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→ Hotel Management System

1. Introduction

1-1 Purpose

The purpose of this document is to provide a detailed description of the software requirements for a Hotel Management System (HMS) that includes the functionalities for hotel operations, restaurant management, restaurant management, and parking services. The document serves as a guideline for developers, project managers, and stakeholders present in the system's development.

1.2 Scope

The Hotel Management System will facilitate the management of hotel operations, include guest reservations, room assignment, billing, restaurant services, and parking facilities. It will provide an interface for hotel staff and guests to ensure efficient service delivery.

1.3 Definitions, acronyms and abbreviations.

HMS : Hotel management system

GUI : Graphical User Interface

API : Application Programming Interface

DBMS : Database Management System.

1.4 References

- IEEE Recommended Practice for Software Requirement Specification
- Hotel industry best practices.

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1.5 Overview

This document includes both functional and non functional requirements, outlining the expected capabilities and constraints of the Hotel Management System

2. Overall Description

2-1 Product Perspective

The HMS is a standard standalone application with a client-server architecture. It will interface with various subsystems, including payment gateways, restaurant management systems and parking management systems.

2-2 Product Functions

- Guest check in and check out
- Room availability and management.
- Reservation processing
- Restaurant menu management
- Order Processing
- Parking space management
- Billing and invoicing
- Reporting and analytics.

2.3 User classes and characteristics

- Front desk staff : Responsible for guest check in, check out.
- Restaurant staff : Manges food orders, and tables
- Housekeeping - manages cleaning schedules
- Management - Report and analytics for decision making.

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3. Functional Requirements

3.1 User Authentication

System shall provide a secure login interface for users.

The system shall support password recovery and user registration

3.2 Guest Management

The system shall allow staff to add, edit and delete guest profiles.

The system shall track guest preferences and history.

3.3 Room Management

The system shall provide a real time view of room availability

The system shall allow staff to update room status

3.4 Reservation management

The system shall allow online and offline reservation processing

The system shall send confirmation emails to guests upon booking.

3.5 Billing and Payment management.

The system shall provide and generate invoices for guests upon checkout

The system shall allow for multiple payment methods (cash, card).

3.6 Restaurant Management.

The system shall allow staff to manage menus.

The system shall facilitate order placement and table management.

3.7 Parking Management

The system shall allow guests to reserve parking spots.

The system shall track parking space availability and duration

of stay

4. Non functional Requirements

4.1 Performance requirements

- System shall support up to 100 simultaneous users without any performance degradation
- The average response time for any request shall not exceed 4 seconds.

4.2 Security Requirements

- The system shall encrypt sensitive data (passwords, payment info)
- The system shall implement role based access control.

4.3 Usability Requirements

- The system shall have an intuitive GUI with clear navigation
- The system shall provide help documentation accessible within the application.

4.4 Reliability Requirements

- The system shall have 99.9% uptime
- The system shall include automated backup process.

4.5 Maintainability Requirements

- The system shall follow standard code practices to allow for ease of maintenance.
- The system shall support modular updates and plugins.

4.6 Portability Requirements

- System shall be compatible with major web browsers.
- System shall be usable on mobile devices

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5. Domain Requirements

5.1 Business Rules

- Guests must provide valid identification upon check in to verify identity.
- Room rates are subject to change based on seasonality, special events, and must be reflected in real time on the interface.
- cancellation policies must be clearly communicated to guests at the time of booking.
- Hotel must have defined capacity limit for each type of room.
- System must not allow overbooking.

5.2 Data Management.

- System shall maintain a centralized database for all hotel operations.
- Restaurant module must manage inventory levels & link them to supplier databases for efficient stock management and ordering.
- Historical data regarding guest stay and transactions must be retained for a minimum of 5 years to comply with regulatory requirements.