Prioritized Requirements Document for Check Inn 1 Hotel Management System

Document Version: 1.0  
Date: March 5th, 2024

Prepared By: Group 2  
Approval: Group 4

# **Purpose**

This document establishes the prioritized requirements for the Check Inn 1 Hotel Management System. The prioritization is first categorized according to a Three-Level Scale, and within each scale, the requirements are then ranked by calculating priority based on relative benefit, penalty, cost, and risk.

### **Prioritized Strategies**

## **1. Categorization on a Three-Level Scale**

The initial categorization divides the requirements into three scales: High, Medium, and Low Priority. This classification serves as the primary sorting mechanism, after which a more granular prioritization is applied within each scale.

### High Priority Requirements

Requirements essential for system launch and critical operations are placed here. They are vital for the project’s immediate goals and core functionality.

### Medium Priority Requirements

Requirements important for enhanced functionality and user satisfaction are placed here. They improve system utility and efficiency and are targeted for the next phase.

### Low Priority Requirements

Requirements that are beneficial but not essential for the initial phase are placed here. They can be considered for inclusion in later updates or enhancements.

**2. Detailed Prioritization within Each Scale**  
Within each category on the Three-Level Scale, requirements are further prioritized using a quantitative approach based on the following factors:

* Relative Benefit: The advantage or improvement the requirement brings to the system.
* Relative Penalty: The negative impact or cost of not implementing the requirement.
* Relative Cost: The financial, time, and resource expenditure required to implement the requirement.
* Relative Risk: The likelihood and impact of potential issues arising from implementing the requirement.

Each requirement is scored based on these factors, and a priority score is calculated. The formula used for priority score calculation within each scale is as follows:

Priority Score = (Relative Benefit + Relative Penalty)/(Relative Cost+Relative Risk)

​

The calculated priority scores allow us to rank the requirements within each category, ensuring a logical and value-driven order of implementation.

### **Requirement Categories for Three-Level Scale**

* High Priority: Requirements that are aligned with strategic business goals, critical user needs, or legal compliance mandates.
* Medium Priority: Requirements that add value through improved efficiency or enhanced user satisfaction but can be deferred if necessary.
* Low Priority: Requirements that offer incremental improvements and can be considered for future releases or after higher-priority requirements are met.

### **Documented Prioritized Requirements Based on Three-Level Scale**

**High Priority**

### **1: Online Booking and Reservation Management**

### **1.1 Functional Requirement**

* Description: The system shall offer an online booking interface that allows guests to book rooms directly through the hotel's website or mobile app without the need for telephone interaction.

**1.2 Functional Requirement**

* Description: The online booking system shall enable guests to compare different room types, check availability, and view rates for selected dates before making a booking.

**1.3 Functional Requirement**

* Description: Upon completing a booking, guests shall receive an immediate confirmation via email or through the booking platform, including all relevant details about their stay (e.g., dates, room type, rate, cancellation policy).

**1.4 Functional Requirement**

* Description: The system shall provide hotel staff with access to a centralized dashboard for viewing and managing all reservations, facilitating efficient room allocation and preparation for guest arrivals.

**1.5 Functional Requirement**

* Description: The system shall automatically update room inventory across all booking channels in real-time to reflect current availability, preventing overbooking and ensuring accurate room status.

**2: Check-In/Out and Room Assignment Automation**

**Functional Requirement 2.1:**

* Description: Guests shall have the ability to complete the check-in and check-out process using their mobile devices, without the need to queue at the hotel's front desk.

**Functional Requirement 2.2:**

* Description: The system shall allow guests to check in via their mobile device before arriving at the hotel, offering the option to bypass traditional front desk interactions.

**Functional Requirement 2.3:**

* Description: Guests shall be able to request room changes or upgrades through the hotel’s mobile app or website, facilitating easy customization of their stay.

**Functional Requirement 2.4:**

* Description: The system shall enable hotel staff to automatically assign rooms based on guest preferences, status, and availability, early on the day of check-in.

**Functional Requirement 2.5:**

* Description: Hotel staff shall be able to facilitate an express check-out process for guests through the system, enabling guests to depart swiftly without manual billing and key return procedures.

**Security:**

* Description: All personal and payment information shall be encrypted in transit and at rest using encryption. The system shall achieve and maintain compliance for payment processing and GDPR for data protection.

**Data Privacy and Protection Compliance:**

* Description: The system must ensure all personal data is processed in compliance with GDPR and any applicable local data protection laws, providing mechanisms for data access, correction, and deletion requests by users.

### **Medium Priority**

**4: Dynamic Pricing and Revenue Management**

**Functional Requirement 4.1**

* Description: The system shall enable the revenue manager to implement dynamic pricing strategies that adjust room rates based on demand, occupancy, seasonality, and special events.

**Functional Requirement 4.2**

* Description: The system shall allow hotel staff to adjust pricing in real-time based on current market data, competitor pricing, and hotel occupancy.

**Functional Requirement 4.3**

* Description: The system shall provide tools for hotel staff to analyze booking trends and identify high-demand periods, facilitating strategic pricing adjustments.

**Functional Requirement 4.4**

* Description: Guests shall have access to dynamic pricing offers through the hotel's booking platform, enabling them to secure rooms at the most competitive rates.

**Functional Requirement 4.5**

* Description: The system shall notify guests about special rates for periods of interest, based on their preferences and previous interactions with the hotel.

**Functional 5: Housekeeping and Maintenance Scheduling**

**Functional Requirement 5.1**

* Description: The system shall enable the housekeeping manager to efficiently schedule and track housekeeping tasks, ensuring that rooms are cleaned and prepared according to the hotel’s standards.

**Functional Requirement 5.2**

* Description: The system shall provide hotel staff with real-time notifications regarding room status, facilitating timely housekeeping and maintenance actions.

**Functional Requirement 5.3**

* Description: The system shall allow for the scheduling of preventative maintenance checks on hotel facilities and rooms to avoid potential issues and ensure everything is functioning properly.

**Functional Requirement 5.4**

* Description: Guests shall have the option to request housekeeping services at times that are convenient for them, through the hotel’s app or website.

**Functional Requirement 5.5**

* Description: The system shall enable guests to request immediate housekeeping or maintenance services through the hotel’s app, ensuring quick resolution of any room issues.

**7. Feedback and Review Management**

**Functional Requirement 7.1:**

* Description: The system shall provide a mechanism for the hotel manager and staff to collect, store, and analyze guest feedback from various sources (e.g., direct surveys, online review platforms, in-app feedback forms) to identify service improvement opportunities and acknowledge guest satisfaction.

**Functional Requirement 7.2:**

* Description: The system shall enable hotel staff to monitor and respond to online reviews across various platforms, managing the hotel's online reputation and addressing any guest concerns or misconceptions promptly.

**Functional Requirement 7.3:**

* Description: Guests shall have the ability to easily provide feedback during or after their stay through multiple channels (e.g., mobile app, website, email follow-up surveys) without requiring extensive effort.

**Functional Requirement 7.4**

* Description: The system shall automatically acknowledge the receipt of guest feedback, and where appropriate, escalate it to hotel staff for personal follow-up, ensuring guests feel valued and heard.

**3: Guest Profile Management**

**Functional Requirement 3.1**

* Description: Hotel staff members shall have the ability to access and update guest profiles within the system to provide personalized services and enhance guest satisfaction.

**Functional Requirement 3.2**

* Description: The system shall automatically update a guest’s profile with details of every service request they make, including room bookings, dining, spa services, and other amenities.

**Functional Requirement 3.3**

* Description: Hotel staff shall have immediate access to guest profiles during their stay to offer personalized service and anticipate guest needs.

**Functional Requirement 3.4**

* Description: The system shall enable hotel staff to track and analyze guest feedback and preferences over time, facilitating ongoing service improvement and the creation of personalized offers.

**Functional Requirement 3.5**

* Description: Guests' stay preferences shall be stored and automatically applied to future bookings to personalize each visit with minimal effort from the guest.

**Functional Requirement 3.6**

* Description: Guests shall have the ability to update their personal profile and preferences online at any time, enabling the hotel to tailor their stay according to current needs.

**Usability**

* Description: The system shall feature an intuitive user interface, aiming for a System Usability Scale (SUS) score of at least 85 out of 100.

**Performance**

* Description: The system shall support up to 10,000 simultaneous users with response times not exceeding 2 seconds for 95% of transactions under peak load.

**Reliability**

* Description: The system shall achieve 99.9% uptime, excluding scheduled maintenance windows.

### **Low Priority**

**6. Customer Relationship Management (CRM) Integration**

**Functional Requirement 6.1**

* Description: The system shall enable the marketing manager and hotel staff to access and utilize CRM data to create targeted marketing campaigns and loyalty programs tailored to guest preferences.

**Functional Requirement 6.2**

* Description: The system shall provide tools for hotel staff to analyze guest data stored in the CRM to identify trends, preferences, and areas for service improvement.

**Functional Requirement 6.3**

* Description: The system shall automatically recognize returning guests through the CRM and provide them with loyalty rewards or benefits, reinforcing their value to the hotel.

**Functional Requirement 6.4**

* Description: Guests shall receive personalized offers and promotions based on their interests, past stays, and preferences as recorded in the CRM, enhancing their stay experience.

**8. Data Analytics for Customer Insights**

**Functional Requirement 8.1**

* Description: The system shall provide data analytics tools for the hotel manager to analyze guest behavior, preferences, and trends, enabling the development of tailored services and offerings.

**Functional Requirement 8.2**

* Description: The system shall use historical booking data and market analysis to predict future booking trends, helping the hotel prepare for demand fluctuations by optimizing staffing and resource allocation.

**Functional Requirement 8.3**

* Description: The system shall enable hotel staff to measure guest satisfaction through surveys and feedback tools, comparing results against industry benchmarks to identify areas for improvement.

**Functional Requirement 8.4**

* Description: The system shall ensure that all guest data used for enhancing stay experiences is handled responsibly, in compliance with data protection regulations, to maintain guest trust.

**Functional Requirement 8.5**

* Description: The system shall analyze individual guest preferences and past behavior to generate personalized recommendations for activities, services, and experiences during their stay.

**Maintainability**

* Description: The system shall support updates and patches with no more than 2 hours of downtime per month.

**Compatibility**

* Description: The system must be fully compatible with the latest versions of major web browsers (Chrome, Firefox, Safari, Edge) and support mobile platforms (iOS and Android) to ensure accessibility and functionality across all user devices.

**Scalability**

* Description: The system must be scalable to support a 50% increase in user load without degradation in performance.

**Prioritization based on value, cost, and risk - High Priority**

| **Feature** | **Relative Benefit** | **Relative Penalty** | **Total Value** | **Value %** | **Relative Cost** | **Cost %** | **Relative Risk** | **Risk %** | **Priority** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Online Booking Interface** | **5** | **5** | **10** | **9.43** | **8** | **12** | **3** | **7** | **0.63** |
| **Compare Room Types** | **4** | **4** | **8** | **7.55** | **2** | **3** | **3** | **7** | **0.50** |
| **Immediate Booking Confirmation** | **4** | **4** | **8** | **7.55** | **2** | **3** | **4** | **9** | **0.50** |
| **Centralized Dashboard for Reservations** | **4** | **4** | **8** | **7.55** | **4** | **6** | **3** | **7** | **0.50** |
| **Real-time Inventory Update** | **5** | **5** | **10** | **9.43** | **4** | **6** | **2** | **4** | **0.63** |
| **Mobile Check-In/Out** | **5** | **5** | **10** | **9.43** | **3** | **4** | **2** | **4** | **0.63** |
| **Pre-Arrival Check-In** | **4** | **4** | **8** | **7.55** | **2** | **3** | **2** | **4** | **0.50** |
| **Room Changes/Upgrades** | **3** | **3** | **6** | **5.66** | **2** | **3** | **3** | **7** | **0.38** |
| **Automatic Room Assignment** | **4** | **4** | **8** | **7.55** | **4** | **6** | **4** | **9** | **0.50** |
| **Express Check-Out Process** | **5** | **5** | **10** | **9.43** | **3** | **4** | **3** | **7** | **0.63** |
| **Encryption & PCI DSS/GDPR Compliance** | **5** | **5** | **10** | **9.43** | **6** | **9** | **8** | **18** | **0.63** |
| **GDPR and Data Protection Compliance** | **5** | **5** | **10** | **9.43** | **6** | **9** | **8** | **18** | **0.63** |
| **Total** | **53** | **53** | **106** | **100.00** | **69** | **100** | **45** | **100** | **6.67** |

**Prioritization based on value, cost, and risk - Medium Priority**

| **Functional Requirement** | **Relative Benefit** | **Relative Penalty** | **Total Value** | **Value %** | **Relative Cost** | **Cost %** | **Relative Risk** | **Risk%** | **Priority** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Dynamic Pricing** | **5** | **1** | **4** | **5.00** | **3** | **3.70** | **4** | **5.06** | **4.45** |
| **Real-time Pricing Adjustment** | **4** | **2** | **2** | **2.50** | **4** | **4.94** | **3** | **3.80** | **3.63** |
| **Booking Trend Analysis** | **4** | **3** | **1** | **1.25** | **3** | **3.70** | **3** | **3.80** | **3.03** |
| **Dynamic Pricing Offers for Guests** | **3** | **2** | **1** | **1.25** | **4** | **4.94** | **2** | **2.53** | **2.95** |
| **Special Rate Notifications for Guests** | **3** | **1** | **2** | **2.50** | **3** | **3.70** | **2** | **2.53** | **2.88** |
| **Housekeeping Scheduling** | **4** | **3** | **1** | **1.25** | **3** | **3.70** | **3** | **3.80** | **3.03** |
| **Real-time Room Status Notifications** | **3** | **1** | **2** | **2.50** | **3** | **3.70** | **3** | **3.80** | **3.28** |
| **Preventative Maintenance Scheduling** | **4** | **2** | **2** | **2.50** | **4** | **4.94** | **4** | **5.06** | **4.40** |
| **Guest-Requested Housekeeping** | **3** | **2** | **1** | **1.25** | **3** | **3.70** | **3** | **3.80** | **3.03** |
| **Immediate Service Requests** | **3** | **3** | **0** | **0.00** | **4** | **4.94** | **4** | **5.06** | **4.02** |
| **Feedback Collection and Analysis** | **5** | **1** | **4** | **5.00** | **3** | **3.70** | **4** | **5.06** | **4.45** |
| **Online Review Monitoring** | **4** | **2** | **2** | **2.50** | **4** | **4.94** | **4** | **5.06** | **4.40** |
| **Easy Feedback Mechanism for Guests** | **4** | **3** | **1** | **1.25** | **3** | **3.70** | **3** | **3.80** | **3.03** |

**Prioritization based on value, cost, and risk - Low Priority**

| **Functional Requirement** | **Relative Benefit** | **Relative Penalty** | **Total Value** | **Value %** | **Relative Cost %** | **Cost %** | **Relative Risk %** | **Risk %** | **Priority** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **6.1 CRM Data Utilization** | **4** | **1** | **3** | **15.79** | **14.29** | **12.86** | **10.34** | **10.34** | **13.23** |
| **6.2 Guest Data Analysis** | **4** | **2** | **2** | **10.53** | **10.71** | **10.00** | **10.34** | **10.34** | **10.62** |
| **6.3 Automatic Recognition of Returning Guests** | **4** | **3** | **1** | **5.26** | **14.29** | **12.86** | **10.34** | **10.34** | **10.12** |
| **6.4 Personalized Offers and Promotions** | **3** | **1** | **2** | **10.53** | **14.29** | **12.86** | **10.34** | **10.34** | **10.94** |
| **8.1 Data Analytics for Guest Insights** | **4** | **2** | **2** | **10.53** | **14.29** | **12.86** | **10.34** | **10.34** | **10.94** |
| **8.2 Prediction of Future Booking Trends** | **4** | **1** | **3** | **15.79** | **14.29** | **12.86** | **13.79** | **13.79** | **13.51** |
| **8.3 Measurement of Guest Satisfaction** | **4** | **3** | **1** | **5.26** | **10.71** | **10.00** | **10.34** | **10.34** | **10.44** |
| **8.4 Responsible Handling of Guest Data** | **4** | **2** | **2** | **10.53** | **10.71** | **10.00** | **13.79** | **13.79** | **11.32** |
| **8.5 Personalized Recommendations for Guests** | **3** | **1** | **2** | **10.53** | **10.71** | **10.00** | **10.34** | **10.34** | **10.62** |

**Conclusion**

Prioritization of the system requirements is conducted through a systematic approach, ensuring our resources are allocated to areas of greatest impact first. Through our three priorities of high, medium and low, supported by detailed quantitative analysis of the benefits, penalties, costs and risks of each requirement, we established a clear development roadmap that is both effective and efficient.

Our high-priority requirements will form the cornerstone of our initial development phase, ensuring critical functionality is delivered from day one to support the hotel’s operational needs. Medium priority requirements will follow, enhancing the functionality and user experience of the system, thus strengthening our market position. Finally, future enhancements will take into account low-priority requirements, allowing flexibility and adaptability in our long-term growth strategy.