

DIU Club Manager

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of
Bachelor of Science in Computer Science and Engineering

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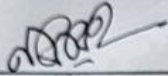
DHAKA, BANGLADESH

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APPROVAL

This Project titled "**DIU Club Manager**", submitted by Sadid Ahmed Alif, ID: 192-15-13275 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 25/01/2024

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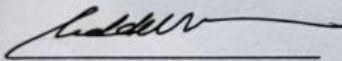
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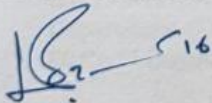
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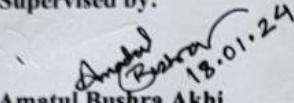
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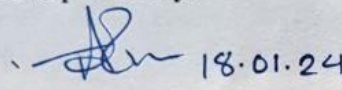
DECLARATION

I hereby declare that this project has been done by me under the supervision of **Amatul Bushra Akhi, Assistant Professor, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

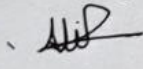
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ABSTRACT

"Diu Club Manager" is a creative web project that seeks to revolutionize the way clubs are run inside companies. Using the sophisticated administration panel of the platform, administrators can quickly create new clubs, assign members to them, and set specific tasks for them. To ensure a well-organized and handpicked community, new members must first complete the registration process, which is subject to admin approval. By serving as a hub for club activity sharing and enabling the creation of new events, the admin panel promotes club collaboration. When new events are requested, the admin may add them for the appropriate clubs fast, which increases the efficiency of event preparation. The platform has an email notification system that administrators may utilize to distribute information and ensure that everyone is aware of it, all in the interest of fostering effective communication. A larger audience may access event details via the website, which promotes transparency and community engagement. Acknowledging the need for physical sites, the platform has a room reservation system that is controlled by the admin panel. Clubs are able to reserve rooms in order to assist their operations. When a room becomes available, the administrator swiftly bookings it for the groups who require it using the regular class schedule. The clubs are then informed via emails of the confirmations, which leads to an efficient process for allocating resources.

"Diu Club Manager" is essentially an integrated system that handles all club administration tasks, such as booking rooms, organizing events, and welcoming newmembers. It promote a healthy and well-managed club ecosystem.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

We are excited to introduce our state-of-the-art web project, a one-stop shop for efficient and well-run club administration. Efficient coordination and communication are essential for any club or organization to thrive in today's fast-paced digital environment, and our platform is designed to achieve these goals. Our technology makes it simple for administrators to create and oversee clubs, assigning members to various tasks for smoother operations. It is easy for new users to sign up for the platform since administrators have the authority to approve new members' registrations in order to keep things secure and orderly. The heart of our platform is its robust admin panel, which serves as the hub for all club-related activities. This is a place where clubs may advertise their events, fostering a lively community. Clubs can also request the creation of new events that are tailored to their particular needs via the admin panel. Administrators may immediately create new activities for the respective groups, promoting involvement and collaboration, as soon as they get these requests. Our platform features a robust email notification system that ensures all members are informed and participating at all times by promptly disseminating vital updates and information. By making event information easily accessible to users, the website promotes participation and transparency. We understand the importance of having spaces reserved especially for club activities in addition to planning events. Our platform offers a simple-to-use hotel reservation system that is controlled by the admin panel. Clubs can make room requests, and administrators can swiftly allocate rooms and send clubs an email with confirmation. Administrators may verify room availability during regular class sessions.

In a nutshell, our web project is a comprehensive solution that streamlines and facilitates club operations. With the help of our platform, club administrators and members may set up and manage clubs, plan events, reserve spaces, and get

notifications—all of which help to establish a positive and productive club atmosphere. From the future club management, greetings!

1.2 Objectives

- **Club Management:** To provide administrators with the resources they require to establish and manage clubs successfully, allowing for the smooth operation of a variety of club activities.
- **Role Assignment:** Club administrators should be able to assign club members to different responsibilities within their own clubs in order to guarantee clearly defined roles and effective club operations.
- **User Registration:** Make it simple for new users to register on the website in order to promote participation and diversity.
- **Membership Approval:** To provide a secure and well-organized environment, implement a system that enables club administrators to review and approve new member registrations.
- **Activity Sharing:** Enable all clubs to exchange updates and activities through an admin panel, fostering a sense of camaraderie and cooperation among club members.
- **Event Management:** Give clubs the ability to start new events and request the development of others via the admin panel in order to promote involvement and event planning.
- **Email Notifications:** Provide a solid email notification system that lets administrators give out information and changes to all members promptly and effectively.
- **Event Details Access:** Ensure that all members can easily access and read event details via the website in order to increase transparency and member involvement.
- **Room Booking System:** Supply clubs with an admin panel-managed, user-friendly system that lets them reserve rooms for their activities.

- Enable administrators to easily locate and allocate available rooms in compliance with regular class schedules, ensuring that clubs have the place they require for their events.
- Confirmation process: Establish a confirmation process where clubs receive email notifications validating their accommodation bookings in order to increase clarity and dependability.

Together, these objectives create a comprehensive and efficient platform for club management that facilitates member experience, promotes teamwork inside the club, and expedites administrative tasks.

1.3 Motivation

The aim of our website project is to bring club and organization activities into the digital age by upgrading and optimizing them. We saw the need for a comprehensive solution to enable members and administrators equally in a fast-paced setting where effective communication and teamwork are essential. The primary objective is to provide administrators with an easy-to-use club creation and management interface. We wish to streamline club operations by enabling administrators to assign members to specific roles and ensuring clearly defined duties and responsibilities. Second, in an attempt to encourage greater participation and diversity within clubs, we offer a straightforward registration procedure for new members. We provide administrators the power to approve new member registrations in order to foster a secure and well-organized environment. We are also driven by the goal of developing vibrant club communities. Our platform provides all clubs with the resources they need to collaborate on events and talk about their plans, strengthening bonds between members through a centralized admin panel. We also recognize the importance of efficient event management. By utilizing the admin panel to make event creation and requests more straightforward and by implementing a robust email notification system, we want to increase involvement and communication.

Lastly, we would want to discuss the value of having designated spaces. Our admin panel-managed room booking solution ensures that clubs have the facilities they want and streamlines the process of booking rooms for club programming.

Our primary objective is to enable clubs and organizations with an all-inclusive, user-friendly platform that promotes cooperation, expedites administrative procedures, and enhances the club experience overall. We want to create an effective, transparent, and easily available club administration system for all users, and this project is the first step toward that aim.

1.4 Expected outcome

The expected outcome of this online project is the development of a comprehensive and user-friendly platform that significantly expedites club administration, enhances member participation, and fosters a lively and engaged club community. By addressing many aspects of club management, we want to accomplish the following outcomes:

- **Effective Club Administration:** Administrative overhead can be reduced and clubs can be handled more skillfully by making it easier for administrators to allocate new clubs and club members to different roles.
- **Simplified Membership Onboarding:** New members will go through a simple registration process, and administrators may swiftly accept their registrations in order to maintain a secure and well-organized club environment.
- **Communities of Rich Clubs: Rich Club Communities:** By collaborating on events and exchanging ideas via the admin panel, all clubs will be able to foster a sense of belonging and encourage participation.
- **Better Event Coordination:** Clubs may request events through the admin panel, which leads to a greater variety of club activities and efficient event planning.
- **Effective Communication:** The robust email notification system improves engagement and communication by ensuring that all members receive timely updates and event information.

- Openness and engagement: More openness and club involvement will result from members' ease of access to event information on the website.
- Simplified Room Booking: The admin panel-controlled room booking system will make it easier to schedule rooms for club programming by ensuring that clubs have the resources they require for their activities.
- Reliability and Confirmation: Clubs will get email confirmations for their bookings, providing them with the assurance they need to carefully plan their programs.

In a nutshell, this web project aims to improve club management through increased efficiency, openness, and collaboration. By offering administrators and club members access to powerful tools and features, we intend to create a rich and enjoyable club experience that promotes active engagement, effective communication, and the overall success of clubs and their activities. By giving clubs and organizations more control, this platform hopes to enhance the club experience for all participants.

1.5 Report Layout

This report consists of 6 chapters. These are

Introduction

- Introduction
- Objectives
- Motivation
- Expected Outcome
- Report Layout

Background

- Introduction
- Related Works
- Comparative Studies
- Scope of the Problem

- Challenges

Software Requirement Specification

- Introduction
- Business Process Model
- Hardware & Software Requirements for the System
- Use Case Diagram
- Sequence Diagram
- Entity-Relationship Diagram (ERD)
- Activity Diagram
- Implementation Requirements

Design Specification

- User Application Design
- Admin App Design
- Database Design

Implementation and Testing

- Implementation of Database
- Implementation of Interaction
- Testing Implementation
- Test Results and Reports

Conclusion and Future Scope

- Conclusion
- Future Scope

CHAPTER 2

BACKGROUND

2.1 Introduction

"Diu Club Manager" is a cutting-edge web tool designed specifically to enhance and streamline club administration within a community or institution. This initiative, which is situated at the nexus of technological innovation and community participation, intends to use a centralized and user-friendly online platform to address the complicated problems of club management, event planning, and resource distribution. Essentially, by creating a dynamic administrative panel that allows administrators to create and designate new clubs, the project ushers in a new era of organizational efficiency. Beyond just forming clubs, this platform can also be used to assign tasks to club members in a clear and orderly way, establishing a hierarchy within the community. The project's inclusivity is demonstrated by its simple onboarding process, which enables new members to join through a streamlined registration process. The cooperative admin panel, which serves as a gathering place for clubs to discuss activities and schedule events, is an essential part of the project. Clubs can actively participate in creating new events through the platform by submitting suggestions to the administrator for review and possible implementation. Thanks to this responsive technology that ensures a prompt reaction, the admin may plan events that are precisely tailored to each club's requirements. The idea includes a clever alerting system that makes use of email's extensive usage to encourage effective communication. Important information may be quickly disseminated by administrators to ensure that everyone is informed of announcements and activities. The public disclosure of all event details on the website encourages transparency and community engagement, which strengthens this spirit of cooperation even more. The idea incorporates a practical method for room reservations, taking into consideration the practical needs that clubs have while organizing events. During regular class hours, clubs can use this system to make bookings for rooms, and the admin can confirm availability. The admin panel is used to control the system. As soon as a spot becomes available, the admin promptly

confirms the reservation and forwards the information to the appropriate clubs, ensuring a seamless and efficient process.

With its comprehensive and user-friendly digital solution, "Diu Club Manager" is essentially a well-balanced blend of community dynamics and technology, set to fundamentally transform the club administration landscape.

2.2 Related Works

The "Diu Club Manager" project encompasses various functionalities aimed at efficient club management, including club creation, member role assignments, event coordination, and room booking. Several related works and existing platforms share similarities in addressing aspects of club organization, event management, and resource allocation. Here are some related works that showcase similar features:

- **Student Organization Management Systems:**
 - Many universities and educational institutions employ web platforms or systems specifically tailored for managing student organizations. These systems often include features for creating and managing clubs, assigning roles, and coordinating events.
- **Event Management Platforms:**
 - There are numerous event management platforms that offer tools for organizing and coordinating events. These platforms often allow users to create events, manage guest lists, and send notifications. However, they might not always integrate seamlessly with broader club management functionalities.
- **Collaborative Community Platforms:**
 - Community-centric platforms that facilitate collaboration and communication among members share similarities with the collaborative aspects of "Diu Club Manager." These platforms may include discussion forums, shared calendars, and notification systems.
- **Room Booking Systems:**

- Various institutions and organizations implement room booking systems to efficiently manage and allocate spaces. These systems enable users to request and book rooms for specific purposes, similar to the room booking feature in "Diu Club Manager."
- **Club Management Apps for Organizations:**
 - Some mobile applications and web platforms are designed for managing clubs and organizations. They often include features for creating and managing events, communicating with members, and handling administrative tasks.
- **University Management Systems:**
 - In educational institutions, broader university management systems may include modules for student activities and club management. These systems often cover a wide range of administrative functions, including student enrollment, grading, and club activities.

Examining these related works can provide insights into design choices, functionalities, and best practices that may inform the development and enhancement of "Diu Club Manager." Additionally, understanding user experiences with existing systems can contribute to creating a more user-friendly and effective platform for club management.

2.3 Comparative Studies

An examination of the "Diu Club Manager" online project in comparison to other club management systems already in use finds distinctive features. Notable are its emphasis on seamless integration, teamwork features, and comprehensive management. Compared to other club administration systems, "Diu Club Manager" performs remarkably well in terms of its streamlined administrative functions. The administrators' power to form new clubs and designate roles to members allows the community to be structured into a functional hierarchy. In comparison, other systems could not offer an easy-to-use user interface, which could complicate administrative tasks. The integrated collaboration features—such as shared activities and event creation through the admin panel—mark a significant change from systems where these duties may exist as separate entities. This integrated approach guarantees an open and cohesive community connection while providing clubs with a complete solution for seamless event coordination. The inclusion of a room booking system controlled by the

admin panel is one obvious modification. Unlike some other systems that might not offer an integrated solution, "Diu Club Manager" simplifies the resource allocation process by introducing recurrent class checks. This not only fixes potential issues but also ensures efficient hotel bookings for club programming. Furthermore, the platform's alert system enhances communication, avoiding some shortcomings in other systems that could not have effective channels for communication. By making event details publicly available, the website distinguishes itself from competing platforms that might not place as much focus on information accessibility.

In summary, "Diu Club Manager" has a competitive advantage since it provides a thorough and user-centered approach to club management. It stands out as a cutting-edge solution that bridges the gaps in traditional club administration systems because of its emphasis on collaboration, integration, and resource efficiency.

2.4 Scope of the Problems

The "Diu Club Manager" online project offers a comprehensive solution for club management, but it also raises a number of potential problems that need to be carefully evaluated for successful implementation:

- **User Adoption and Training:**

Problem: Ensuring that club members and administrators can easily become used to the platform; this necessitates the creation of user-friendly interfaces and potential training curricula for optimal performance.

- **Approval Workflow Optimization:**

Problem: Balancing the new member approval process's efficiency to prevent bottlenecks with maintaining strict scrutiny to ensure a high-quality community.

- **Communication Overload:**

Problem: Avoiding user burnout and controlling the potential for communication overload, especially while managing a high volume of event requests and notifications.

- **Event Request Handling:**

Problem: The challenge is in efficiently managing requests for events from various groups, ensuring prompt responses, and avoiding setbacks in the event preparation process.

- **Conflicts with Room Reservations:**

Problem: Resolving potential conflicts with reservations, especially at peak times, and devising strategies to resolve disagreements over requests.

- **Notification System Reliability:**

Problem: Ensuring the notification system is dependable to prevent missed communications and that important information reaches all relevant parties.

- **Transparent Event Information:**

Problem: Making sure that all publicly accessible event information on the website is accurate and comprehensive in order to maintain transparency and prevent misrepresentation.

- **Regular Class Routine Integration Challenges:**

Problem: The integration of room bookings with regular class procedures presents challenges. These include managing potential conflicts, ensuring that academic activities are not disrupted, and preventing disruptions.

- **Scalability Issues:**

Problem: Recognizing and fixing any scalability issues will assist to maintain the platform's effectiveness and responsiveness as the user base grows.

- **Concerns about Privacy and Security:**

Problem: The challenge is in mitigating security risks, safeguarding user data, and adhering to privacy regulations to ensure the confidentiality of personal information.

To solve these issues, a purposeful approach including user feedback, iterative testing, and continuous improvement would be required. The platform will be more effective

in encouraging capable club management and a vibrant community if these issues are properly overcome.

2.5 Challenges

In order to ensure the effective implementation of the "Diu Club Manager" online project, several aspects must be carefully considered.

One of the challenges in user adoption and engagement is motivating administrators, club members, and new registrants to actively participate and communicate. In order to ensure that users fully capitalize on the benefits and capabilities of the platform, effective onboarding procedures are required.

Process of Effective Acceptance: Difficulty Striking a balance between maintaining a robust system that ensures the integrity and quality of the club community and expediting the acceptance of new members. It is important to optimize this procedure while maintaining its comprehensiveness. It might be difficult to effectively manage communication in order to prevent overload, especially when dealing with a high volume of event requests and notifications. making certain that platform users can efficiently organize and manage their chats.

Event Coordination and timely Responses: Task: Ensuring efficient management and response to various clubs' requests for events, avoiding delays in the event planning process, and ensuring timely communication with club organizers to assure a seamless planning process. **Optimizing the System for Room Reservations: Challenge:** preventing conflicts, keeping the system operating at peak efficiency, and addressing any problems with room availability. attempting to provide a smooth experience for organizations requesting accommodations for their events.

Ensuring the reliability of the notification system to prevent missed messages is the task of the Reliable Notification System. ensuring that important information, such as event specifics and hotel confirmations, is promptly sent to all relevant parties.

Transparent Event Information: Task: Maintaining transparency by making sure that the website's event data that is accessible to the general public is correct. removing

barriers associated with potentially inaccurate information and providing customers with accurate information.

Combining a Regular Class Schedule with Integration: Managing hotel bookings and academic obligations in a way that doesn't conflict with normal class schedules is challenging. Reducing conflicts and ensuring that everything goes according to the institution's instructional schedule.

The speed at which these problems are fixed will determine how effectively the "Diu Club Manager" platform functions overall and how satisfied users are. It will be feasible to overcome these challenges and refine the platform for its intended usage through regular feedback loops, incremental improvements, and a user-centric approach.

CHAPTER 3

Software Requirement Specification

3.1 Introduction

SRS: Software Requirements Specification

A comprehensive web-based project named "Diu Club Manager" is intended to streamline club administration at academic establishments. This software requirement specification contains the functional and non-functional requirements that will guide the platform's development. The primary objective is to provide a dependable and intuitive system that streamlines the creation, management, and reservation of rooms for clubs and events for administrators, club members, and prospective new members.

Crucial attributes:

- **Club Management:** The system makes it simple for administrators to assign new clubs and monitor the responsibilities of their members.
- **Membership Registration and Approval:** Prospective members may register, and administrators have the authority to approve new registrations in order to maintain the integrity of the club community.
- **Event Coordination:** Clubs may utilize the admin panel to plan, approve, and manage their events in order to guarantee a cohesive and well-organized approach to club operations.
- **Notification System:** The platform's robust notification system enables administrators to efficiently send out critical information via email.
- **Room Booking System:** Clubs can use an integrated room booking system to request and reserve rooms for their activities. This system enables administrators to monitor room allocations by regularly checking in with the classes.

This software requirement specification aims to capture the essence of the "Diu Club Manager" project by providing a flexible, intuitive, and efficient platform that meets the diverse needs of club administrators and members.

3.2 Business Process Model

- **Procedure for Club Assignment:**

Assignments:

The administrator appoints new clubs.

Club members are assigned different tasks by the administration.

Flow:

The club is formed by the administrator.

The administrator assigns positions to members based on their tasks.

- **Process for Managing Memberships:**

Actions:

On the website, new members register.

The registration of new members is approved by the admins.

Flow:

Those who are interested complete the registration process.

The administrator reviews and approves new member requests.

- **Event Coordination Process:**

Action:

Clubs use the admin panel to create events as part of the event coordination process.

Clubs submit requests for event approval to the administrator.

The admin for the appropriate clubs creates the approval for events.

Flow:

By logging into the admin section, clubs can request approval for events.

The administrator reviews and approves events before they are created on the website.

- **Notification System Process:**

Actions:

Email notifications are sent by the administrator.

Flow:

The administrator notifies relevant parties via email of events that have been approved.

- **Room Booking Process:**

Action:

The process by which clubs reserve rooms is as follows.

When classes are in session, the administrator searches for available rooms.

Rooms are reserved by administrators for approved club activities.

As a room is reserved, the admin notifies the clubs.

Flow:

Clubs ask for bookings to be made in rooms.

The admin confirms that the room is available for use during the designated class times.

The administrator confirms reservations via email and notifies the appropriate clubs.

- **Event Specifics Visibility Procedure:**

Tasks:

The event information are displayed on the website.

Flow:

Upon authorization and room confirmation, any user of the website may access the event details.

This business process model outlines the primary tasks and workflows of the "Diu Club Manager" web project and demonstrates how seamlessly room booking, club

assignment, membership management, event coordination, notification distribution, and visibility of event details are integrated into the platform's features.

3.3 Hardware & Software Requirements for System

Hardware specifications:

- **Server:** A robust server capable of handling the database transactions and concurrent user requests for the web project, with sufficient RAM and processing power.
- **Storage:** The server has adequate space to hold system files, club membership data, event specifics, and user information.
- **Network Infrastructure:** Dependable and quick internet connectivity to facilitate data transfer and client-server interaction.
- **Backup System:** A solid backup system will ensure data integrity and assist in recovery in the case of a system failure or data loss.
- **Firewall and Security Devices:** User data is protected from cyber dangers and unauthorized access by security appliances like firewalls.

Software prerequisites:

- **System of Operation:** A robust server operating system, such as Linux or Windows Server, is necessary, and this will depend on the system administrator's skill level and preferences.
- **Web server:** Use Apache or Nginx to host the web application and manage incoming HTTP requests.
- **Database Management System (DBMS):** Use a relational database management system, such as MySQL or PostgreSQL, to store and manage user data, club information, and events.
- **Programming Language:** Python or PHP are the two programming languages available, based on the server-side scripting system's requirements and the developer's preferences.

- **Web framework:** Laravel (PHP) or Django (Python) for efficient project management and the development of dynamic webpages.
- **Version Control:** Git is used for version control, which encourages developer collaboration and maintains code integrity.
- **Frontend technologies:** Use HTML, CSS, JavaScript, and a frontend framework such as React or Vue.js to construct a dynamic and responsive user experience.
- **Notification Service:** Integration with an email service to send notifications using SMTP servers or other email APIs.
- **Room Booking System:** Integrate with a calendar service or a specifically made room booking module to manage and display room availability.
- **Security Measures:** To prevent weaknesses, security procedures include regular security updates, SSL/TLS certifications for secure data transport, and encryption techniques.
- **Development and Testing Tools:** Tools for Testing and Development: Integrated development environments (IDEs), testing frameworks, and debugging tools for efficient development and quality assurance.
- **Analytics and Monitoring Tools:** Utilizing tools to monitor system performance, observe user behavior, and identify potential issues.
- **Documentation and Collaboration Tools:** Confluence, Slack, Jira, and other project management, communication, and documentation platforms for cooperation and project tracking are examples of collaboration and documentation software.

These hardware and software requirements form the foundation of the "Diu Club Manager" online project, which ensures a robust and scalable solution for effective club administration and collaboration.

3.4 Use Case Diagram

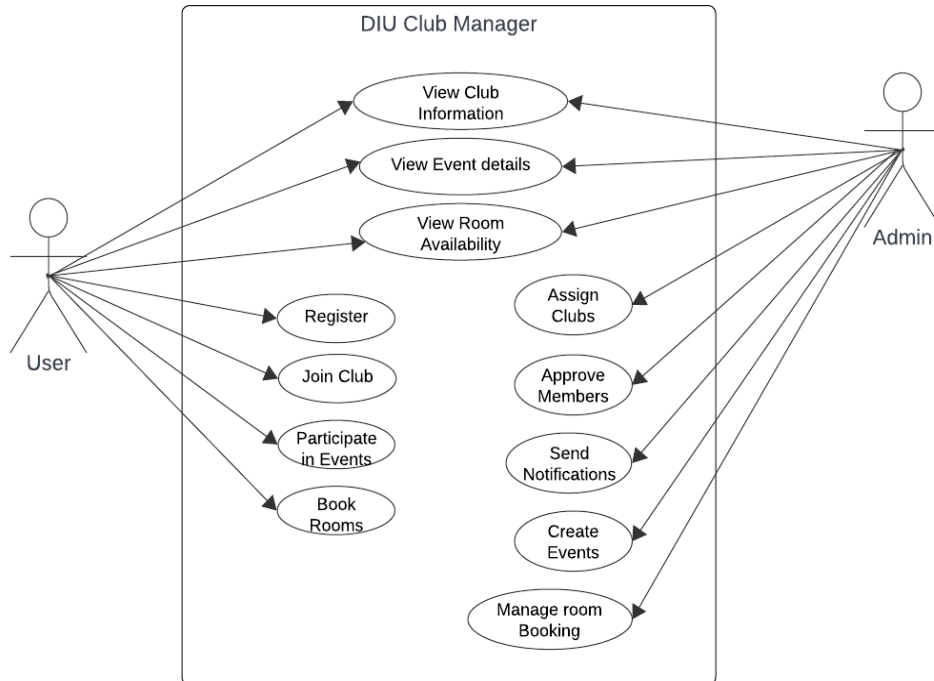


Figure: 3.1 Use Case Diagram for Users

3.5 Sequence Diagram

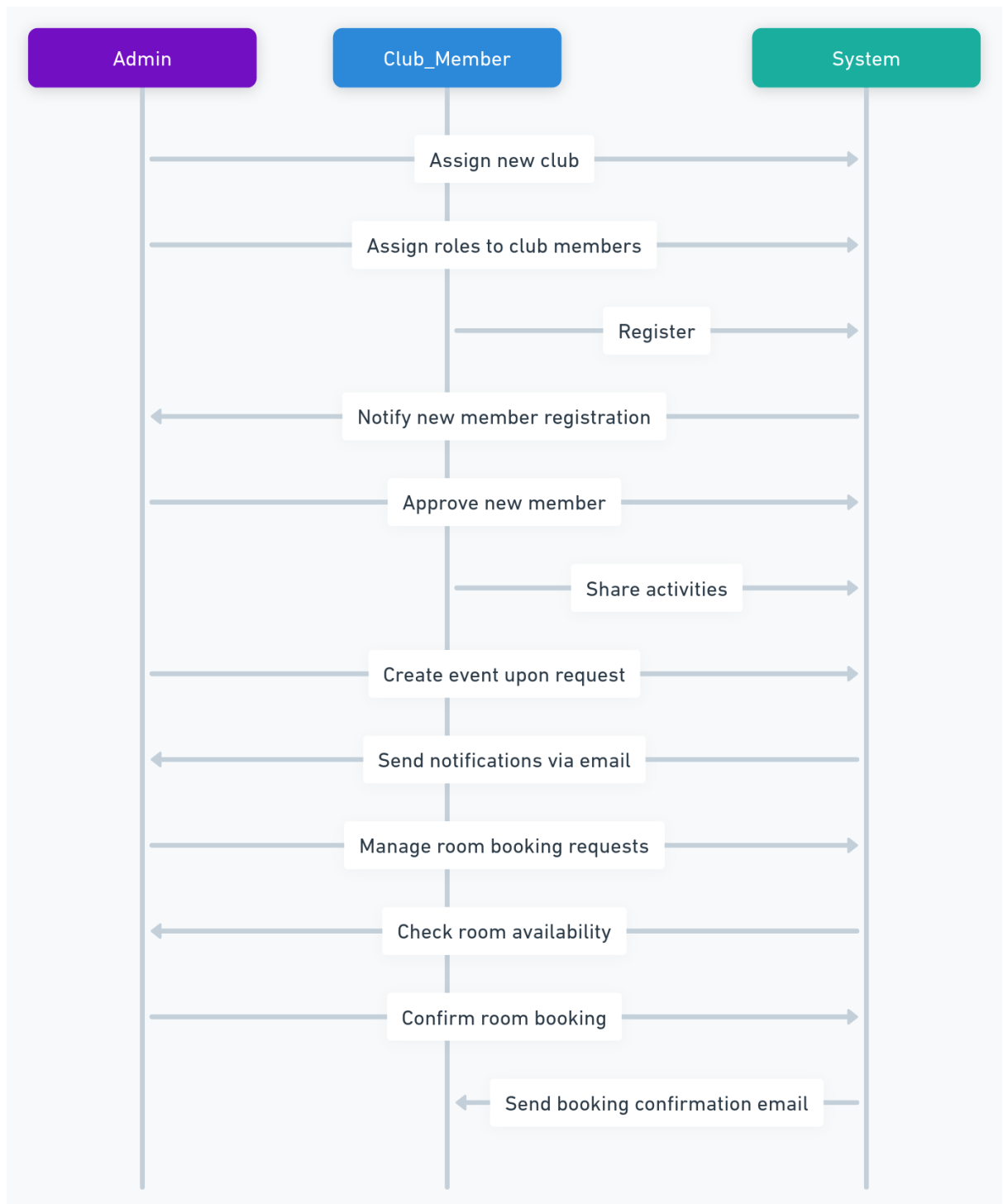


Figure: 3.2 Sequence Diagram for Users

3.6 Entity-Relationship Diagram (ERD)



Figure: 3.4 Entity-Relationship Diagram (ERD)

3.7 Activity Diagram

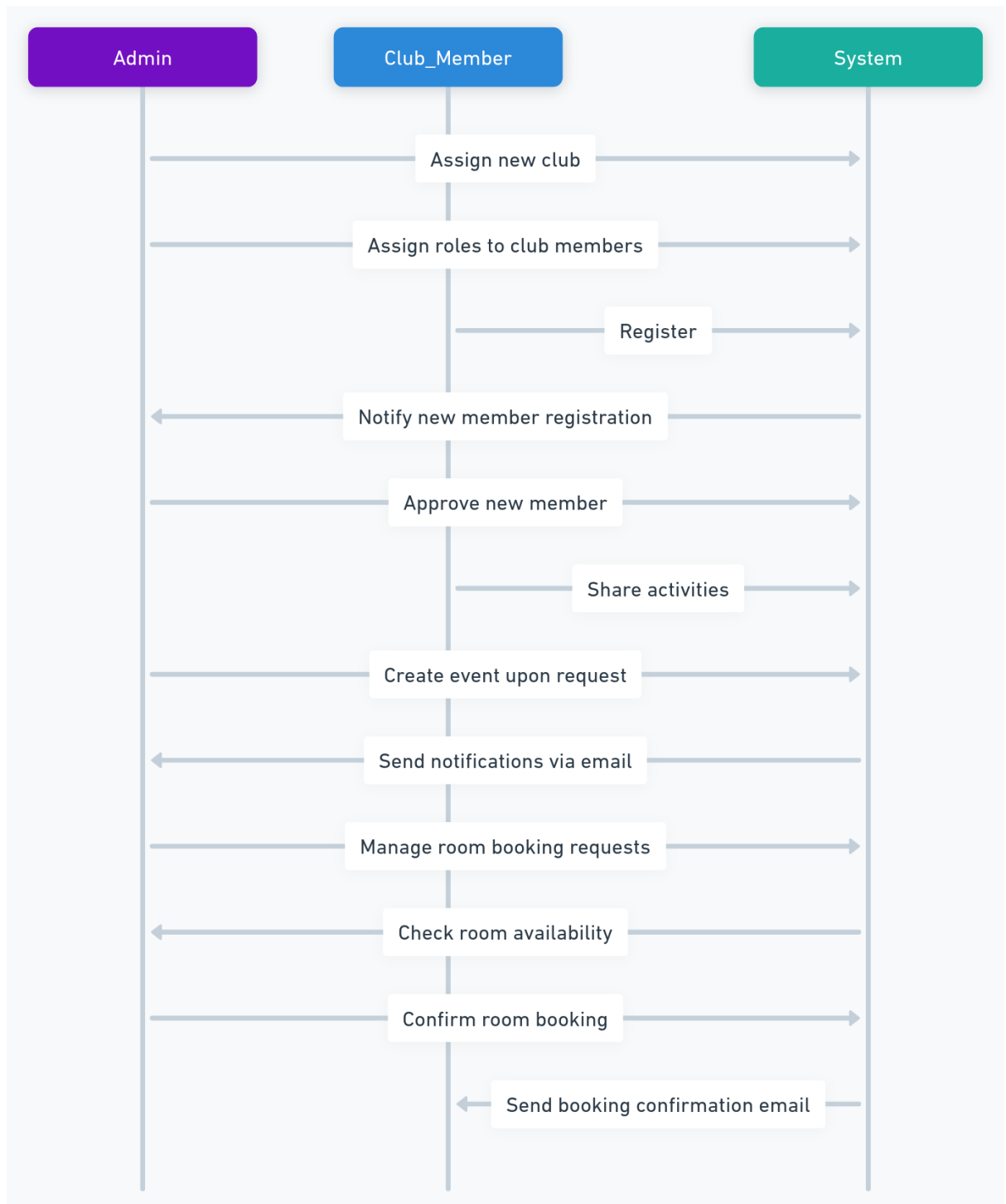


Figure: 3.6 Activity Diagram

3.8 Implementation Requirements

A wide range of features and functionalities are needed for the Diu Club Manager implementation in order to deliver an efficient and user-friendly club management platform. The system's top goal should be a secure and user-friendly interface, beginning with a robust user registration and authentication process. This entails setting up secure mechanisms for user authentication during login and sign-up. To assign and administer clubs, it is imperative to provide an intuitive admin interface with essential club management features. A flexible system for assigning members to various tasks inside their own clubs is also essential for effective collaboration. Because of the importance of activities, an administrative panel must be established in order for clubs to plan and coordinate events. A notification system will be required to notify users about hotel reservations, event permissions, and other important actions. Event details must be shown prominently on the website for everyone to view. As part of the installation, the room booking system should be managed by the admin panel. This means creating the necessary tools so that groups may book rooms and the administrator can respond to and approve these requests promptly. For email communication to work effectively and ensure that users receive confirmations for authorized events and bookings in a timely way, email notification features must be implemented.

The management of various user requests, the development of events, and reservations for accommodation all require strong database administration and backend logic. Strict testing procedures, user interface responsiveness, comprehensive documentation, and an emphasis on security standards will all be crucial elements of the implementation. The system has to be scalable and performance-optimized in order to accommodate future growth in the number of users and data. In the end, version control and a carefully considered deployment plan will enable efficient code management and a smooth transition to the production environment.

CHAPTER 4

DESIGN SPECIFICATION

4.1 User Panel Design

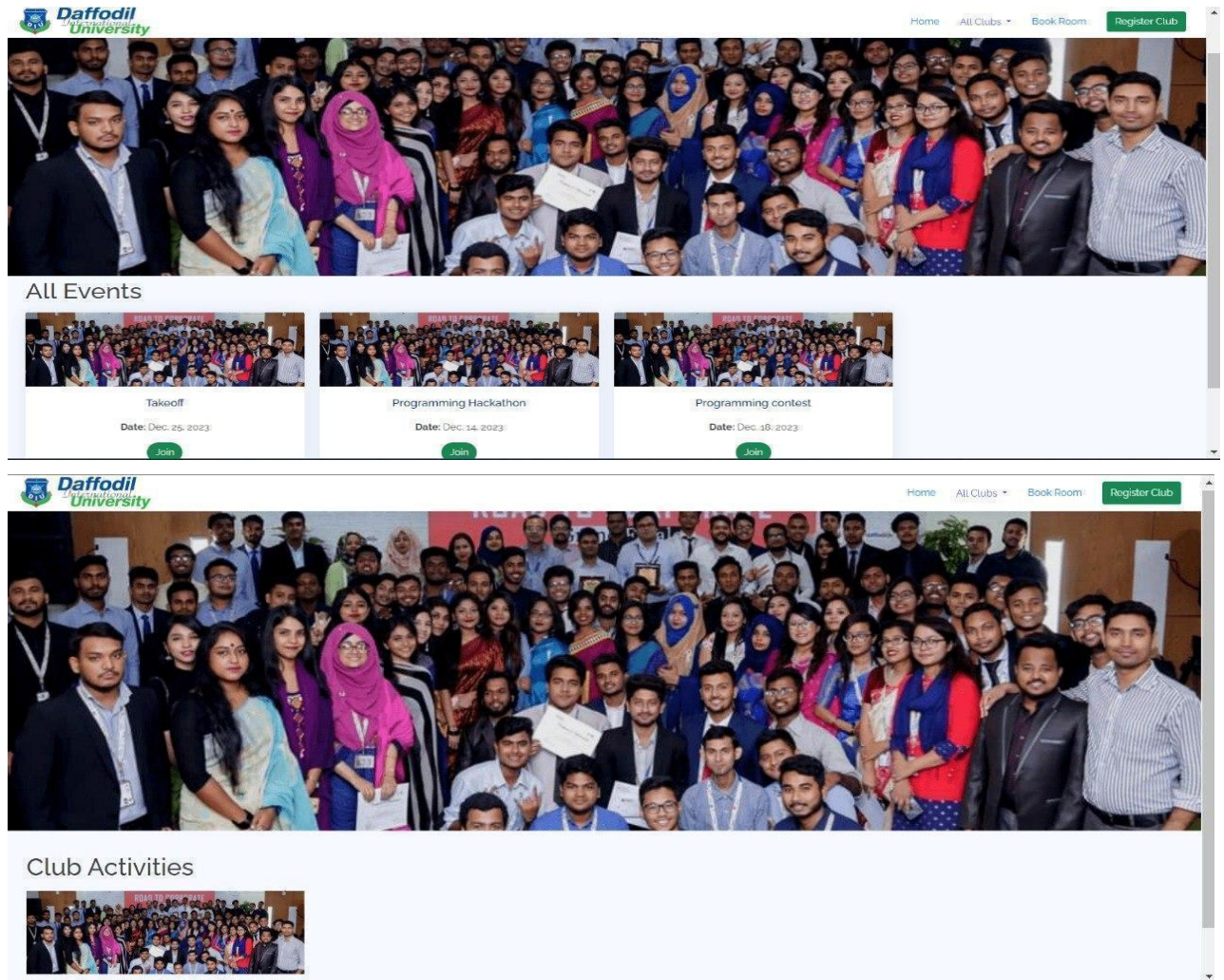


Figure: 4.1 Home Page

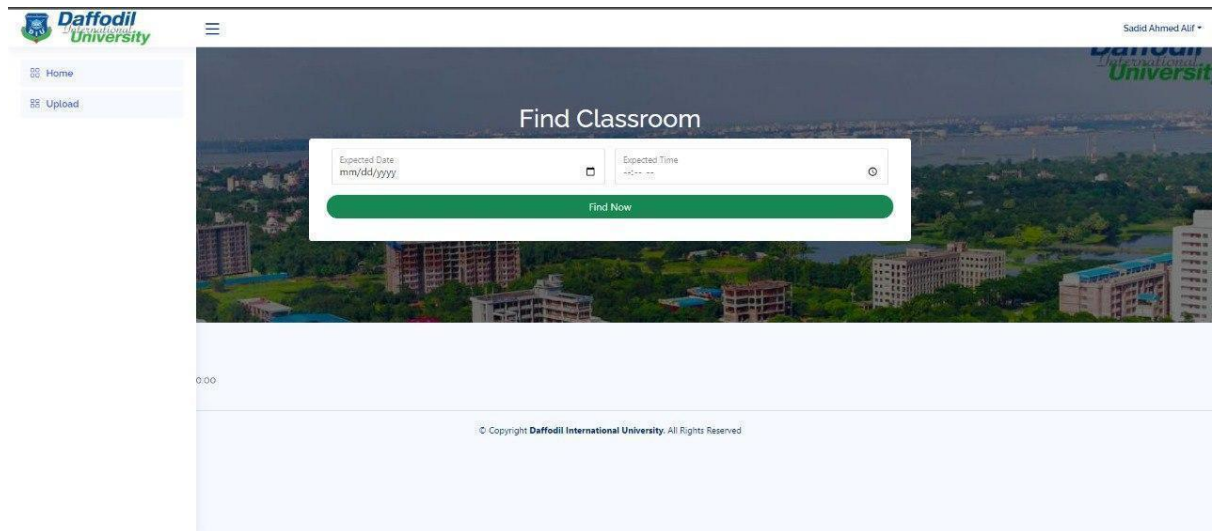


Figure: 4.2 Find Classroom

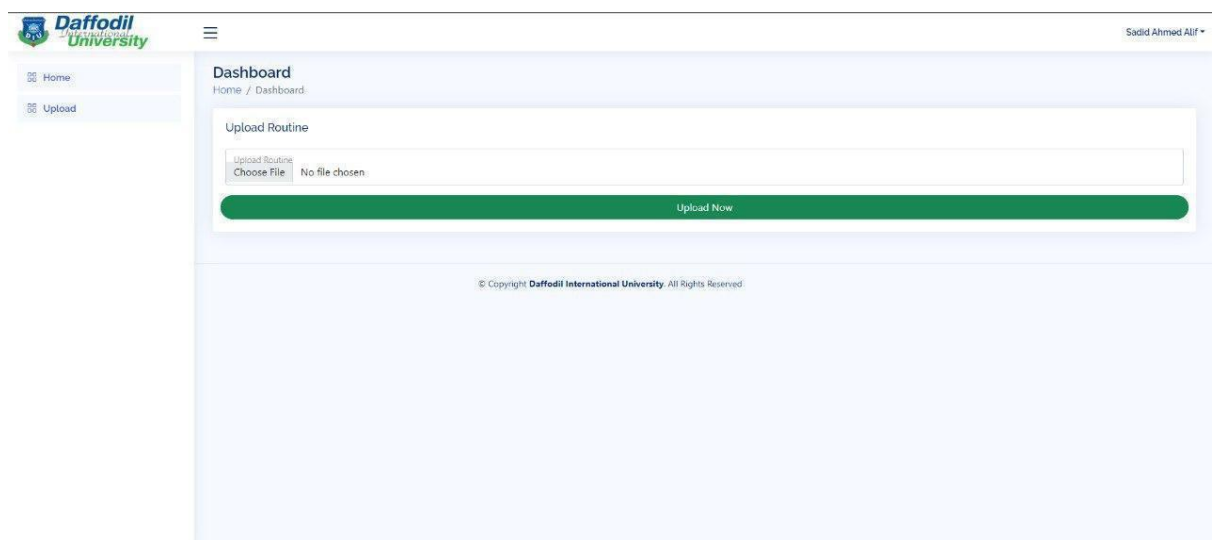


Figure: 4.3 Routine Upload

4.1 Admin Panel Design

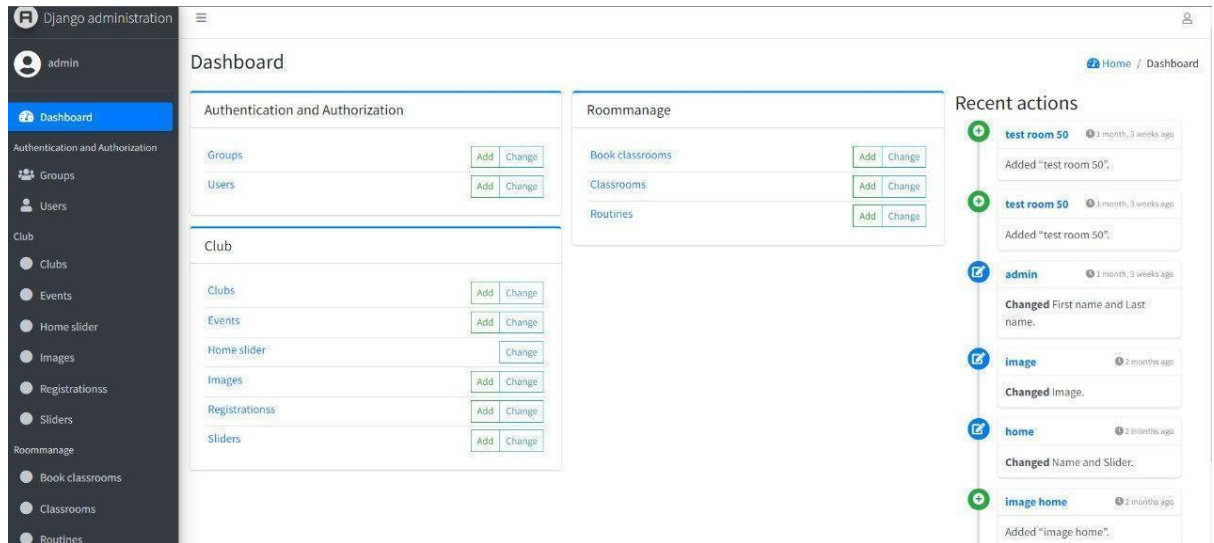


Figure: 4.4 Dashboard

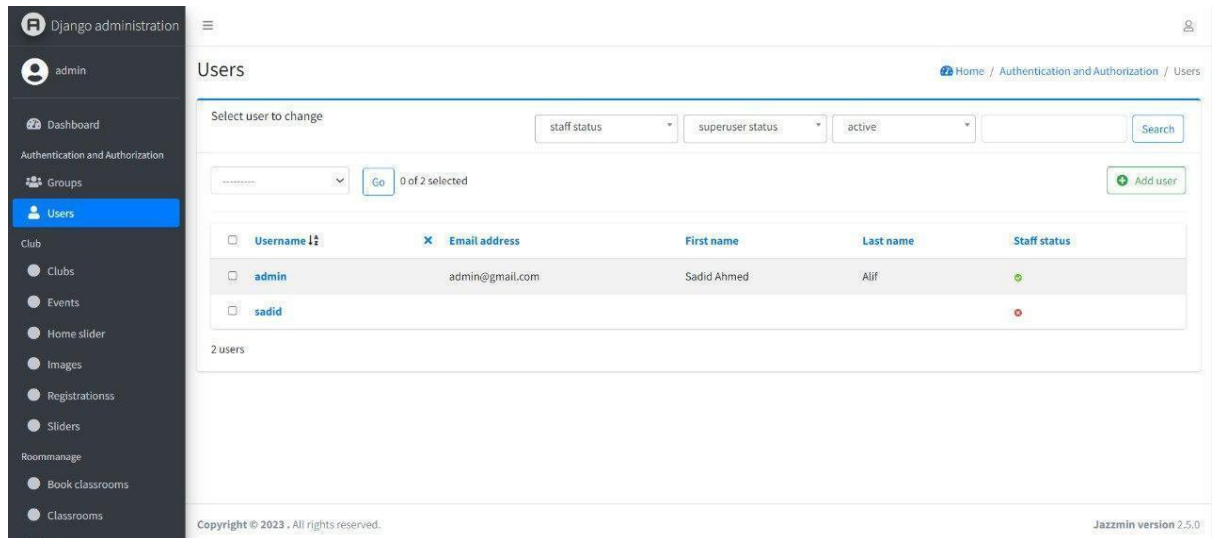


Figure: 4.5 Users

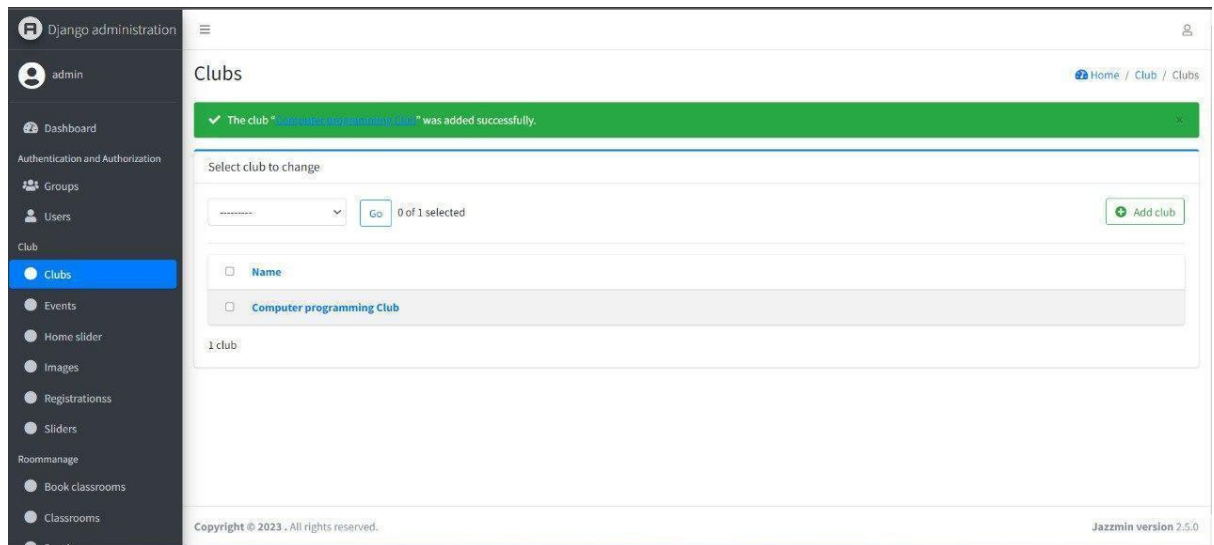


Figure: 4.6 Clubs

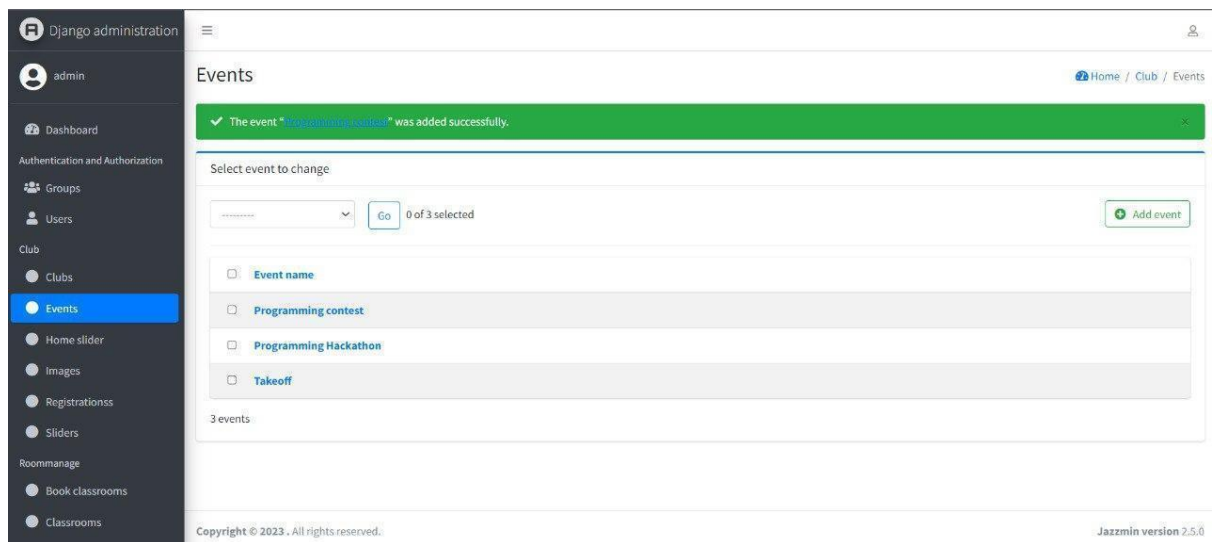


Figure: 4.7 Events

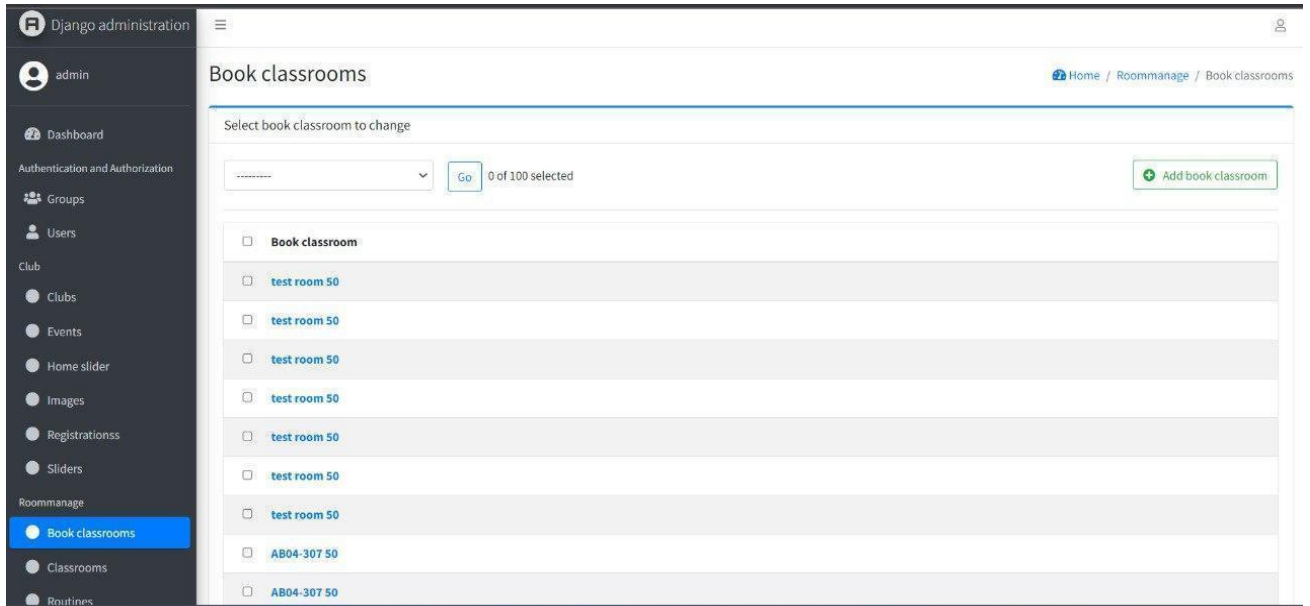


Figure: 4.8 Book Classrooms



Figure: 4.9 Classrooms

4.2 Database Design

id	registrations_id	club_id
1	2	1
2	2	2
3	3	1
4	3	2
5	4	1
6	4	2
7	5	1
8	5	2
9	6	1
10	6	2

Figure: 4.10 SQLite Database

id	password	last_login	is_superuser	username	last_name	email	is_staff	is_active	date_joined	first_name
1	pbkdf2_sha256\$12000\$9QZ5MhZT1KJFC2Bfyo4c\$Q5ehjG020ArbsFyoKzLm@K1AeF11qH5u0ZL9P3F3h-	2023-07-07 18:19:28.276620	1	admin		admin@gmail.com	1	1	2023-07-07 04:51:48.425173	
2	1234	NULL	0	nozm1		nozm1@gmail.com	0	1	2023-07-07 18:55:37.017739	Nozm1 Ahsan
3	1234	NULL	0	faysal		faysal@gmail.com	0	1	2023-07-07 18:58:11.464986	Faysal Mahmud
4	1234	NULL	0	hasib		hasib@gmail.com	0	1	2023-07-07 19:05:03.753375	Hasib Hayder
5	hassem	NULL	0	hassem		hassem@gmail.com	0	1	2023-07-07 20:05:59.280289	Hassem Hayder

Figure: 4.11 SQLite Database

id	amount	payment_number	payment_method	payment_status	user_id	trx_id
1	NULL	NULL	NULL	NULL	1	NULL
2	NULL	NULL	NULL	NULL	1	NULL
3	NULL	NULL	NULL	NULL	1	NULL
4	NULL	NULL	NULL	NULL	1	NULL
5	NULL	NULL	NULL	NULL	1	NULL
6	350	01887434597	Bkash	Completed	1	dgjsdhue388rhdh

Figure: 4.12 SQLite Database

CHAPTER 5

Implementation and Testing

5.1 Implementation of Database

Django Configuration: Make changes to the project's settings file to specify SQLite as the database engine and the location of the SQLite database file.

To represent your entities, create Django models, and then use makemigrations to create migration files. The relevant database tables are created by applying the migrations with the migrate command.

The SQLite database can communicate with Django's ORM. Using Django's model APIs, define queries and operations and carry out CRUD actions on database records.

The database schema may be created by establishing models that contain fields, relationships, and constraints. Set up the different kinds of fields and their properties, such necessary, unique, and default values.

Validation and Testing: To ensure proper data storage and retrieval, thoroughly test database processes. To avoid inconsistent data and impose restrictions on data integrity, validate the input data.

Use the makemigrations and migrate commands to create and distribute new migration files if the database schema or models have changed.

Ongoing maintenance includes backing up the SQLite database file on a regular basis, keeping an eye on database performance, fixing any problems, and optimizing queries as needed.

Remember that while SQLite can work well for smaller projects, you should think about switching to a more capable database management system like MySQL or PostgreSQL

if you want your lending management system to handle bigger data sets or more user traffic.

5.2 Implementation of Interaction

Designing a user interface (UI):

Use HTML and CSS to create user-friendly and intuitive web pages.

To improve the UI's visual appeal and responsiveness, use Bootstrap.

Add forms, icons, and navigation menus, among other relevant features, to the pages.

Interactions pertaining to the frontend:

JavaScript may be used to control user activities and provide interaction to the user interface.

To react to user input, forms that are submitted, and other pertinent activities, utilize event listeners.

To ensure data integrity, validate user inputs on the client end and respond right away.

Django integration with the backend:

Specify the URL mappings and Django views required for frontend request processing.

Use Python's view methods appropriately to handle requests and communicate with the backend logic.

Display dynamic information and data that has been retrieved from databases by using Django's template engine.

AJAX-based asynchronous operations:

To provide page reload-free communication between the UI and backend, leverage AJAX (Asynchronous JavaScript and XML).

Use AJAX requests to carry out tasks like item searches, loan request submissions, and user data modifications.

In order to dynamically change the user interface depending on server replies, handle AJAX responses on the frontend.

Data Validation and Form Submission:

Create handlers for form submissions to gather and forward user input to the backend for processing.

To guarantee the accuracy and consistency of data, utilize Django's form validation features to validate user inputs server-side.

Provide the relevant answers to the frontend in accordance with the success or failure of the forms that were submitted.

Authorization and Authentication of Users:

Provide sign-in and registration options for users to ensure user authentication.

Utilize Django's built-in authentication mechanism or alter it to suit the needs of the project.

To limit user access to certain features or actions depending on their assigned roles and permissions, employ authorization tests on the backend.

Handling Errors and Notifications:

Install error management systems on the infrastructure to identify and address unexpected events and exceptions.

When interface failures occur, notify users with the relevant error messages.

Use toast notifications, alert windows, and other UI components to let users know when something goes wrong or right.

User Evaluations and Placements:

Create and put into place elements that let consumers give feedback and assess their borrowing experiences.

Gather feedback and reviews from users in the backend, then present it in the right place on the front end.

Think about putting in place procedures for settling disagreements and conflicts among users.

Testing and Troubleshooting:

To make sure the system operates as intended, thoroughly test all functions and interaction processes.

To find and fix issues, make use of Django's diagnostic features, console logging, and browser developer tools.

Iterative Improvement with Customer Input:

Ask users and stakeholders for input on a regular basis to find areas for improvement.

To improve the system's usability and user satisfaction, take user comments into account and iterate the implementation.

5.3 Testing Implementation

Unit Evaluation: Write unit tests for various functionalities and front-end and back-end parts.

Verifying the functioning and behavior of frontend components with Jest, Mocha, or Jasmine.

Use third-party libraries like Pytest or the built-in testing framework in Django to test backend features and APIs.

Integration Evaluation: To confirm that different modules and components are interoperable, run integration tests.

To verify data and functionality exchange, test the integration between the frontend and backend systems.

Verify the submission of forms, the handling of requests, and database retrieval.

Comprehensive Assessment: Run end-to-end system testing and simulate real-world user situations.

Test common user operations including making an account, displaying items, requesting loans, and processing payments.

Use technologies like Puppeteer, Cypress, and Selenium to automate and mimic browser interactions.

Take part in user acceptance testing (UAT) with actual users or representatives of relevant stakeholders.

Send out test scenarios and ask for user input on the functioning, usability, and overall experience of the system.

Take customer comments into account to make the system more useful and easy to use.

Assessment of Effectiveness: Assess the system's performance in both average and high demand scenarios.

To evaluate system response times and simulate concurrent user queries, utilize tools such as Apache Bench or JMeter.

Find and fix any bottlenecks or performance problems, such as pages that take a long time to load or ineffective database queries.

Security Assessment: Find and fix any possible security vulnerabilities by conducting security audits.

Conduct penetration testing to find any vulnerabilities in the system's security.

Make sure that SQL injection attacks are avoided, cross-site scripting (XSS) is prevented, and user data is managed securely.

Error Handling and Exception Testing: To test the system's error management capabilities, intentionally introduce mistakes or unexpected circumstances.

Make that the system recovers gracefully from mistakes and that users receive the appropriate error messages.

Simulate extreme scenarios, such as incorrect inputs and system limitations being exceeded, to guarantee proper error handling.

Testing for Regression:

To make sure that current functionality is maintained after making modifications or adding new features, use regression testing.

Retesting previously validated scenarios will help ensure that no regressions or unexpected problems have been introduced.

Usability testing: Involve users or representative stakeholders in assessing the usability and efficacy of the system.

As you see people engaging with the system, get comments from them on its usability, intuitiveness, and navigation.

Based on user input, make the required changes to increase usability.

Test Coverage and Documentation: Test cases, test scenarios, and the testing process all need documentation.

To guarantee sufficient coverage, confirm that tests encompass all necessary features and use cases.

As the system develops and new features are introduced, keep the test suite updated and maintained.

You will be able to find and fix issues, guarantee system stability, and provide a Lending Management System that is dependable and up to user standards by putting these testing techniques into practice.

5.4 Test Results and Reports

Test Design:

Keep a record of the testing's goals, parameters, and procedures.

Give an explanation of the test cases, situations, and anticipated results.

Indicate the testing conditions and equipment.

Test Execution: Carry out the specified test cases and document the real results.

Add any other testing-related findings, problems, or flaws.

Screen grabs or recordings should be made in order to record test evidence.

Condition Monitoring: Establish a method for recording and managing problems that are found.

Give each fault a priority and severity level.

Keep track of the defect resolution process and test any fixed issues again.

Test Results: Include the total number of tests that were run, passed, failed, and obstructed in a summary of the test results.

Provide data on the distribution of defect severity, test coverage reached, and defect density.

Record any noteworthy discoveries or lessons discovered during the testing process.

Exam Reports: Write an extensive test report that enumerates the exam's findings and outcomes.

Provide an overview, an introduction, and the testing's parameters.

Incorporate test coverage, execution status, and a defect report in the test results.

Based on the test findings, discuss the overall effectiveness and quality of the system.

Suggestions: Make suggestions for further improvements or areas that need work.

Find out which parts of the system worked effectively and which would need more testing or improvements.

suggestions for fixing any flaws or problems found.

Appendices: Provide extra supporting material, including configuration information, test results, and scripts.

As proof, provide any pertinent documents, images, or other test artifacts.

CHAPTER 6

Impact on Society, Environment, and Sustainability

6.1 Impact on Society

This online project encourages cooperation, diversity, and community involvement—all of which have a significant beneficial societal impact. The platform serves as a hub for users to congregate, establish groups, engage in activities, and connect with others who share their interests. The straightforward and effective approval process and registration process guarantee equal opportunities for new members and promote a feeling of community integration and belonging. Clubs may use the admin panel to efficiently arrange and share their events, creating a space where a range of interests and abilities can thrive. As a result, community members' overall well-being, cultural interchange, and social bonds all strengthen. The room reservation system implemented in this project facilitates club program planning, optimizes resource utilization, and promotes conscientious scheduling. By reducing administrative barriers and increasing information accessibility, the emphasis on digital communication fosters better community cooperation and communication.

In essence, this web project establishes a welcoming environment that strengthens social ties within the community it serves, encourages participation in community activities, and improves the social fabric of the society it serves.

6.2 Impact on the Environment

This web-based initiative employs a sustainable method for lodging reservations. To make the most use of available rooms, the system—which is controlled by the admin panel—synchronizes bookings with the regular class schedule. This strategic approach

reduces the amount of time wasted on unused space, lowers energy consumption, and lessens the environmental impact of frequent facility use.

The project's emphasis on digital communication—which includes email notifications for event details and accommodation reservations—also encourages a paperless and ecologically conscious approach. By eliminating traditional communication channels and physical documentation, the platform promotes sustainability and a cleaner environment.

Furthermore, the project encourages collaboration and coordination by centralizing club events and activities through the admin panel. This may reduce the need for unnecessary travel and resource consumption that occur with dispersed and unorganized club activities. All things considered, the local ecology benefits from this web project's promotion of environmentally efficient room utilization and communication methods.

6.3 Ethical Aspects

The ethical components of this internet enterprise are evident due to its transparent and inclusive procedures. Through the registration and approval process, the system contributes to the development of a trustworthy and secure online community. Assuring that club members are assigned jobs impartially is the administrator's responsibility. Roles are assigned based on fairness and equal opportunity.

The approach also encourages open communication and coordination among groups through the admin panel. The process of developing and approving an event requires mutual consent, which maintains the independence of each club while promoting a sense of community. The notification system ensures that all relevant stakeholders are informed in a timely and inclusive way, hence facilitating effective communication.

From an environmental ethical perspective, the way rooms are reserved promotes efficient use of resources by minimizing unnecessary energy usage and working with regular class schedules. Setting email notifications above traditional paperwork allows for a more sustainable and ecologically responsible approach.

The general ethical issues of this web project include openness, inclusivity, and environmental awareness, all of which foster a morally aware and encouraging online community.

6.4 Sustainability Plan

The sustainability plan for this online initiative is focused on ensuring social inclusion, minimizing environmental impact, and maintaining long-term profitability. By using eco-friendly methods, such as digital communication channels, the effort hopes to promote sustainability by decreasing reliance on paper-based processes and cutting carbon emissions. Additionally, the platform will prioritize inclusivity by providing features that are usable and beneficial to users of all needs, catering to a variety of requirements. Regular accessibility evaluations and user feedback mechanisms will be used to improve inclusion over time. To ensure long-term profitability, the project would emphasize scalability and adaptability to technological advancements. Regular maintenance checks and upgrades will be done to fix issues and increase security when new features become necessary. The platform's architecture will be adaptable by design, making it simple to incorporate new technologies. To protect user privacy, the project will also adhere to relevant data protection regulations and responsible data management practices. Security measures will be evaluated often in order to effectively protect user data and counter new online threats. By employing these sustainability measures, the online project seeks to create a solid and long-lasting platform that considers its long-term implications on society, the environment, and technology.

CHAPTER 7

CONCLUSION & FUTURE SCOPE

7.1 Conclusion

To sum up, the Club Manager online project is a vibrant and indispensable tool that facilitates community interaction, event planning, and efficient club management. The platform's user-friendly registration and approval processes ensure a seamless onboarding experience for new users. The administration panel makes it easy for club managers to delegate responsibilities, approve members, and oversee different club activities. Because the project places a strong focus on inclusivity and accessibility, all members are welcome to actively participate in and contribute to the vibrant club environment, regardless of their origins or abilities. By using digital communication, the platform allows for the efficient and transparent sharing of club activities, keeping members informed and engaged. The incorporation of a room booking system enhances the project's utility by providing organizations with a convenient means of locating and reserving rooms for their events. Email notifications are incorporated to increase the effectiveness of communication and guarantee that all members are promptly notified of important updates and event specifics.

As it advances, the Club Manager project is committed to sustainability, ongoing improvement, and moral considerations. By putting security, scalability, and flexibility first, the platform is able to adapt to changing client demands and technological advancements, providing a substantial and long-lasting solution for effective club management.

7.2 Future Scope

With plenty of space to develop further, the Club Manager project offers a comprehensive solution for more efficient club administration and more member interaction. There are several chances for innovation and advancement in the future:

Advanced Analytics and Reporting: By putting robust analytics and reporting tools in place, club administrators may gain crucial insights about event attendance, member engagement, and overall club effectiveness. Utilizing data to inform choices can enhance members' overall club experience and make the most of the resources at hand.

Optimizing mobile applications: Developing a dedicated mobile application ensures that users can quickly access club information, event details, and community involvement while on the road. A platform's usefulness and user base are increased when it is optimized for mobile devices.

Improved Room Booking System: By adding features to the room booking system, such as interactive floor plans, automated approvals, and real-time availability, members and club administrators may find the process to be more effective.

Membership Levels and Reward Programs: Introducing membership levels and reward programs can help to promote member engagement and loyalty. Clubs may establish many tiers with exclusive benefits and recognize members for their achievements, fostering a sense of belonging and inspiration.

Enhanced Security and Privacy Protections: Strengthening security protocols and privacy protections guarantees the protection of sensitive member data. By utilizing advanced encryption, safe payment options, and adherence to data security regulations, the platform's overall trustworthiness is enhanced.

Networking and Social Integration: Encouraging social integration among club members facilitates networking and the growth of communities. By allowing member-to-member interactions and linking the platform with popular social networking sites, the overall club experience is enhanced.

Feedback Mechanisms: By gathering incisive user input, including feedback mechanisms into the platform may aid in continuous improvement. Developers may utilize reviews, ratings, and surveys to address user needs and concerns.

By planning and implementing these upcoming updates, the Club Manager project may grow into an all-inclusive and cutting-edge club management solution, giving administrators and members an even better experience.

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