

# **RUNNING ROOM MANAGEMENT SYSTEM FOR INDIAN RAILWAYS**

An Industrial Internship Report

*submitted by*

**VAISHNAVI GUPTA**

**(21BCE0189)**

*in partial fulfilment for the award of the degree of*

**B.TECH**

in

**CSE**



**SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**

NOV-DEC 2023

### **DECLARATION BY THE CANDIDATE**

I hereby declare that the Industrial Internship report entitled “**RUNNING ROOM MANAGEMENT SYSTEM FOR INDIAN RAILWAYS**” submitted by me to Vellore Institute of Technology, Vellore in partial fulfilment of the requirement for the award of the degree of **B.Tech** in **CSE** is a record of bonafide industrial training undertaken by me under the supervision of **Mr.Manish K Rungta, Rungta Software Solutions**. I further declare that the work reported in this report has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Signature of the student

Name: VAISHNAVI  
GUPTA

Reg.Number: 21BCE0189



GSTIN: 09AKPPR3321L3ZL

# RUNGTA SOFTWARE SOLUTION

ISO 9001:2015 QUALITY MANAGEMENT SYSTEM: [www.rungtasoftwaresolutions.com](http://www.rungtasoftwaresolutions.com)

THE IT MAN WORKS SINCE LAST 23 YEARS

Reg. Off.: FLAT NO B-3 1ST FLOOR SAI DHAM APARTMENT, RAJROOPPUR,  
SUBEDARGANJ, Prayagraj, Uttar Pradesh, 211011

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Date: 4<sup>th</sup> Jan, 2024

## CERTIFICATE BY THE TRAINING OFFICER

This is to certify that the project report entitled “**RUNNING ROOM MANAGEMENT SYSTEM IN INDIAN RAILWAYS**” submitted by **Vaishnavi Gupta (Reg.No. 21BCE0189)** to Vellore Institute of Technology, Vellore in partial fulfilment of the requirement for the award of the degree of B.Tech in CSE is a record of bonafide Industrial Internship undertaken by her under my supervision. The training fulfils the requirements as per the regulations of this Institute and in my opinion, meets the necessary standards for submission. The contents of this report have not been submitted and will not be submitted either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

It was an on-site training and duration was 20th Nov to 23rd Dec, 2023.

Manish K Rungta

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## CERTIFICATE OF INTERNSHIP

4<sup>th</sup> January, 2024

### TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Vaishnavi Gupta (21BCE0189), student at Vellore Institute of Technology, Vellore has successfully completed one-month internship from 20th Nov 2023 to 23rd Dec 2023 in our company at Prayagraj location.

During the internship, Ms. Vaishnavi has worked on a web development project and demonstrated good technical skills, dedication to work and contributed greatly to the success of the project.

We thank her for the contribution made and wish her success in all her future endeavours.

Thanking you,

**Manish K. Rungta**  
(Director)

## **ACKNOWLEDGEMENT**

This is to formally acknowledge and certify that Ms Vaishnavi Gupta, bearing registration number 21BCE0189, currently enrolled as a third-year student pursuing a Bachelor of Technology (B.Tech) degree in the field of Computer Science & Engineering at Vellore Institute of Technology (VIT), has demonstrated exemplary commitment and proficiency by successfully completing the industrial internship at “Rungta Software Solutions” as a web development intern.

She demonstrated exceptional commitment and proficiency during her internship, contributing significantly to the development of a website for managing Running Rooms in the NCR division of Indian Railways. Her expertise in web development languages, database management, and innovative problem-solving skills were instrumental in integrating RFID technology for streamlined operations.

In conclusion, Vaishnavi Gupta's successful completion of the industrial internship at Rungta Software Solutions stands as a testament to her technical proficiency, collaborative spirit, and commitment to excellence in the field of web development. Her contributions to the project and her ability to leverage technology to address real-world challenges reflect her potential as a future leader in the tech industry.

This internship was pursued and successfully completed during her academic tenure at VIT, reflecting her proactive approach towards continuous learning and professional development. We commend Vaishnavi Gupta for her dedication, diligence, and enthusiasm in acquiring this industrial skill, which undoubtedly augment her academic pursuits and strengthen her prospects in the rapidly evolving field of Computer Science.

**Dr. VIJAYASHERLY. V**

**Dr. MEENAKSHI S P**

Place : Vellore Institute of Technology, Vellore

Date : 05<sup>th</sup> May 2023

**Vaishnavi Gupta**

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 ABSTRACT**

This report provides a detailed account of the immersive industrial internship undergone by Ms. Vaishnavi Gupta, an industrious third-year student pursuing a Bachelor of Technology degree in Computer Science & Engineering at Vellore Institute of Technology (VIT). Her internship was conducted at Rungta Software Solutions, where she delved into the realm of web development with a focus on honing her skills in various programming languages and frameworks including HTML, CSS, JavaScript, PHP, MySQL, and XAMP.

The centerpiece of her internship experience was the execution of a significant project tasked with developing a website tailored for managing Running Rooms within the NCR division of Indian Railways. This endeavor underscored her adeptness in leveraging RFID technology to enhance operational efficiency.

Through the pages of this report, Ms. Gupta's journey unfolds, showcasing not only her technical prowess but also her adeptness in project management and her unwavering commitment to tackling real-world challenges within the dynamic field of web development.





## **1.2 OVERVIEW OF THE INTERNSHIP:**

During my industrial internship, I embarked on a comprehensive journey aimed at crafting a web-based Running Room Management System tailored for Indian Railways. The endeavor commenced with an immersive induction into the organizational milieu, followed by intensive consultations with my training officer to delineate the scope and objectives of the project.

In the nascent phase, I diligently immersed myself in understanding the imperative of the system, envisaging its utility in streamlining the operations of running rooms catering to locopilots, assistant locopilots, guards, and similar personnel within the Indian Railways ecosystem.

To glean firsthand insights, an enlightening industrial visit to Tundla, Agra, ensued, honing in on the intricate dynamics of the running room management system under the aegis of North Central Railways, Prayagraj Division. During this insightful excursion, I meticulously scrutinized the operational dynamics, discerned software requisites, and commenced the conceptualization process by drafting comprehensive flowcharts encapsulating the daily operational facets of these facilities.

Post the enlightening industrial sojourn, I meticulously orchestrated discussions with senior officials to garner endorsement for the project blueprint, software prerequisites, and the delineated flowchart schematics. This pivotal phase underscored the significance of securing requisite patronage and counsel to navigate through the subsequent phases of coding and development seamlessly.

Subsequently, I embarked on an intensive learning expedition, acquainting myself with quintessential web development tools like HTML, CSS, JavaScript, PHP, MySQL, and assorted software apparatuses indispensable for the fruition of the project. This erudition phase seamlessly dovetailed into hands-on application, wherein I meticulously crafted MySQL tables concomitant to the outlined flowchart schematics.

The crux of the endeavor materialized in the project implementation phase, wherein I painstakingly orchestrated a medley of tasks ranging from crafting intuitive interfaces for food and activity management, crew monitoring, linen logistics, call book generation, to efficient linen allocation. The coding endeavors were meticulously calibrated to fortify functionalities like room allocation, maintenance protocols, vacation scheduling, and comprehensive reporting mechanisms, thereby augmenting the system's adaptability and administrative efficacy.

Furthermore, I meticulously calibrated my efforts towards optimizing the system's performance and fortifying its reliability through a comprehensive regimen of testing and debugging, ensuring that all implemented functionalities were robust and responsive, commensurate with the requisite standards for a seamless user experience.

The culminating stages of my internship witnessed the deployment of the website, punctuated by exhaustive rounds of testing across diverse scenarios to validate functionality and usability benchmarks. This denouement phase also served as an opportune moment for me to express my gratitude to the team and the training officer for their invaluable mentorship and conducive learning milieu.

In summation, my industrial odyssey epitomized a holistic and meticulous approach towards conceiving, developing, and deploying a bespoke Running Room Management System for Indian Railways. From the nascent stages of project conceptualization to the final deployment and validation, my journey underscored a resolute commitment towards enhancing operational efficiencies and user experiences within the railway ecosystem.

## **CHAPTER 2**

### **DESCRIPTION OF THE WORK DONE**

#### **2.1 EXPLANATION ABOUT THE TERMS:**

##### ***What are Running Rooms?***

Running rooms are essentially rest houses provided by the Indian Railways for their staff, particularly locomotive pilots and guards, in major railway stations. These rooms are meant to offer them a comfortable and convenient place to relax and get proper sleep during their layovers between runs. This ensures that the crew is well-rested and alert before taking charge of a train, thereby contributing to overall safety in train operations.

##### ***Facilities Offered***

Running rooms are built to specific standards set by the Railway Board. They typically offer the following facilities:

- **Rooms:** Rooms are usually double bedded with attached bathrooms for individual occupancy. Beds are equipped with clean linen and blankets.
- **Basic Amenities:** These include a ceiling fan, chairs, table, and a cupboard for storing belongings.
- **Canteen or Catering:** Many running rooms have a canteen or provide a tie-up with local vendors to offer meals to the staff at subsidized rates.
- **Recreational Facilities:** Some running rooms may have recreational facilities like a common room with a television or newspapers for the crew to unwind during their breaks.

##### ***Importance of Running Rooms***

Running rooms play a vital role in ensuring the safety and well-being of train crew. Here's why they are important:

- **Proper Rest:** During layovers, loco pilots and guards can get undisturbed sleep in a designated space, essential for their physical and mental well-being before taking on another train operation.
- **Improved Alertness:** Well-rested crew is more alert and focused while driving the train, reducing the chances of errors and accidents.

- **Efficiency and Punctuality:** Having dedicated rest areas helps optimize crew scheduling and ensure trains run on time.

### ***Availability of Running Rooms***

Running rooms are not available at all stations. They are primarily found at major junctions and termini where trains have layovers or crew changeovers take place.

### ***Who Manages Running Rooms?***

The running rooms are maintained by the respective railway zones of the Indian Railways. They are staffed with caretakers who ensure cleanliness and upkeep of the facilities.

### ***Management of Running Rooms in Indian Railways***

The management of running rooms in Indian Railways is a two-tier system:

- **Zonal Level:**  
The respective railway zones under the Indian Railways are responsible for the overall administration of running rooms within their jurisdiction. This includes:
  - **Budget allocation:** Allocating funds for maintenance, repairs, and upgrades of running rooms.
  - **Staffing:** Deploying caretakers and other staff to manage the day-to-day operations of the running rooms.
  - **Inventory Management:** Ensuring proper stock of linen, toiletries, and other essential supplies.
  - **Compliance with Standards:** Ensuring running rooms meet the facilities and hygiene standards set by the Railway Board.

- **Running Room Staff:**

Each running room is staffed with caretakers who handle the day-to-day operations. Their responsibilities include:

- **Maintaining Cleanliness:** Cleaning rooms, bathrooms, and common areas regularly.

- **Providing Linen and Supplies:** Issuing clean bedsheets, towels, and toiletries to incoming crew.
- **Room Allocation:** Assigning rooms to loco pilots and guards based on availability and their layover duration.
- **Meal Services:** Managing the canteen or coordinating with vendors for meal services (if applicable).
- **Record Keeping:** Maintaining a register of incoming and outgoing crew, recording details like train numbers, arrival/departure times, and room allocation.

### ***Check-In and Check-Out Process for Loco Pilots***

The check-in and check-out process for loco pilots at running rooms is generally quite straightforward:

- **Check-In:**

- Upon arrival at the running room, the loco pilot reports to the caretaker.
- He presents his duty slip or identification card as proof of his entitlement to use the facility.
- The caretaker checks room availability and assigns a room based on the pilot's layover duration and any specific preferences (if possible).
- The caretaker registers the pilot's details in the running room logbook, including arrival time, train number, and allocated room.
- The pilot receives fresh linen, towels, and any other toiletries provided by the running room.

- **Check-Out:**

- Before departing for his next train assignment, the pilot informs the caretaker about his check-out.
- He may need to return the issued linen and towels.
- The caretaker might record the pilot's departure time in the logbook.

### ***Modernization Efforts:***

In recent years, Indian Railways has been implementing initiatives to modernize running rooms. This includes:

- **Digital Booking Systems:**

Introducing digital kiosks or online portals for loco pilots to book rooms in advance, improving efficiency and transparency.

- **Inventory Management Systems:**

Utilizing software to track linen stock and other supplies, ensuring optimal resource utilization.

- **Improved Amenities:**

Upgrading facilities with better furniture, air conditioning (particularly in hot climates), and improved internet connectivity.

These efforts aim to enhance the overall experience for loco pilots and contribute to their well-being.

### ***Accessing Amenities in Running Rooms***

Running rooms offer various amenities to cater to the needs of loco pilots during their layovers. Here's how loco pilots can typically access these services:

#### **Laundry:**

- **Limited Service:**

In some cases, running rooms might have in-house laundry facilities with washing machines and dryers for the crew's personal use. However, this is not a universally available service.

- **External Services:**

Many running rooms may have tie-ups with local dhobis (laundry service providers) who collect and deliver laundry for a fee. Loco pilots would need to pay the dhobi directly for this service.

## **Food:**

- **Canteen Facility:**

Some running rooms have a dedicated canteen that provides meals to the crew at subsidized rates. The pilot would likely pay cash or have a system for deducting charges from their salary.

- **Meal Vouchers:**

Alternatively, running rooms might collaborate with nearby restaurants or food vendors. Pilots would receive meal vouchers to be used at these designated establishments.

- **Bringing Food:**

Loco pilots can also choose to bring their own food or have it delivered from outside vendors using online food delivery services.

## **Other Amenities:**

- **Recreational Facilities:**

If a running room offers a common room with a television or newspapers, loco pilots can access them freely during their leisure time.

- **Internet Connectivity:**

In some modernized running rooms with Wi-Fi facilities, pilots can access the internet for entertainment or communication purposes.

## **Important Points:**

- The availability of specific amenities can vary depending on the running room's location and budget.
- It's advisable for loco pilots to inquire about the available services beforehand, especially if they have specific needs during their layover.

## **2.2 REQUIREMENT OF THE PROJECT:**

### ***a) How does the company help Indian Railways?***

As a software solutions company, this organization plays a pivotal role in addressing the challenges faced by Indian Railways in managing their running rooms effectively:

#### **1. Tailored Software Development:**

Your company can leverage its expertise in software development to create a customized running room management system tailored to the specific needs and requirements of Indian Railways. This involves understanding the unique operational workflows, regulatory constraints, and technological infrastructure of the railways and designing a solution that seamlessly integrates with existing systems while addressing key pain points.

#### **2. User-Centric Design:**

By employing user-centric design principles, your company can ensure that the management system is intuitive, user-friendly, and accessible to railway personnel of varying technical proficiencies. This involves conducting user research, gathering feedback from stakeholders, and iteratively refining the system's interface and functionalities to enhance usability and adoption rates.

#### **3. Integration with Existing Systems:**

Indian Railways operates a complex network of legacy systems and databases. Your company can facilitate seamless integration between the running room management system and these existing systems, ensuring data consistency, interoperability, and minimal disruption to ongoing operations. This may involve developing APIs, middleware, or data migration strategies to enable smooth data exchange between disparate systems.

#### **4. Advanced Technologies Integration:**

Your company can incorporate advanced technologies such as RFID, IoT sensors, machine learning, and predictive analytics into the management system to enhance its capabilities. For example, RFID technology can be



used for automated check-ins and inventory management, while predictive analytics can help forecast room demand and optimize resource allocation.

## **5. Continuous Support and Maintenance:**

Beyond initial deployment, your company can provide ongoing support, maintenance, and training services to ensure the running room management system remains functional, up-to-date, and responsive to evolving needs. This may involve providing technical assistance, troubleshooting issues, and delivering software updates and enhancements based on user feedback and changing requirements.

## **6. Data Security and Compliance:**

Given the sensitive nature of data handled by Indian Railways, your company can implement robust security measures and compliance protocols to safeguard against unauthorized access, data breaches, and regulatory violations. This includes implementing encryption, access controls, audit trails, and regular security audits to ensure data integrity and confidentiality.

## **7. Scalability and Future-Proofing:**

As Indian Railways continues to expand its network and operations, your company can design the management system with scalability and future-proofing in mind. This involves architecting the solution using modular, scalable architecture, cloud-based technologies, and open standards to accommodate growing user bases, increasing data volumes, and emerging technologies.

By leveraging your company's expertise in software development, user experience design, integration, and support services, you can play a transformative role in modernizing and optimizing the management of running rooms within Indian Railways, ultimately contributing to improved operational efficiency, staff welfare, and passenger satisfaction.

### ***b) How does this project helps them?***

The implementation of a comprehensive running room management system within the Indian Railways infrastructure addresses numerous critical needs and challenges faced by railway personnel and administrators. Below are detailed reasons outlining the necessity and benefits of such a system:

### **1. Efficient Resource Allocation:**

Running rooms serve as crucial resting and accommodation facilities for railway crew members, including locopilots, assistant locopilots, guards, and other staff. An effective management system ensures optimal allocation of rooms, beds, and amenities, thereby maximizing the utilization of available resources.

### **2. Enhanced Operational Efficiency:**

By streamlining processes such as check-ins, check-outs, room assignments, and maintenance tasks, a management system minimizes operational bottlenecks and delays. This efficiency translates into improved punctuality, reduced downtime, and enhanced overall service quality for passengers.

### **3. Crew Welfare and Satisfaction:**

Providing comfortable and well-equipped accommodations is essential for maintaining the physical and mental well-being of railway crew members, who often operate on demanding schedules and undertake long journeys. A robust management system ensures that crew members have access to clean, safe, and adequately furnished rooms, contributing to their job satisfaction and morale.

### **4. Real-Time Monitoring and Accountability:**

A digital management system enables real-time monitoring of room occupancy, staff presence, and maintenance activities. This transparency fosters accountability among staff members and administrators, as any discrepancies or issues can be promptly identified and addressed.

### **5. Data-Driven Decision Making:**

The system generates comprehensive reports and analytics on various operational metrics, including occupancy rates, maintenance schedules, and resource utilization. These insights empower decision-makers to identify trends, anticipate demand, and allocate resources more effectively, thereby optimizing overall operational efficiency.

## **6. Compliance and Safety:**

Running rooms must adhere to strict safety and hygiene standards to ensure the well-being of staff and passengers. A management system helps enforce compliance with regulatory requirements by tracking maintenance schedules, conducting regular inspections, and managing inventory for essential supplies such as bedding and toiletries.

## **7. Adaptability and Scalability:**

As the railway network evolves and expands, the management system can be easily adapted and scaled to accommodate changing needs and emerging challenges. Whether it's integrating new features, expanding room capacity, or incorporating advanced technologies, the system provides a flexible framework for future growth and innovation.

## **8. Customer Service Excellence:**

While running rooms primarily serve railway personnel, their efficient management indirectly contributes to enhancing the overall passenger experience. By ensuring that crew members are well-rested, alert, and ready to perform their duties, the system indirectly contributes to passenger safety, satisfaction, and loyalty.

In essence, the implementation of a running room management system in Indian Railways is not just a matter of convenience but a strategic imperative that drives operational excellence, enhances staff welfare, and elevates the overall quality of rail services. It represents a significant investment in modernizing infrastructure, optimizing resources, and delivering sustainable value to all stakeholders involved.

## **2.3 DETAILED OVERVIEW OF THE INTERNSHIP:**

Day 1:

### Immersion into the Working Environment

Upon stepping into the workspace, I was greeted with warmth and introduced to the dynamic team. Our journey commenced with a comprehensive overview provided by the training officer, shedding light on the intricate workings of Running Rooms within the Indian Railways system. Discussions ranged from the critical role these facilities play to the upcoming training program and the pivotal project ahead.

Day 2:

### Unveiling the Project Scope

We embarked on a deep dive into our project, unraveling its purpose and intricacies. Through collaborative sessions, we dissected the requirements of a web-based running room management system, emphasizing its potential to revolutionize operations for various railway personnel. From locopilots to guards, every facet of Indian Railways stood to benefit from this endeavor.

Day 3-4:

### Immersive Industrial Expedition

Our journey led us to Tundla, Agra, where we immersed ourselves in the operational hub of running rooms under the North Central Railways, Prayagraj Division. This hands-on experience provided invaluable insights into operational nuances and unearthed essential software requisites vital for our project's success.

Day 5-6:

### Strategic Project Planning

Back in Prayagraj, meticulous planning ensued as we charted the course forward. Flowcharts were meticulously drafted, aligning with our software requisites and the daily rituals of running rooms. Engagements with senior officials further refined our project blueprint, ensuring alignment with organizational goals.

Day 7-8:

### Knowledge Enhancement

Simultaneously, I embarked on a journey of skill enrichment under the guidance of the training officer. From mastering HTML, CSS, and JavaScript to delving into the intricacies of PHP and MySQL, every session equipped me with the arsenal necessary for the impending development phase.

Day 9-12:

### Embarking on System Development

With concepts crystallized, our coding odyssey commenced. We laid the groundwork by structuring the system's database, meticulously crafting tables in MySQL mirroring our flowcharts. The acquisition of RFID card scanners further fueled our progress, empowering us to integrate functionalities crucial for crew management seamlessly.

Day 13-16:

### Crafting Seamless User Experiences

Transitioning from the backend to the frontend, our focus shifted to website design and functionality implementation. From facilitating RFID card issuance to orchestrating room accommodations and crew monitoring, every interface was meticulously crafted to ensure a fluid and intuitive user experience.

Day 17-19:

### Strengthening Reporting Mechanisms

Efforts were redoubled to fortify reporting mechanisms and administrative functionalities. From generating occupancy reports to managing linen and facilitating room changes, every feature was meticulously coded to enhance system efficiency and user satisfaction.

Day 20-21:

### Iterative Review and Optimization

A collaborative endeavor ensued as we iteratively reviewed and optimized our implementations. Feedback loops with the training officer were instrumental in

fine-tuning system performance and usability, ensuring our solution was primed for seamless deployment.

Day 22-23:

### Rigorous Testing and Flawless Deployment

Our efforts culminated in rigorous testing and flawless deployment. Thorough testing and debugging phases ensured system robustness and reliability. Optimization techniques were judiciously applied to enhance website performance, culminating in a seamlessly deployed solution ready to withstand real-world demands.

Conclusion:

### Gratitude and Reflection

As the curtains drew on our project journey, I extended heartfelt gratitude to my dedicated team and the invaluable guidance of the training officer. This transformative experience not only enriched my skill set but also instilled a profound sense of accomplishment and camaraderie.

Now let's see the website:

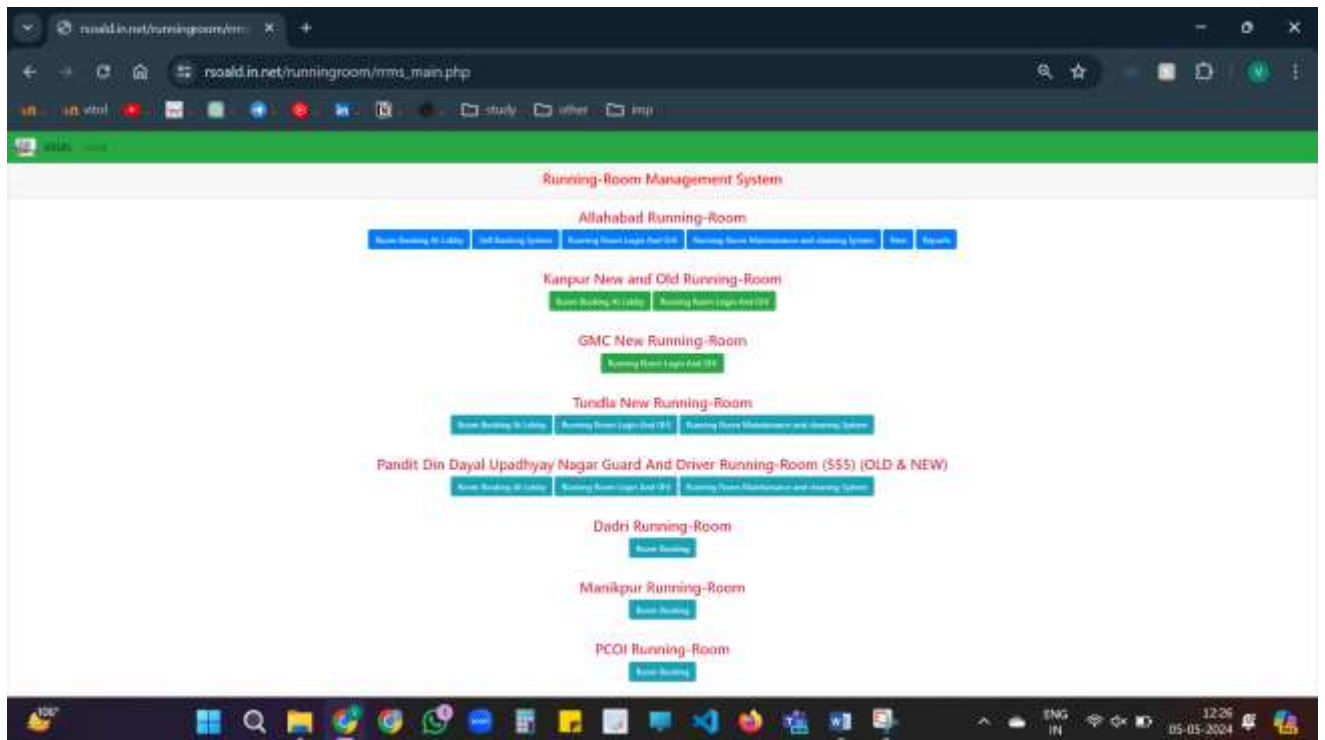
Here is the Indian Railways Website Interface called Integrated Performance Assessment and Monitoring System (IPAMS):



We added the Running room management System (RRMS) page on this website:



After clicking on “RRMS” we go to this page:



We specifically worked on Tundla Running Rooms, similarly other RRMS for various divisions are made:

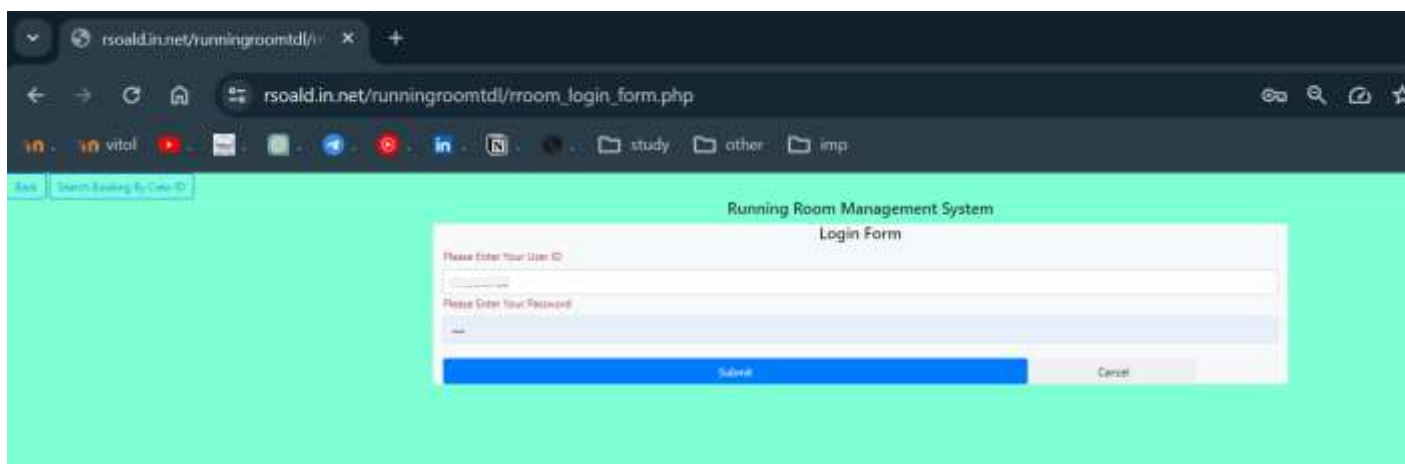
### Tundla New Running-Room

Room Booking At Lobby

Running Room Login And GHI

Running Room Maintenance and cleaning System

Now we click on Running Room Login and GHI, here the loco-pilot will add their credentials:





You are taken to this page:

**Running Room, Tundla**  
(Hospitality Operation Management Eco-system)

HOMES GHI Maintenance Call Reports Revert Call Display Change Vacation Edit LP Data Back Up

Total Check Out Today: 105 Current Occupancy: 83 Total GHI Taken: 30

Crew ID	Crew Name	Card No	Room	Time
GGC2059	RAJESH MEENA	072	007	08:13
IDH1112	R.C. MEENA	092	goods	01:02

Room Number/Admittance Date/Admittance Time	Total Rest	Crew ID	Crew Name	Designation	Mobile	Shift No	Status	Card No
08 2024-02-20 21:24	179Hrs24Min	GMC4854	S B YADAV	ALP	9173028999	GOODS	088	088
09 2024-04-29 14:45	149Hrs3Min	JP7191	VIRENDRAKUMAR	SCD	919601036618	16831	200	200
09 2024-04-29 23:16	141Hrs28Min	AGC2162	MUNESH KUMAR	ALP	917302721631	goods	242	242
09 2024-04-30 07:58	132Hrs-10Min	CMBN7020	GAU DAM	GD	8218963868	goods	096	096
44A 2024-05-02 23:36	68Hrs12Min	UM	Under Maintenance	NA		NA	Under	
44B 2024-05-02 23:36	68Hrs12Min	UM	Under Maintenance	NA		NA	Under	
43A 2024-05-03 01:53	68Hrs-08Min	UM	Under Maintenance	NA		NA	Under	
43B 2024-05-03 01:53	68Hrs-08Min	UM	Under Maintenance	NA		NA	Under	
07A 2024-05-04 11:15	33Hrs-37Min	GGC1174	MURARI LAL MEENA	LPG	919601016677	MAIL TRAIN	137	137
07B 2024-05-04 11:15	33Hrs-37Min	GGC1953	ASHOK KUMAR NAGARWAL	SALP	8824913216	MAIL TRAIN	224	224
31B 2024-05-05 00:35	10Hrs13Min	UM	Under Maintenance	NA		NA	Under	

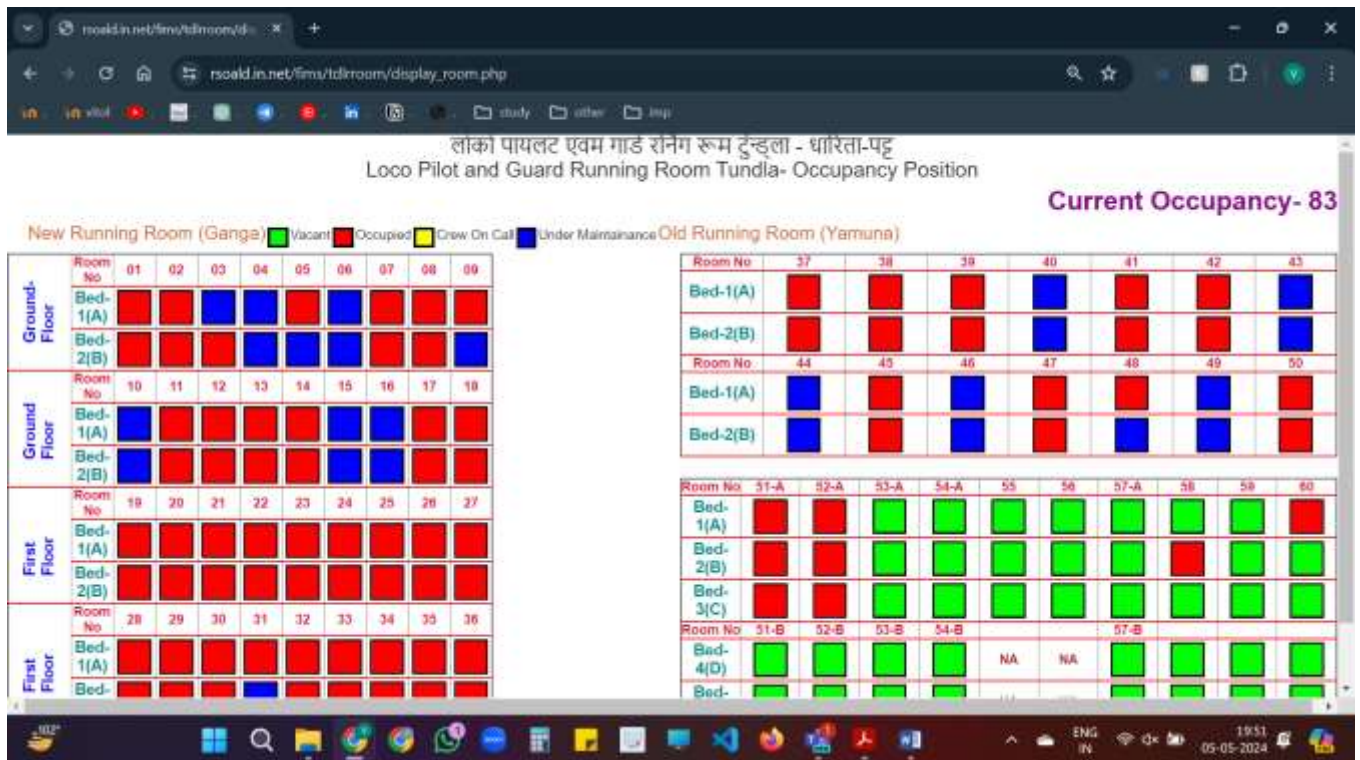
You can see the incoming crew and the crew which is already allotted the rooms

These the functionalities that the website provide:

HOMES GHI Maintenance Call Reports Revert Call Display Change Vacation Edit LP Data Back Up Card Status

The crew will tap their RFID cards to check-in and same for check-out or any other facility.

This page shows the live occupancy of the running rooms:



Similarly we can explore various functionalities of this website such as feedback form called GHI(gross happiness index), various reports, backup data, etc

TDL RUNNING ROOM  
Hospitality Operation Management Eco-System  
(HOMES)

कृपया रनिंग रूम को आकलन करें: 1-5 नंबरों के Scale पर

हॉटेल द्वारा रनिंग रूम में हमारे की अर्बन व्यवस्था: Abotment Arrangement

रनिंग रूम के रिसेप्शन की क्वालिटी: Quality of reception

अर्बन रूम की साफ़ सफाई: Cleanliness of Room

टॉयलेट की साफ़ सफाई: Cleanliness of Toilet

लिनेन वॉशिंग की गुणवत्ता: Quality of Linen Washing

हॉटेल स्टाफ का व्यवहार: Behaviour Housekeeping Staff

नया कर्मचारी का व्यवहार: Behaviour New Staff

Reports that can be generated using this website:

The screenshot shows the HOMES website interface. A dropdown menu is open, listing various reports that can be generated. The background shows a table of crew data.

**Reports that can be generated:**

- Current Occupancy
- Reports GHI
- Marks Wise GHI
- Morning Position
- Date Wise Occupancy (clock Wise)
- Date Wise Occupancy report
- Date Wise Meal report
- Summary Occupancy
- Day wise HQ wise Occupancy
- Shift wise Meal Summary
- Occupation Future
- Vacation Future

**Crew Present at Running Room Table:**

Bedment Date/Assignment Time	Total Rest	Crew ID	Crew Name	Designation	Mobile	Train No	Status	Card No.
2024-02-20 21:34	179Hrs-24Min	CMC4854	S B YADAV	ALP	8173028999	GOODS	Occupied	088
2024-04-29 14:45	148Hrs-15Min	JP7191	VIRENDRAKUMAWAT	SGD	819001039510	19631	Occupied	290
2024-04-29 23:16	141Hrs-18Min	AGC2162	MUNESHKUMARDSL	ALP	817302721531	goods	Occupied	242
2024-04-30 07:59	132Hrs-25Min	CNBN7020	GAUTAM	GD	8218963968	goods	Occupied	096
2024-05-02 23:36	68Hrs-24Min	UM	Under Maintenance	NA		NA	Under	
2024-05-02 23:36	68Hrs-24Min	UM	Under Maintenance	NA		NA	Under	
2024-05-03 01:53	66Hrs-7Min	UM	Under Maintenance	NA		NA	Under	
2024-05-03 01:53	66Hrs-7Min	UM	Under Maintenance	NA		NA	Under	
2024-05-04 11:15	33Hrs-15Min	GGC1174	MURARILALMEENAABB	LPG	819001015677	MAIL TRAIN	Occupied	137
2024-05-04 11:15	33Hrs-15Min	GGC1953	ASHOK KUMAR NAGARWAL	SALP	8824913216	MAIL TRAIN	Occupied	224
2024-05-05 09:25	19Hrs-25Min	UM	Under Maintenance	NA		NA	Under	

This is the maintenance page:

The screenshot shows the 'TDL RUNNING ROOM' maintenance page. The title is 'Hospitality Operation Management Eco-System (HOMES)'. Below the title, there is a prompt: 'Please select the Bed Numbers to Be kept For Maintenance'. A table lists bed numbers from 51D to 51F, with checkboxes for selection.

**Bed Number Please Check**

51D	<input type="checkbox"/>
51E	<input type="checkbox"/>
51F	<input type="checkbox"/>
52D	<input type="checkbox"/>
52E	<input type="checkbox"/>
53A	<input type="checkbox"/>
53B	<input type="checkbox"/>
53C	<input type="checkbox"/>
53D	<input type="checkbox"/>
53E	<input type="checkbox"/>
54A	<input type="checkbox"/>
54B	<input type="checkbox"/>
54C	<input type="checkbox"/>
54D	<input type="checkbox"/>
54E	<input type="checkbox"/>
54F	<input type="checkbox"/>

Similarly we can explore various pages that this website is capable of providing.

## **2.4 SKILLS AND KNOWLEDGE ACQUIRED:**

During my internship journey, I acquired a diverse range of skills and knowledge that have significantly enriched my professional repertoire. Here's a detailed account of the expertise I gained:

### **1. Technical Proficiency:**

Through hands-on experience and guided learning sessions, I mastered a variety of programming languages and technologies essential for software development. This includes HTML, CSS, JavaScript, PHP, and MySQL, which formed the foundation of the web-based running room management system we developed for Indian Railways.

### **2. System Design and Development:**

I gained a comprehensive understanding of the software development lifecycle, from requirements gathering and system design to coding, testing, and deployment. By actively participating in each phase of the project, I honed my skills in designing database schemas, creating flowcharts, writing clean and efficient code, and ensuring robustness and reliability through rigorous testing.

### **3. Project Management:**

Throughout the internship, I was exposed to various aspects of project management, including planning, coordination, and execution. From strategic project planning and stakeholder engagement to resource allocation and timeline management, I learned how to navigate the complexities of large-scale software projects and deliver results within predetermined constraints.

### **4. User Experience Design:**

Collaborating closely with the training officer and end-users, I gained insights into user experience design principles and best practices. By iteratively refining the interface and functionalities of the running room management system based on user feedback, I developed a keen understanding of how to design intuitive, user-friendly software solutions that prioritize usability and accessibility.

## **5. Integration and Interoperability:**

Integrating the management system with existing railway systems and databases taught me valuable lessons in system integration and interoperability. I learned how to develop APIs, middleware, and data migration strategies to facilitate seamless data exchange between disparate systems, ensuring data consistency and operational continuity.

## **6. Problem Solving and Adaptability:**

Throughout the internship, I encountered numerous challenges and obstacles that required creative problem-solving and adaptability. Whether it was debugging complex code issues, addressing user requirements, or overcoming technical hurdles, I developed resilience, resourcefulness, and a proactive mindset in tackling challenges head-on.

## **7. Communication and Collaboration:**

Effective communication and collaboration were instrumental in the success of our project. From team meetings and client interactions to documentation and reporting, I honed my communication skills and learned how to convey complex technical concepts in a clear and concise manner. Collaborating with multidisciplinary teams taught me the importance of teamwork, empathy, and mutual respect in achieving common goals.

## **8. Continuous Learning and Growth Mindset:**

Finally, the internship instilled in me a passion for lifelong learning and a growth mindset. As technology evolves and new challenges emerge, I recognize the importance of staying curious, adaptable, and proactive in continuously upgrading my skills and knowledge to remain relevant in an ever-changing industry.

In summary, my internship experience equipped me with a diverse array of technical, interpersonal, and problem-solving skills, positioning me as a capable and adaptable professional ready to take on future challenges in the field of software development.

## **CHAPTER 3**

### **CONCLUSION**

In conclusion, my internship journey in developing a web-based running room management system for Indian Railways has been both enriching and rewarding. Through this immersive experience, I have acquired a multitude of skills, knowledge, and insights that have significantly contributed to my professional growth and development.

From mastering programming languages and technical tools to gaining hands-on experience in system design, development, and project management, I have honed a diverse skill set that positions me as a competent and adaptable software developer. Additionally, collaborating with multidisciplinary teams, engaging with stakeholders, and navigating complex challenges have enhanced my communication, collaboration, and problem-solving abilities.

Moreover, this internship has underscored the importance of user-centric design, continuous learning, and embracing a growth mindset in delivering impactful and sustainable solutions. By prioritizing usability, scalability, and interoperability, I have learned to develop software solutions that not only meet the needs of clients and end-users but also anticipate and adapt to future requirements and challenges.

As I reflect on this transformative experience, I am filled with gratitude for the guidance and support of my mentors, colleagues, and the training officer, whose expertise and mentorship have been invaluable throughout this journey. I am also thankful for the opportunity to contribute to a project with real-world significance, one that has the potential to improve operational efficiency, enhance staff welfare, and elevate the overall quality of services within the Indian Railways ecosystem.

Moving forward, I am excited to apply the skills and knowledge gained during this internship to future endeavors, leveraging technology to address complex challenges, drive innovation, and make a positive impact in the world. This internship has not only provided me with practical experience but has also inspired me to continue pursuing excellence, lifelong learning, and professional growth in the dynamic field of software development.