribed by The **CDAC** ACTS, PUNE.

Place: Pune Date: 11-FEB-2025

Mrs. Pooja Jaiswal
Project Guide

Mr. Yogesh Kolhe
Alumni Mentor

ACKNOWLEDGEMENT

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ABSTRACT

The Online Blog Management System is a full-stack web application built with JavaScript, React.js, Material UI, Spring Boot, MySQL, AWS, and Spring Security. It provides a secure platform for creating, managing, and interacting with blog posts, catering to admins, authors, and readers. Features include JWT-based authentication, role-based access control, post creation/editing, liking, commenting, and an admin dashboard for user and content management. The frontend, developed with React.js and Material UI, offers a responsive and visually appealing interface, while the backend, powered by Spring Boot and MySQL, ensures efficient data management. Deployed on AWS using EC2 and S3, the application is scalable and reliable. This project demonstrates my ability to build secure, scalable, and interactive web applications.

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1. INTRODUCTION

The Online Blog Management System is a full-stack web application built with JavaScript, React.js, Material UI, Spring Boot, MySQL, AWS, and Spring Security. It provides a secure platform for creating, managing, and interacting with blog posts, catering to admins, authors, and readers. Features include JWT-based authentication, role-based access control, post creation/editing, liking, commenting, and an admin dashboard for user and content management. The frontend, developed with React.js and Material UI, offers a responsive and visually appealing interface, while the backend, powered by Spring Boot and MySQL, ensures efficient data management

2.Scope Overview and Summary

2.1 Purpose

The project encompasses the development of the following components:

1. **User Interface (UI):** Designing an intuitive and responsive UI with React to facilitate easy navigation and service booking.
2. **Backend Development:** Implementing a robust backend using Spring Boot to handle user authentication, service listings, booking management, and communication between users and service providers.
3. **Database Management:** Utilizing MySQL for secure storage and retrieval of data, including user profiles, service provider details, service categories, bookings, and transaction records.
4. **Security Measures:** Implementing security protocols to protect user data, ensure secure payment processing, and maintain overall platform integrity.

2.2 Overview

The Online Blog Management System is a web-based platform designed to enable users to create, manage, and interact with blog content. The system will cater to individual bloggers, readers, and communities who wish to share or consume knowledge, ideas, and updates. The platform aims to provide a seamless experience with intuitive UI, robust functionality, and enhanced engagement tools

2.3 User Classes and Characteristics

2.3.1. Admin

Characteristics:

- Manages the entire platform.
- Approves or removes blogs and comments.
- Manages users (add, remove, or restrict access).
- Monitors website analytics and system performance.

2.3.2. Blogger (Author)

Characteristics:

- Can create, edit, and publish blog posts.
- Can manage their own posts (update, delete, and categorize).
- Can moderate comments on their own blogs.
- updates.
- Can share blog posts on social media
- May have access to blog analytics (views, likes, and comments)

- Key Stakeholders
  - End-users: Blog readers, subscribers, and casual visitors.
  - Content Creators: Authors and bloggers contributing posts.
  - Administrators: Site managers responsible for maintaining content, user management, and platform performance.

2.4. Design and Implementation Constraints

Design Constraints:

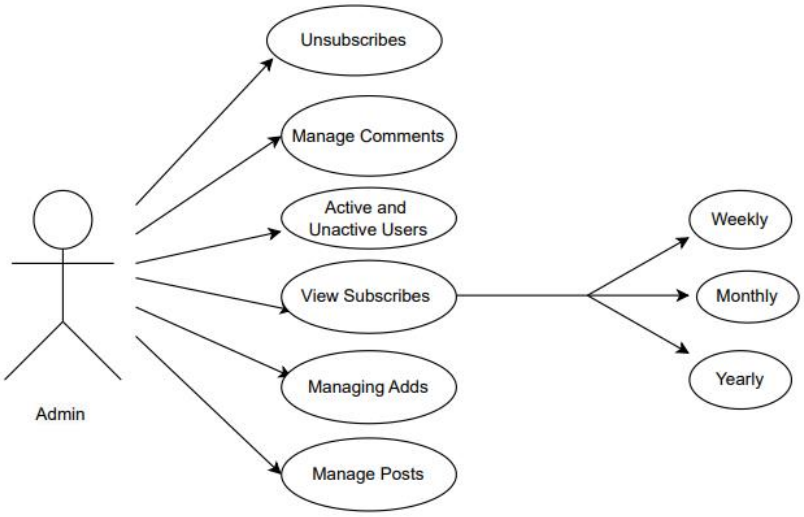
- **Technology Compatibility:** Ensure that React (frontend), Spring Boot (backend), and MySQL (database) integrate seamlessly to facilitate smooth data flow and communication.
- **User Experience (UX):** Design an intuitive and responsive interface with React to provide users with a seamless experience across various devices and screen sizes.
- **Security:** Implement robust security measures, including user authentication and authorization, to protect sensitive data and maintain user trust.

Implementation Constraints:

- **Database Design:** Structure the MySQL database efficiently to handle relationships between users, service providers, and services, ensuring data integrity and optimal performance.
- **API Development:** Develop RESTful APIs using Spring Boot to enable effective communication between the frontend and backend, ensuring they are well-documented and adhere to industry standards.
- **Performance Optimization:** Optimize both frontend and backend code to reduce latency and improve load times, enhancing the overall user experience.

3.Requirements

3.1 Functional Requirements



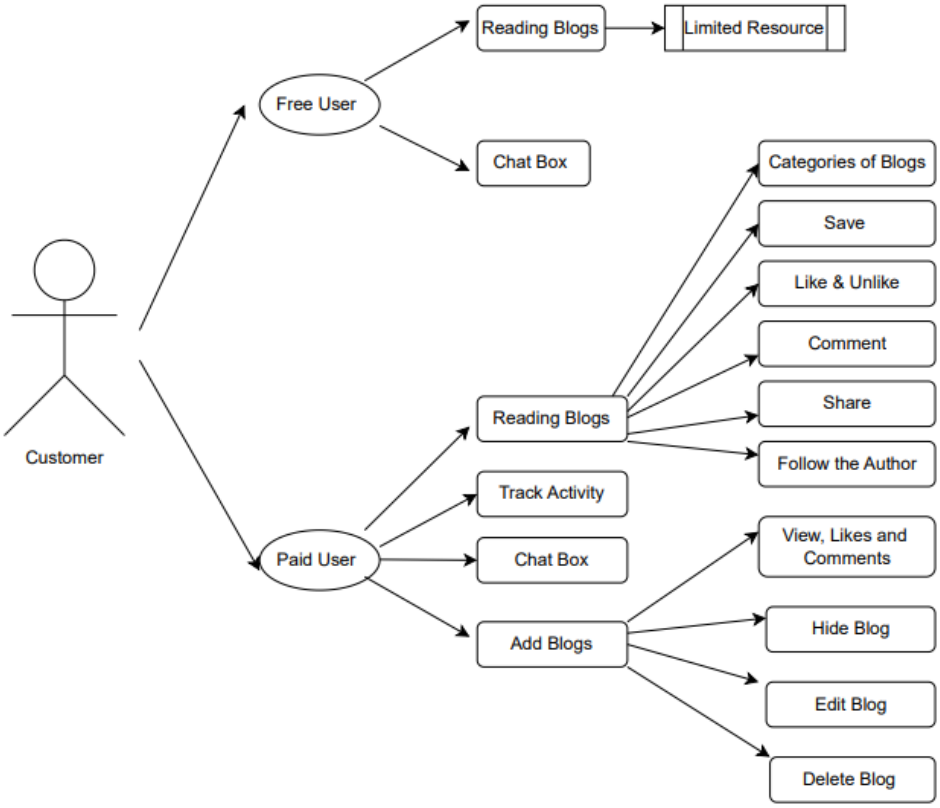
3.1.1 Admin Flow

3.1.1.1 Home Page

- **Objective**: Admin access to system functionalities
- **Features**: Sign in to access the functionalities.

3.1.1.2 Admin Home Page

- **Objective:** Oversee the management of customers and service providers
- **Features:**
    - View all Users
    - View all Posts
    - View all Types of Categories requested by the user.
    - Delete the Posts and Comments.



3.1.2 Blogger WorkFlow

3.1.2 User Case for Blogger

3.1.2.1 User Login Page

- **Objective**: To authorize right customer with his login credentials
- **Features**: Sign in to access the functionalities.

3.1.2.2 User Home Page

- **Objective**: Access to all the services provided.
- **Features**: Customer can select a service which would redirect him to the cart page.

3.1.2.3 Add a Blog

- **Objective**: Access to all the services selected by the customer.

- **Features**: User can view all the services selected and can schedule the time by clicking on the service box.

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3.1.2.4 Categories

- **Objective**: Redirects to all the Categories selected by user.
- **Features**:

  User can choose a category

3.1.2.5 Post Details Page

- Post Header:

- Title, post content, featured images, publish button, social share buttons, post category, and tags.

- Post Content:

- Full content of the post with support for multimedia (images, videos, embeds).
- Inline ads and related CTAs.

- Comments Section:

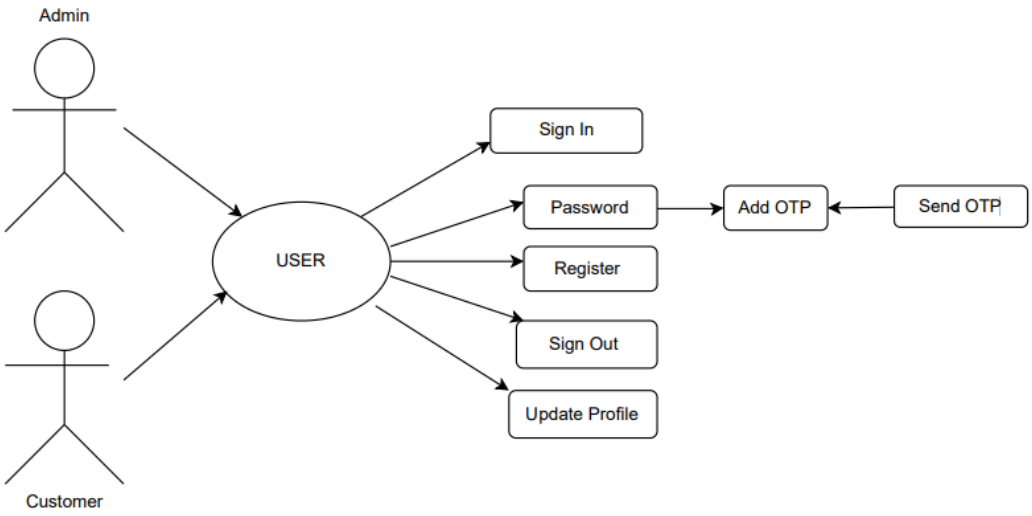
- Allow users to comment with moderation tools for administrators.

- Subscription/Monetization CTA:

- Banner or button for subscribing to premium content or joining as a member.

- Related Content:

- Display similar posts at the bottom to encourage further engagement.



3.1.3 Flow of user and admin

3.2 Non-Functional Requirements

3.2.1 Interface

User interfaces must be intuitive and user-friendly.

3.2.2 Constraints and Performance

- Number of Concurrent Users: The system should handle at least 1000 transactions/inquiries per second.
- System Resilience: The application should be resilient to temporary server failure.

3.2.3 Hardware and Software Requirements

Hardware- Intel Core i5 or higher (or AMD equivalent), 8 GB RAM, 512 GB SSD or larger.

Software-

Operating Systems: MS Windows 13, Ubuntu 22.04.

Database: MySQL.

Server: Embedded Tomcat.

Browsers: Compatible with modern web browsers.

3.2.4 System Design

Front-End: Developed using React.js.

Back-End: Built with Spring Boot for server-side logic.

Database: MySQL for storing user data, orders, and other system information.

Server: Embedded Tomcat for hosting the application.

4 Project Design

4.1 Data Model

4.1.1 Database Design

Table 1: Users

```
D5_87281_Komal@>desc users;
+--------------------+--------------------------+------+-----+---------+----------------+
| Field              | Type                     | Null | Key | Default | Extra          |
+--------------------+--------------------------+------+-----+---------+----------------+
| id                 | bigint                   | NO   | PRI | NULL    | auto_increment |
| created_on         | date                     | YES  |     | NULL    |                |
| updated_on         | datetime(6)              | YES  |     | NULL    |                |
| email              | varchar(150)             | YES  | UNI | NULL    |                |
| name               | varchar(100)             | YES  |     | NULL    |                |
| password           | varchar(255)             | NO   |     | NULL    |                |
| phone_number       | varchar(15)              | YES  | UNI | NULL    |                |
| profile_picture    | varchar(255)             | YES  |     | NULL    |                |
| role               | enum('ADMIN','BLOGGER')  | YES  |     | NULL    |                |
| subscription_status | enum('ACTIVE','INACTIVE') | YES  |     | NULL    |                |
+--------------------+--------------------------+------+-----+---------+----------------+
10 rows in set (0.04 sec)
```

Table 2 :Categories

```
D5_87281_Komal@>desc categories;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| id            | bigint      | NO   | PRI | NULL    | auto_increment |
| created_on    | date        | YES  |     | NULL    |                |
| updated_on    | datetime(6) | YES  |     | NULL    |                |
| category_name | varchar(30) | YES  | UNI | NULL    |                |
| description   | text        | YES  |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
5 rows in set (0.00 sec)
```

Table 3 : Analytics :

```
D5_87281_Komal@>desc analytics;
+-------------+-------------+------+-----+---------+----------------+
| Field       | Type        | Null | Key | Default | Extra          |
+-------------+-------------+------+-----+---------+----------------+
| id          | bigint      | NO   | PRI | NULL    | auto_increment |
| created_on  | date        | YES  |     | NULL    |                |
| updated_on  | datetime(6) | YES  |     | NULL    |                |
| comments    | int         | YES  |     | NULL    |                |
| likes       | int         | YES  |     | NULL    |                |
| shares      | int         | YES  |     | NULL    |                |
| views       | int         | YES  |     | NULL    |                |
| post_id     | bigint      | NO   | MUL | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
8 rows in set (0.04 sec)
```

Table 4 : Ads

```
D5_87281_Komal@>desc ads;
+----------------+--------------------------+------+-----+---------+----------------+
| Field          | Type                     | Null | Key | Default | Extra          |
+----------------+--------------------------+------+-----+---------+----------------+
| id             | bigint                   | NO   | PRI | NULL    | auto_increment |
| created_on     | date                     | YES  |     | NULL    |                |
| updated_on     | datetime(6)              | YES  |     | NULL    |                |
| ad_content     | text                     | NO   |     | NULL    |                |
| ad_type        | varchar(50)              | NO   |     | NULL    |                |
| end_date       | datetime(6)              | NO   |     | NULL    |                |
| payment_status | enum('PAID','PENDING')   | YES  |     | NULL    |                |
| start_date     | datetime(6)              | NO   |     | NULL    |                |
| status         | enum('ACTIVE','INACTIVE') | YES  |     | NULL    |                |
| target_url     | varchar(255)             | NO   |     | NULL    |                |
+----------------+--------------------------+------+-----+---------+----------------+
10 rows in set (0.00 sec)
```

Table 5 : Comments

```
D5_87281_Komal@>desc comments;
+--------------+-------------+------+-----+---------+----------------+
| Field        | Type        | Null | Key | Default | Extra          |
+--------------+-------------+------+-----+---------+----------------+
| id           | bigint      | NO   | PRI | NULL    | auto_increment |
| created_on   | date        | YES  |     | NULL    |                |
| updated_on   | datetime(6) | YES  |     | NULL    |                |
| comment      | text        | NO   |     | NULL    |                |
| blog_post_id | bigint      | NO   | MUL | NULL    |                |
| commenter_id | bigint      | NO   | MUL | NULL    |                |
| reply_to_id  | bigint      | YES  | MUL | NULL    |                |
+--------------+-------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)
```

Table 6: Tags

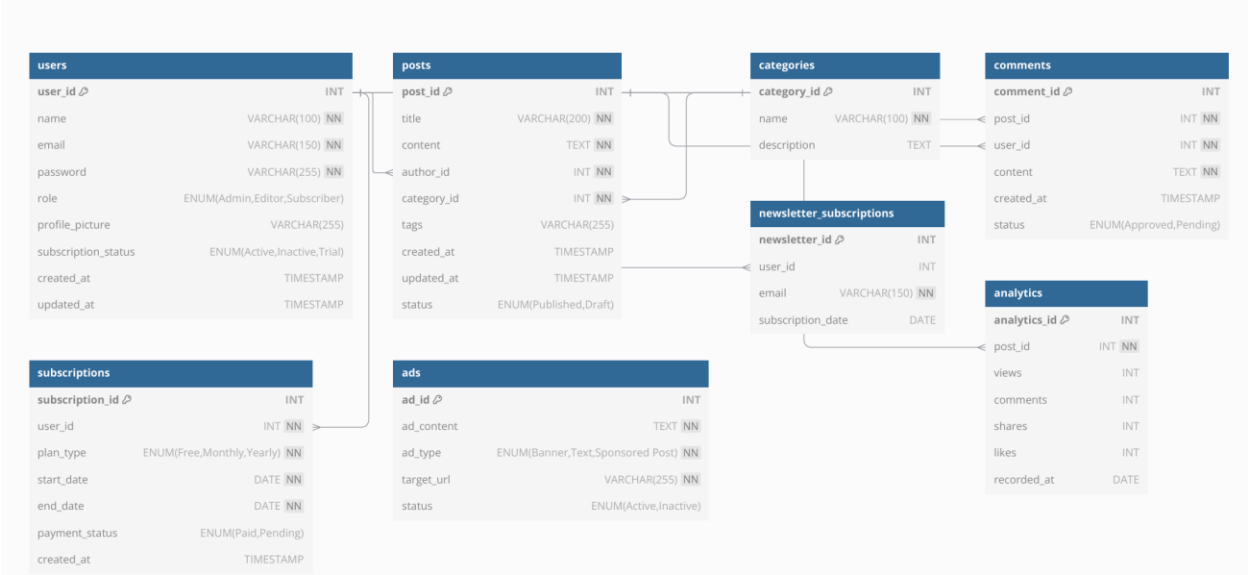
```
D5_87281_Komal@>desc tags;
+------------+-------------+------+-----+---------+----------------+
| Field      | Type        | Null | Key | Default | Extra          |
+------------+-------------+------+-----+---------+----------------+
| id         | bigint      | NO   | PRI | NULL    | auto_increment |
| created_on | date        | YES  |     | NULL    |                |
| updated_on | datetime(6) | YES  |     | NULL    |                |
| name       | varchar(20) | YES  | UNI | NULL    |                |
+------------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

Table 7: Posts

```
D5_87281_Komal@>desc posts;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| id            | bigint      | NO   | PRI | NULL    | auto_increment |
| created_on    | date        | YES  |     | NULL    |                |
| updated_on    | datetime(6) | YES  |     | NULL    |                |
| blogger_id_id | bigint      | YES  |     | NULL    |                |
| content       | text        | NO   |     | NULL    |                |
| description   | text        | NO   |     | NULL    |                |
| image_data    | longblob    | YES  |     | NULL    |                |
| status        | bit(1)      | YES  |     | NULL    |                |
| title         | varchar(255)| NO   |     | NULL    |                |
| category_id   | bigint      | NO   | MUL | NULL    |                |
| blogger_id    | bigint      | NO   | MUL | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
11 rows in set (0.00 sec)
```

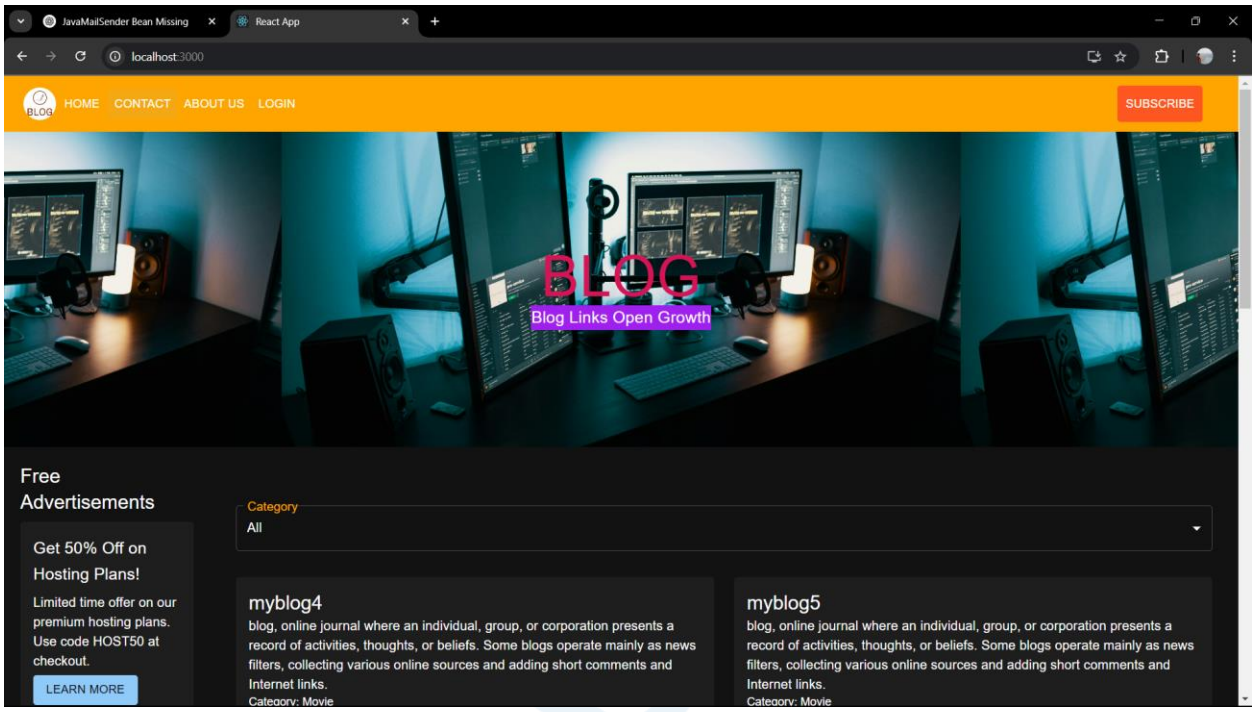
4.2 Process Model

4.2.1 ER Diagram

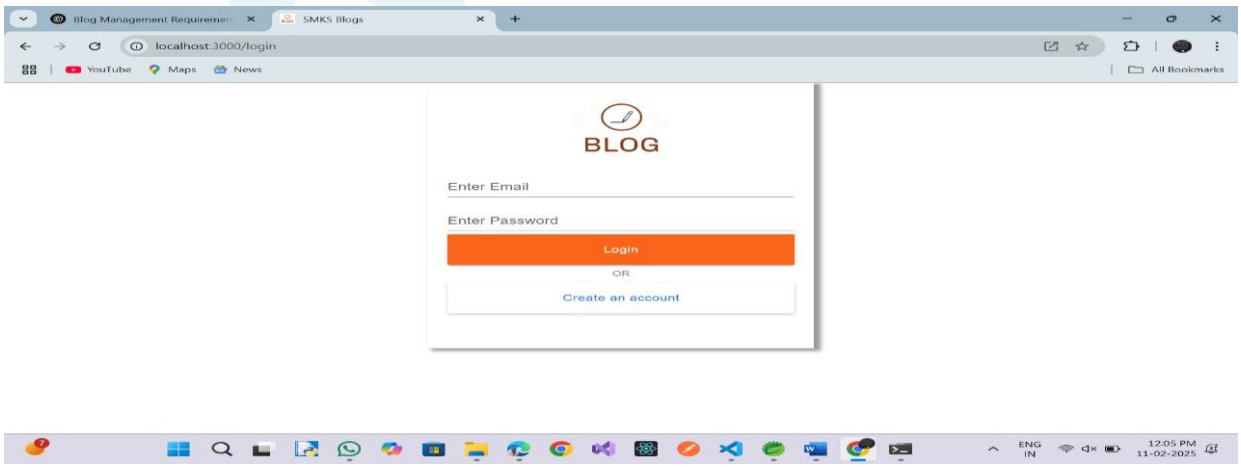


5.Project Screenshots

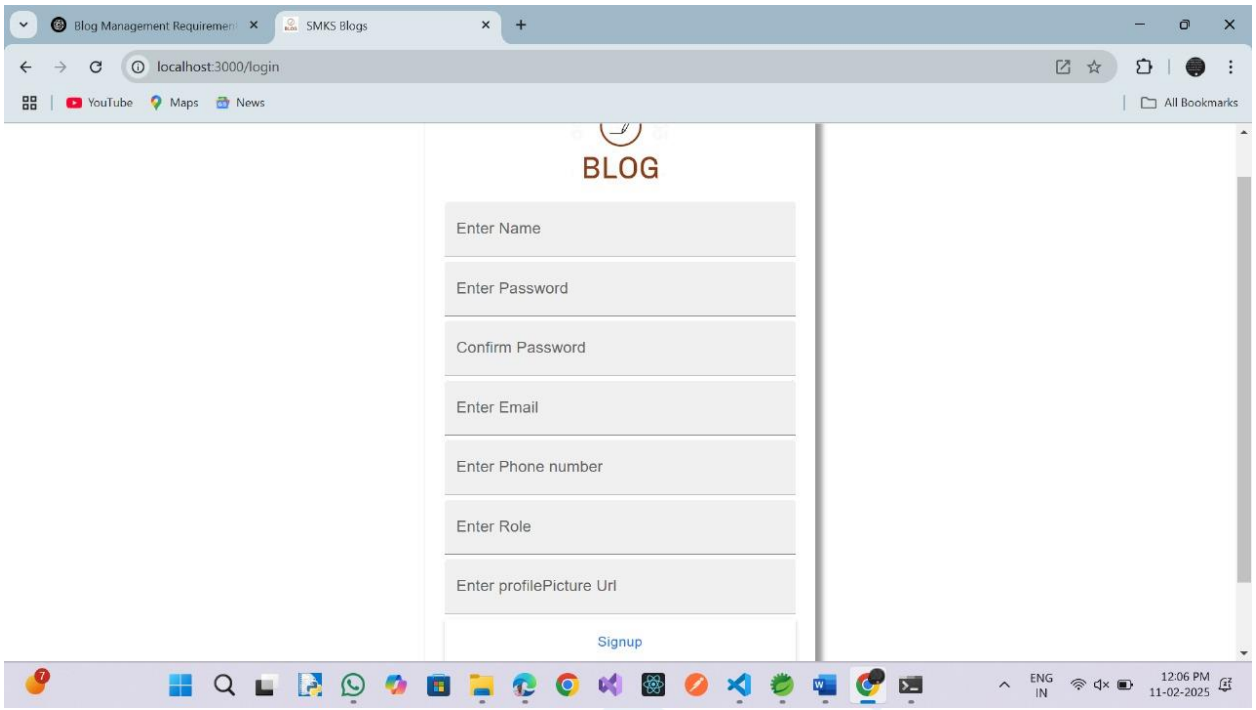
Home Page
Url - http://localhost:3000/



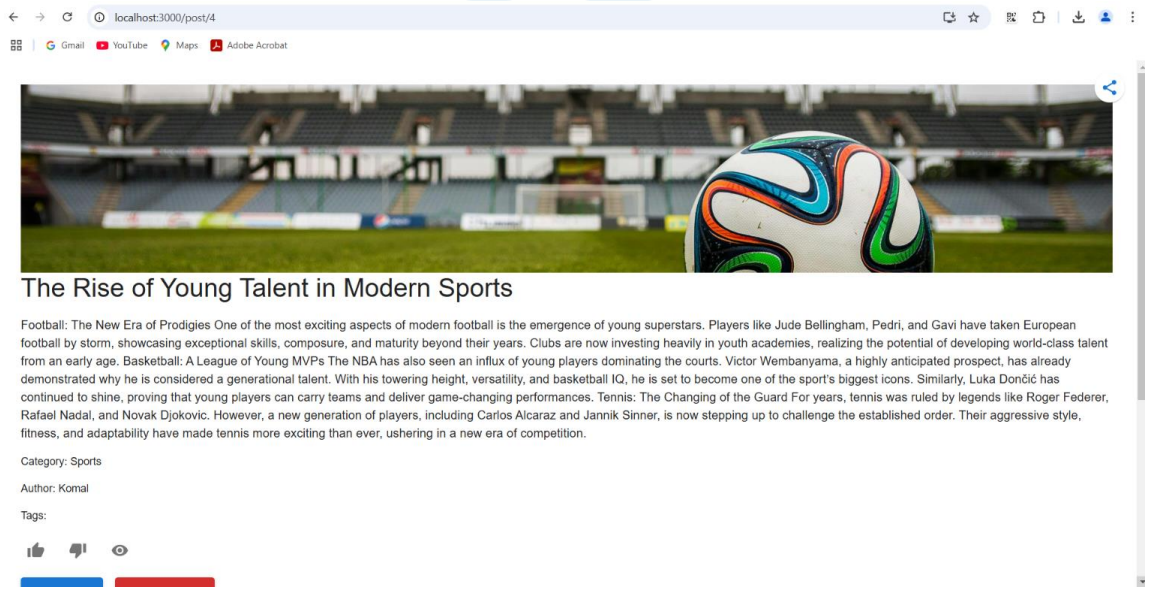
Url - http://localhost:3000/login

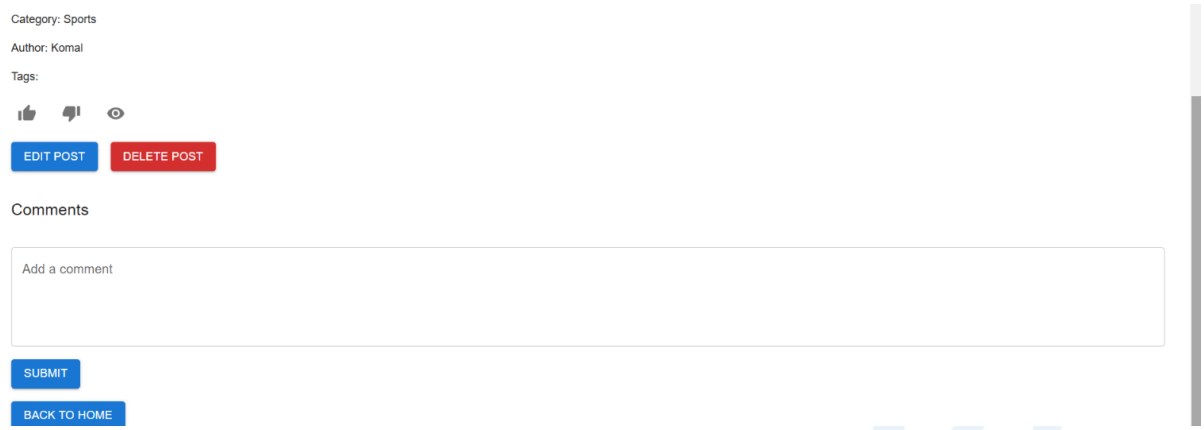


Url- http://localhost:3000/register

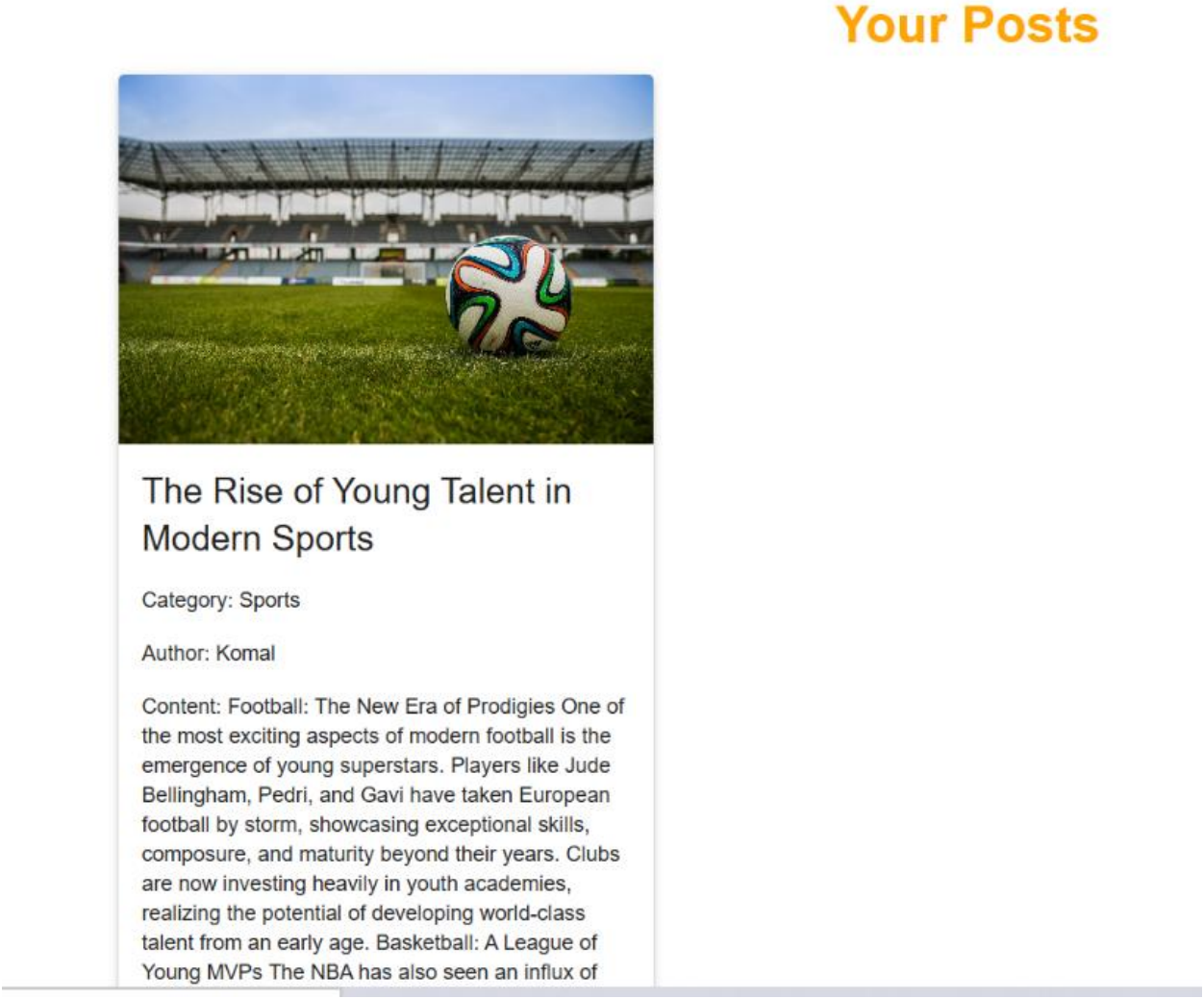


Added Post UI :

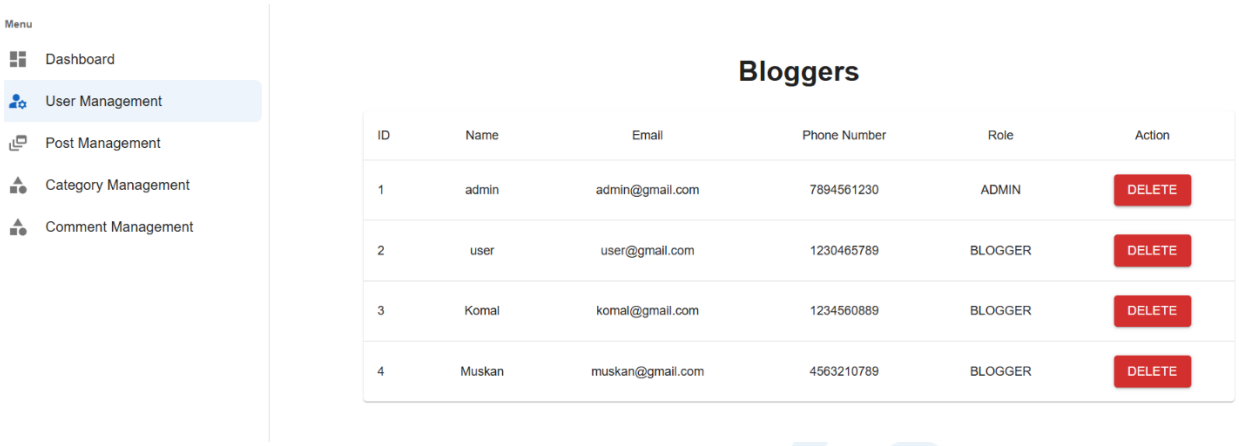


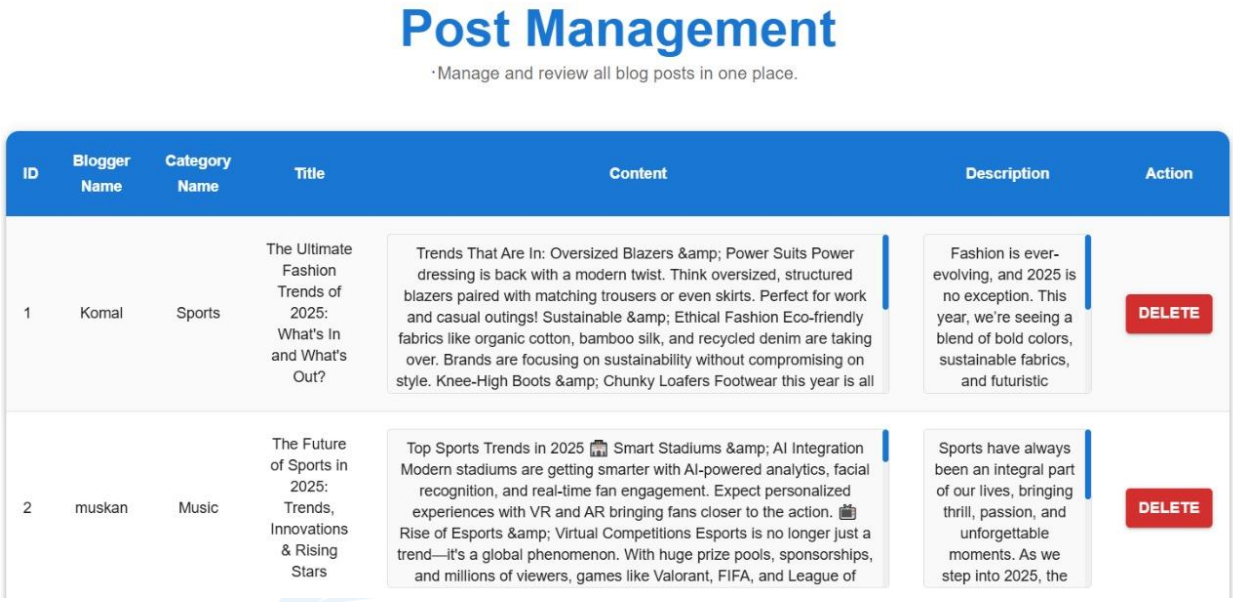


Bloggers Post :



Admin Page


Menu
Dashboard
User Management
Post Management
Category Management
Comment Management
Bloggers
ID
Name
Email
Phone Number
Role
Action
1
admin
admin@gmail.com
7894561230
ADMIN
DELETE
2
user
user@gmail.com
1230465789
BLOGGER
DELETE
3
Komal
komal@gmail.com
1234560889
BLOGGER
DELETE
4
Muskan
muskan@gmail.com
4563210789
BLOGGER
DELETE


Post Management
·Manage and review all blog posts in one place.
ID
Blogger Name
Category Name
Title
Content
Description
Action
1
Komal
Sports
The Ultimate Fashion Trends of 2025: What's In and What's Out?
Trends That Are In: Oversized Blazers & Power Suits Power dressing is back with a modern twist. Think oversized, structured blazers paired with matching trousers or even skirts. Perfect for work and casual outings! Sustainable & Ethical Fashion Eco-friendly fabrics like organic cotton, bamboo silk, and recycled denim are taking over. Brands are focusing on sustainability without compromising on style. Knee-High Boots & Chunky Loafers Footwear this year is all
Fashion is ever-evolving, and 2025 is no exception. This year, we're seeing a blend of bold colors, sustainable fabrics, and futuristic
DELETE
2
muskan
Music
The Future of Sports in 2025: Trends, Innovations & Rising Stars
Top Sports Trends in 2025 Smart Stadiums & AI Integration Modern stadiums are getting smarter with AI-powered analytics, facial recognition, and real-time fan engagement. Expect personalized experiences with VR and AR bringing fans closer to the action. Rise of Esports & Virtual Competitions Esports is no longer just a trend—it's a global phenomenon. With huge prize pools, sponsorships, and millions of viewers, games like Valorant, FIFA, and League of
Sports have always been an integral part of our lives, bringing thrill, passion, and unforgettable moments. As we step into 2025, the
DELETE

Category Management

Add Category

Category Name | Description | Add

Categories

ID	Name	Description	Actions
1	Music	This category is all about music	Edit Delete
2	Sports	This category is all about sports	Edit Delete
3	Tech	This category is all related about Technology	Edit Delete
4	Movie	This category is all about the movie	Edit Delete
5	Education	This category is all about education	Edit Delete

All Comments

Komal
Please read it ..

muskan
Good one

user
kkk

muskan
mmn

6.CONCLUSION

The Online Blog Management System provides a robust, secure, and user-friendly platform for administrators, authors, and readers to interact seamlessly. With advanced authentication mechanisms, efficient performance, and high reliability, this system ensures a smooth blogging experience. Its scalability and portability allow for future enhancements, making it an ideal solution for modern content management.

7. REFERENCES

1. Spring Boot Documentation URL: https://spring.io/projects/spring-boot
2. React.js Documentation URL: https://reactjs.org/docs/getting-started.html
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9. MDN Web Docs URL: https://developer.mozilla.org/
10. React Redux Integration Guide URL: https://react-redux.js.org