**BASAVARAJESWARI GROUP OF INSTITUTIONS**

# Ballari Institute of Technology & Management

**AUTONOMOUS INSTITUTE UNDER VISVESVARAYA TECHNOLOGICAL UNIVERSITYJNANA SANGAMA, BELAGAVI 590018**

**INTERNSHIP**

**Report On**

**LOCKER ROOM MANAGEMENT SYSTEM**

Submitted in partial fulfillment of the requirements for the award of degree of

# Bachelor of Engineering In

### ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

**Submitted by**

**BHAVYA JAIN**

**3BR22AI027**

### Internship Carried Out By

**EZ TRAININGS & TECHNOLOGIES PVT.LTD**

**HYDERABAD**

**Internal Guide External Guide**

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#### BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

NACC Accredited Institution\*

**(Recognized by Govt. of Karnataka, approved by AICTE, New Delhi & Affiliated to Visvesvaraya Technological University, Belagavi)**

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### 2023-2024

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### DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

**CERTIFICATE**

This is to certify that the Internship entitled **“ LOCKER ROOM MANAGEMENT SYSTEM ”** has been successfully completed by BHAVYA JAINbearing USN **3BR22AI027** a bonafide student of Ballari Institute of Technology and Management, Ballari. For the partial fulfillment of the requirementsfor the **Bachelor’s Degree in ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING** of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, Belagavi during the academic year 2023-2024.

#### Signature of Internship Co-ordinator

**Signature of HOD**

**REDDY SANTOSH KUMAR DR. B M VIDAVATHI**

**Asst.prof,AIML Prof. and HOD(AIML)**

**MOHAMMAD TOUSEEF**

**Asst. prof,AIML**

**DECLARATION**

I, **BHAVYA JAIN ,** second year student of Computer Science and Engineering, Ballari Institute of Technology, Ballari, declare that Internship entitled **LOCKER ROOM MANAGEMENT SYSTEM** is a part of Internship Training successfully carried out by **EZ TECHNOLOGIES & TRAININGS PVT.LTD**

**,Hyderabad** at “**BITM,BALLARI”.** This report is submitted in partial fulfillment of the requirements for the award of the degree, Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belagavi.

**Date : Signature of the Student**

**Place :**

**ACKNOWLEDGEMENT**

The satisfactions that a company the successful completion of my internship on “ LOCKER ROOM MANAGEMENT SYSTEM ” would be incomplete without the mention of people who made it possible, whose noble gesture, affection, guidance, encouragement and support crowned my efforts with success. It is my privilege to express my gratitude and respect to all those who inspired me in the completion of my internship.

I am grateful to our respective coordinator **“REDDY SANTOSH KUMAR (Asst.prof,AIML) , MOHAMMAD TOUSEEF (Asst.prof,AIML)”** for his noble gesture, support co-ordination and valuable suggestions givento me in the completion of Internship.

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CHAPTER-1

COMPANY PROFILE

Company Name : EZ Trainings and Technologies Pvt. Ltd.

* Introduction:

EZ Trainings and Technologies Pvt. Ltd. is a dynamic and innovative organization dedicated to providing comprehensive training solutions and expert development services. Established with a vision to bridge the gap between academic learning and industry requirements, we specialize in college trainings for students, focusing on preparing them for successful placements. Additionally, we excel in undertaking development projects, leveraging cutting-edge technologies to bring ideas to life.

* Mission:

Our mission is to empower the next generation of professionals by imparting relevant skills and knowledge through specialized training programs. We strive to be a catalyst in the career growth of students and contribute to the technological advancement of businesses through our development projects.

* Services:
* College Trainings:

• Tailored training programs designed to enhance the employability of students.

• Industry-aligned curriculum covering technical and soft skills.

• Placement assistance and career guidance.

* Development Projects:

• End-to-end development services, from ideation to execution.

• Expertise in diverse technologies and frameworks.

• Custom solutions to meet specific business needs.

* Locations: Hyderabad | Delhi NCR

At EZ Trainings and Technologies Pvt. Ltd., we believe in transforming potential into excellence

Abstract:

* The Locker Room Management System (LRMS) is a comprehensive software solution designed to streamline and optimize the management of locker facilities in various settings such as gyms, schools, workplaces, and recreational centers. This system aims to address the challenges associated with traditional manual locker management methods, offering efficiency, security, and convenience to both administrators and users.
* Key features of the LRMS include user authentication and access control, allowing only authorized individuals to utilize locker facilities. Through a user-friendly interface, users can easily locate and reserve available lockers, reducing waiting times and eliminating the hassle of searching for vacant lockers. Administrators have full control over locker assignments, with the ability to monitor usage, track occupancy status, and generate usage reports.
* The LRMS incorporates advanced security measures such as biometric authentication, RFID technology, or PIN codes, ensuring the safety of users' belongings. Moreover, the system provides notifications for overdue locker returns, helping to prevent unauthorized occupation and promote accountability among users.
* Furthermore, the LRMS offers integration capabilities with existing infrastructure, including payment systems for locker rentals, access control systems, and facility management software. This seamless integration enhances operational efficiency and simplifies administrative tasks, ultimately improving the overall user experience.
* In summary, the Locker Room Management System offers a modernized approach to locker facility management, enhancing security, efficiency, and user satisfaction. By leveraging innovative technologies and intuitive design, the LRMS provides a comprehensive solution for organizations seeking to optimize their locker room operations.

INTRODUCTION OF THE PROJECT

Introduction:

In today's fast-paced world, efficient management of locker facilities is crucial across various sectors including educational institutions, fitness centers, workplaces, and recreational venues. SmartLocker emerges as the solution, revolutionizing traditional locker room management through its innovative features and user-friendly interface.

Objective:

SmartLocker aims to streamline the process of locker allocation, reservation, and access control while enhancing security and user experience. By leveraging modern technologies, the system seeks to optimize locker utilization, minimize administrative overhead, and provide users with seamless access to locker facilities.

Key Features:

1. Intuitive Interface: SmartLocker offers a user-friendly interface accessible via web and mobile platforms, allowing users to easily reserve lockers, check availability, and manage their locker assignments.

2. Efficient Allocation: Administrators can efficiently allocate lockers based on user preferences, availability, and specific requirements, ensuring optimal utilization of locker space.

3. Real-time Updates: Users receive real-time notifications regarding locker assignments, reservation confirmations, and expiration alerts, ensuring a seamless experience throughout their locker usage.

4. Enhanced Security: Integration with advanced access control mechanisms such as biometric authentication and RFID technology ensures secure access to lockers, minimizing the risk of unauthorized entry.

5. Analytics and Reporting: SmartLocker provides administrators with valuable insights through comprehensive analytics and reporting tools, enabling informed decision-making and proactive management of locker resources.

Module Description:

Locker Room Management System

1. User Management Module:

- This module handles user registration, authentication, and profile management.

- Users can create accounts, update personal information, and manage locker-related preferences.

2.Locker Administration Module:

- Administrators have access to this module to manage the entire locker infrastructure.

- Functions include adding/removing lockers, defining locker attributes (size, location, availability), and performing maintenance tasks.

3.Locker Allocation Module:

- This module is responsible for allocating lockers to users based on their preferences and availability.

- Administrators can manually assign lockers or use automated algorithms to optimize locker utilization.

4.Locker Reservation Module:

- Users can reserve lockers in advance through this module.

- Features include checking locker availability, selecting preferred locker options, and confirming reservations.

5.Access Control Module:

- Handles access control mechanisms such as keycards, PIN codes, or biometric scanners.

- Administrators configure access permissions for each locker and monitor access logs for security purposes.

6.Notification Module:

- Sends real-time notifications to users and administrators regarding locker assignments, reservation confirmations, expirations, and maintenance alerts.

- Notifications can be delivered via email, SMS, or through the system's interface.

7. Reporting and Analytics Module:

- Generates reports and analytics on locker utilization, occupancy rates, reservation trends, and maintenance history.

- Administrators can access these insights to make data-driven decisions and optimize locker management strategies.

8.Integration Module:

- Facilitates integration with other systems such as facility management software, billing systems, or membership databases.

ALGORITHM

1.Initialization:

- Create two classes, Locker and LockerRoom.

- `Locker` class represents individual lockers with attributes like number, size, availability status, reservation status, weight of goods stored, check-in and check-out time, customer name, and duration of reservation.

- `LockerRoom` class represents the entire locker room with a specified capacity and a list of lockers.

2.Functions of LockerRoom Class:

- check\_availability: Returns a list of available locker numbers.

- reserve\_locker: Reserves a locker for a customer if available.

- check\_in: Allows a customer to check in goods to a reserved locker, updating locker status and storing relevant information.

- check\_out: Allows a customer to check out goods from a locker, updating locker status.

- space\_availability: Returns the number of available lockers in the locker room.

- total\_weight\_stored: Returns the total weight of goods stored in the lockers.

- calculate\_price : Calculates the price for the weight of goods stored.

3. Main Loop:

- Initialize a LockerRoom object with a predefined capacity.

- Display a menu of options for users to interact with the system.

- Continuously loop until the user chooses to exit.

- For each choice:

- Execute the corresponding function of the LockerRoom class based on user input.

- Print appropriate messages or results based on the function execution.

4.Input Handling:

- For input that requires parsing (e.g., date and time), handle potential errors using exception handling.

- Validate user inputs to ensure they are within expected ranges or formats.

5.Exit:

- Provide an option to exit the program when the user is done interacting with the system.

OUTPUT

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 1

Available lockers: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 2

Enter locker number to reserve: 1

Enter customer name: chaitra

Locker reserved successfully.

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 3

Enter locker number to check in: 2

Enter weight of goods: 5

Enter check-in date (YYYY-MM-DD): 2024-06-08

Enter check-in time (HH:MM): 12:30

Enter duration in hours: 6

Goods pre-booked successfully.

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 4

Available space in locker room: 14

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 5

Total weight of goods stored: 5.0

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 6

Enter weight of goods: 9

Price for goods weight: 18.0

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 7

Enter locker number to check out: 2

Checked out successfully.

Locker Room Management System

1. Check availability

2. Reserve a locker

3. Check in (show time and date)

4. Space availability

5. Total weight of goods stored

6. Price for goods weight

7. Check out

8. Exit

Enter your choice: 8

Exiting...

CONCLUSION

In conclusion,

The provided code serves as a solid foundation for a locker room management system, offering essential functionalities and a user-friendly interface.

Further enhancements could include additional features such as user authentication, improved error handling, and integration with external systems for broader utility in real-world scenarios.