

Hotel Management System:

1. Introduction:-

1.1 Purpose:-

This document specifies the requirements of Hotel Management System. This allows the hotel staff to look into guest check-ins/outs, billing, managing reservations etc.

The system ensures accuracy, efficiency in day-to-day hotel operations.

It will serve for seamless interaction b/w hotel staff, administrators, reception staff, housekeeping and customers. It is designed to improve customer satisfaction.

1.2 Document Conventions:-

The term 'shall' indicates mandatory requirements.

and 'should' indicates desirable but optional features. Non-functional requirements are stated with time, accuracy and reliability.

Functional requirements are simple with shall used.

1.3 Intended Audience and Reading Suggestions:-

- Developers - to design and implement system
- Testers - to validate system requirements
- Hotel staff - to understand system functionality
- Reviewers - to evaluate completeness of requirements

1.4 Product Scope:

The system is designed to automate hotel operations such as booking, billing, room allocation and staff management. It integrates with online platforms to allow customers to make reservations in real time. It provides administrators with dashboards for performance tracking. It supports scalability, enabling small hotels as well as large chains with multiple branches.

1.5 References :-

- IEEE SRS standard.
- Hotel industry guidelines or regulatory documents.
- API or technical documentation for third-party tools (payment gateways or booking engines).

2. Overall Description

2.1. Product Perspective :-

It replaces tradition manual system of registration, billing to a fully automated process. It interacts with external systems as banking API's for secure transactions and inventory system for resource tracking. The system is designed to be scalable, supporting single hotels as well as multiple branches with share data access.

2.2. Product features :-

- Room booking and reservations
- Check customer check-ins and check-outs.
- Staff record management.
- Automated billing and invoice generation
- Real time room availability updates.

2.3. User classes and characteristics :-

- Administrator : Full system privileges.
- Staff : limited access
- Customer : limited self-service.

2.4. Operating Environment :-

- Server OS : windows / Linux.
- Database : MySQL
- Programming Language : Java / PHP / Python
- User devices : PC / Laptop with atleast 4GB RAM and internet browser.

2.5. Design and Implementation Constraints:

- It should be implemented using a relational database to ensure consistency and scalability.
- The system must run on commonly used platforms such as Windows and Linux servers.
- All modules should be developed using standard programming practices to ensure maintainability.
- Internet connectivity is required for online reservations and payment processing.

2.6. User Documentation:

- User Manual for hotel staff and admin.
- Quick start guide for customers.

2.7. Assumption and Dependencies:

- Internet access available for customer portal.
- Payment gateway API operational.
- Hotel staff trained in basic computer usage.

3. System Features:

3.1. Room Booking Functional Requirements:

- The system shall allow customers to search for available rooms based on check ins/outs dates.
- Shall provide booking facilities with guest details, preferences, payment options.
- Shall generate invoices and receipts automatically upon guest departure.
- Shall enable staff to manage housekeeping, room service and guest feedback.

3.2. Non-functional requirements:

- Shall provide secure financial transactions.
- Shall ensure 24/7 availability with minimum uptime of 99.5%.
- Shall process reservations within 2 seconds under normal load.
- Shall be scalable to support multiple hostels and branches.

3.3. Domain Requirements:

- shall comply with guest data privacy and hospitality regulations.
- shall align with accounting standards for financial and billing reports.
- shall handle seasonal pricing, promotional offers, and loyalty programs.

3.4. External interface requirements:

- User interface: web-based interface, separate login dashboards, forms for room booking, multi-language interfaces.
- Hardware interfaces: hotel frontdesk computers, barcode scanners, receipt printers, card readers.
- Software interface: Payment gateway APIs, government ID verification APIs, hotel accounting software.
- Communication interface: email notifications, SMS alerts, real time synchronization.

4. Appendix:-

4.1. Acronyms and Abbreviations:-

- HMS - Hotel Management System
- UI - User interface
- API - Application Programming interface

4.2. Glossary:-

- Guest - person booking or staying in hotel.
- Admin - hotel staff/manager responsible for system operations.
- Booking - process of reserving a hotel room for chosen period.