

A Major Project Synopsis on

# **Hotel Stock Reorder System**

Submitted to Manipal University, Jaipur

Towards the partial fulfilment for the Award of the Degree of

**MASTER OF COMPUTER APPLICATION**

**2023-2025**

by

**CHIRAYU JOSHI**

**23FS20MCA00055**



**MANIPAL UNIVERSITY  
JAIPUR**

Under the guidance of

**Dr. Geeta Chhabra Gandhi, Associate Professor**

**Department of Computer Applications**

**School of AIML, IoT&IS, CCE, DS and Computer Applications**

**Faculty of Science, Technology and Architecture**

**Manipal University Jaipur**

**Rajasthan, India**

**2025**

## Introduction:

This application will automate and streamline inventory tracking and reordering processes to achieve operational efficiency, reduce costs, and elevate guest satisfaction.

## Abstract:

A **Hotel Stock Reorder Management Web App** is a digital solution designed to help hotels efficiently track, manage, and reorder essential inventory items such as food supplies, housekeeping items, toiletries, linens, and other consumables. This system ensures that stock levels are maintained properly to avoid shortages and overstocking, improving hotel operations and guest satisfaction.

## Objective of the Project:

### Efficient Inventory Management

- Monitor stock levels of essential hotel supplies (food, toiletries, housekeeping items, etc.).
- Categorize inventory based on departments (kitchen, housekeeping, maintenance, etc.).

### Automated Stock Reordering

- Set **minimum and maximum stock levels** to avoid shortages and overstocking.
- Generate **automatic purchase orders** when stock reaches the reorder threshold.

### Real-Time Alerts & Notifications

- Send **email/SMS notifications** to procurement staff when stock is low.
- Alert managers for order approvals and urgent restocking needs.

### Supplier & Purchase Order Management

- Maintain a **supplier database** for quick and efficient restocking.
- Track **pending, approved, and received orders** to prevent delays.

### Data Analytics & Reporting

- Provide **real-time stock consumption trends** to optimize purchasing decisions.
- Generate **audit logs** to track stock movement and reduce wastage.

### Integration with Other Hotel Systems

- Connect with **Property Management Systems (PMS)** for seamless hotel operations.
- Integrate with **POS systems** to track restaurant/bar stock usage.

### Cost Optimization & Loss Prevention

- Reduce wastage by optimizing stock levels based on demand.
- Prevent theft and mismanagement through **detailed stock logs**.

## What is Hotel Stock Reorder?

**Hotel stock reorder** refers to the process of replenishing inventory items used in hotel operations, ensuring that essential supplies such as food, beverages, toiletries, linens, cleaning materials, and maintenance items are always available. This process helps hotels **prevent stock shortages, reduce wastage, and maintain smooth operations.**

## Benefits of the Hotel Stock Reorder App

- **Prevents Stock Shortages:** Ensures essential hotel supplies are always available
- **Efficiency:** Reduces waste and over-purchasing through demand forecasting
- **Automation:** Saves time by automating reorders and supplier communication
- **Data-Driven Decisions:** Provides real-time insights into stock consumption
- **Improved Guest Experience:** Ensures smooth hotel operations with timely stock availability

## Technology Stack

### Frontend:

- React.js or Vue.js for a modern UI
- Bootstrap/Tailwind CSS for responsive design

### Backend:

- Node.js with Express.js (or Django/PHP-Laravel)
- MySQL/PostgreSQL for structured data storage
- Redis for caching (to improve performance on stock lookup)

## **Project Overview:**

This project focuses on training a CNN model using MRI scans taken from the Kaggle . The model will classify scans into four stages, providing clinicians with probabilistic predictions and visual explanations of brain regions contributing to the diagnosis.

## **Literature Review on Hotel Stock Reorder Management Systems**

A **Stock Reorder Management System** plays a crucial role in inventory control, ensuring that essential hotel supplies are available while minimizing excess stock. Various studies and existing systems have highlighted the importance of automated inventory management in the hospitality industry. This literature review explores **previous research, existing systems, challenges, and technological advancements** related to hotel stock reorder management.

## **Proposed Methodology for Hotel Stock Reorder Management Web App**

The **Hotel Stock Reorder Management Web App** will be developed using a structured methodology that follows a systematic approach to designing, implementing, and testing the system. The methodology includes **requirement analysis, system design, development, testing, and deployment** to ensure an efficient and user-friendly inventory management solution.

## Short Note on Overall Requirements for Hotel Stock Reorder Management Web App

The **Hotel Stock Reorder Management Web App** requires a combination of **hardware, software, functional, and non-functional requirements** to ensure smooth operation.

### ◆ **Hardware Requirements:**

- Client devices: Minimum **Intel i3, 4GB RAM, 10GB storage, stable internet**.
- Server: **Quad-core processor, 16GB RAM, 200GB SSD, cloud hosting**.

### ◆ **Software Requirements:**

- **Frontend:** React.js/Vue.js, Bootstrap/Tailwind CSS.
- **Backend:** Node.js with Express.js, MySQL/PostgreSQL, RESTful APIs.
- **Security:** JWT/OAuth authentication, SSL encryption, role-based access.

### ◆ **Functional Requirements:**

- **Stock tracking, automated reordering, supplier management, alerts & reporting.**

### ◆ **Non-Functional Requirements:**

- **Scalability, security, high performance, mobile responsiveness, and data backup.**

The system ensures **real-time inventory control, cost reduction, and seamless hotel operations** by integrating modern web technologies and automation.

## Research Scope:

Peer-reviewed articles (2020–2023) from IEEE Xplore, PubMed, and ScienceDirect were prioritized. Conference papers and non-English studies were excluded.

## Conclusion:

A Hotel Stock Reorder Management Web App streamlines inventory control, improves supply chain efficiency, and enhances overall hotel operations. By integrating automated reorder triggers, supplier management, and real-time analytics, the system ensures seamless hotel management while reducing operational costs.

## References

- [1] NetSuite. (n.d.). *Reorder point defined: Formula & how to use*. NetSuite. Retrieved from <https://www.netsuite.com/portal/resource/articles/inventory-management/reorder-point-rop.shtml>
- [2] Slimstock. (n.d.). *Reorder point – What is it? / Formulas and examples*. Slimstock. Retrieved from <https://www.slimstock.com/blog/reorder-point/>
- [3] Hospitality Lawyer. (2019). *How to correctly reorder housekeeping supplies*. HospitalityLawyer.com. Retrieved from <https://hospitalitylawyer.com/wp-content/uploads/2019/01/How-to-correctly-reorder-housekeeping-supplies.pdf>
- [4] Open Textbooks for BC. (n.d.). *Basic inventory procedures*. In *Basic Kitchen and Food Service Management*. Retrieved from <https://opentextbc.ca/basickitchenandfoodservicemanagement/chapter/basic-inventory-procedures/>
- [5] Sculpture Hospitality. (n.d.). *How to calculate reorder points for your bar or restaurant*. SculptureHospitality.com. Retrieved from <https://www.sculpturehospitality.com/blog/how-to-calculate-reorder-points-bar-restaurant>
- [5] LinkedIn. (n.d.). *How to organize your hotel inventory management*. LinkedIn Advice. Retrieved from <https://www.linkedin.com/advice/3/youre-managing-inventory-your-hotel-how-xncoc>
- [5] Bloomreach. (n.d.). *How to solve the reorder point formula — Inventory management strategy*. Bloomreach. Retrieved from <https://www.bloomreach.com/en/blog/how-to-solve-the-reorder-point-formula-inventory-management-strategy>
- [6] RapidStock. (n.d.). *Online inventory management system for hotels – The absolute necessity*. RapidStock Blog. Retrieved from <https://rapidstock.com/blog/online-inventory-management-system-for-hotels-the-absolute-necessity/>
- [7] Hotelogix. (n.d.). *Effective hotel inventory management strategies*. Hotelogix Blog. Retrieved from <https://blog.hotelogix.com/hotel-inventory-management-strategies/>
- [8] Cloudbeds. (n.d.). *Hotel inventory management strategies and software*. Cloudbeds. Retrieved from <https://www.cloudbeds.com/articles/hotel-inventory-management/>
- [9] Lightspeed. (2022). *Reorder Point Formula: How to Calculate This Critical Inventory Metric*. Retrieved from <https://www.lightspeedhq.com/blog/reorder-point-formula/Lightspeed>
- [10] Sage. (2022). *Reorder point: Why is it important for managing inventory?* Retrieved from <https://www.sage.com/en-us/blog/reorder-point-why-is-it-important-for-managing-inventory/>

[11] InFlow Inventory. (2023). Reorder Point Formula Guide: How to Optimize Inventory. Retrieved from <https://www.inflowinventory.com/blog/reorder-point-formula-safety-stock/>  
[inFlow Inventory](#)

[12] Hotelogix. (2023). Effective Hotel Inventory Management Strategies. Retrieved from <https://blog.hotelogix.com/hotel-inventory-management-strategies/>

[13] Slimstock. (2022). Reorder Point – What Is It? | Formulas and Examples. Retrieved from <https://www.slimstock.com/blog/reorder-point/>