TRIBHUVAN UNIVERSITY

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ORCHID INTERNATIONAL COLLEGE

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A Project Report On

“HOTEL MANAGEMENT SYSTEM”

PHASE - I (PLANNING)

For

System Analysis and Design (CSC315)

5th semester Project Report submitted in the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Information Technology

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Chapter 1 :- INTRODUCTION

1.1 Background :-

- The Hotel Management System (HMS) is designed to improve the efficiency of hotel operations. With the increasing demand for quality service and operational efficiency in the hospitality industry, there is a need for a system that can streamline processes such as reservations, billing, and inventory management. The HMS aims to address these needs by providing a comprehensive solution that enhances the guest experience and simplifies management tasks.

1.2 Problem Definition :-

- Managing a hotel involves numerous repetitive and time-consuming tasks, which are prone to human error. Traditional manual processes can lead to issues such as double bookings, incorrect billing, and inventory mismanagement. Additionally, the rising expectations of guests for quick and seamless service add pressure on hotel management to adopt more efficient systems. Such as :-

- Automate the reservation process to avoid double bookings and streamline check-ins and check-outs.
- Integrate billing and payment systems to ensure accurate and timely transactions.
- Manage inventory effectively to ensure availability and reduce wastage.
- Enhance customer relationship management to improve guest satisfaction and loyalty.

1.3 Objectives :-

- To enhance the reservation process.
- To integrate billing and payment systems.
- To manage inventory efficiently.
- To improve customer relationship management.

1.4 Scope :-

- These modules encompass Reservation Management, which automates room bookings, cancellations and scheduling. Front Desk Operations, facilitating check-in, check-out and room assignment processes. Billing and Payments, integrating with various payment gateways for secure transactions. Additionally, the project covers Inventory Management to track and manage hotel supplies and stock levels, and Customer Relationship Management (CRM), which stores guest information, preferences, and feedback to provide personalized services.

1.5 Limitations :-

- **Performance Issues :-** High traffic flow may lead to performance issues, potentially slowing down operations during peak times.
- **Customization Constraints :-** Pre-built features might not offer the necessary customization for unique business needs, limiting flexibility.
- **Cost :-** Implementing and maintaining the system can be expensive, particularly for small businesses with limited budgets.
- **Scalability Challenges :-** Sudden increases in demand or unexpected fluctuations in customer flow might overwhelm the system, affecting service quality.
- **Privacy Concerns :-** The integration of features such as real-time monitoring can raise privacy concerns among guests and staff.

Chapter 2 :- SYSTEM ANALYSIS

2.1 Introduction :-

- A Hotel Management System is designed to streamline and automate various aspects of hotel operations, enhancing efficiency and customer satisfaction. This system includes modules for reservations, check-in/check-out, billing, housekeeping, and reporting.

2.2 System Analysis :-

- **Requirement Gathering :-** Collect requirements from stakeholders like hotel staff and customers.
- **Functional Analysis :-** Determine necessary features like reservation management and billing.
- **Data Analysis :-** Analyze needed data such as guest information, booking details, and financial transactions.
- **Process Modeling :-** Develop models to understand workflows like booking, check-in, and check-out.
- **Use Case Analysis :-** Define scenarios like making a reservation, checking in a guest, and processing payments.
- **Performance Analysis :-** Evaluate system performance, including response time and reliability.
- **Security Analysis :-** Ensure data security and system integrity.
- **User Interface Analysis :-** Assess the usability of the system interfaces.
- **Testing:** Conduct thorough testing to identify and fix issues.

2.3 Functional Requirements :-

- **User Registration and Authentication :-** Allow users to create and authenticate accounts.
- **Booking Management :-** Enable users to make, modify, and cancel reservations.
- **Check-In/Check-Out :-** Streamline the check-in and check-out process for guests.
- **Billing and Payment Processing :-** Handle billing and accept various payment methods.
- **Housekeeping Management :-** Manage housekeeping tasks and schedules.
- **Reporting :-** Generate reports on various operational aspects.

2.4 Non-Functional Requirements :-

- **Performance :-** Efficiently handle multiple transactions and operations simultaneously.
- **Availability :-** Ensure the system is operational 24/7.
- **Reliability :-** Maintain system stability with minimal errors and quick recovery from failures.
- **Security :-** Protect user data with robust security measures.
- **Usability :-** Provide an intuitive and user-friendly interface.
- **Compatibility :-** Ensure compatibility with different devices and operating systems.
- **Scalability :-** Support an increasing number of users and operations as the business grows.

2.5 Feasibility Study :-

- **Operational Feasibility :-** Ensure the system meets user needs and is easy to use.
- **Technical Feasibility :-** Assess the technical resources and capabilities required.
- **Economic Feasibility :-** Evaluate the cost-effectiveness of the system.

2.6 Gantt Chart :-

TRACKING GANTT

	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Project Planning	5 days	Sun 6/2/24	Fri 6/7/24	
2		Requirements Gathe	10 days	Sun 6/9/24	Fri 6/21/24	1
3		System Design	15 days	Sun 6/23/24	Fri 7/12/24	2
4		Front-End Developm	15 days	Sun 7/14/24	Fri 8/2/24	3
5		Back-End Developme	15 days	Sun 8/4/24	Sun 8/25/24	3
6		Database Developme	9 days	Mon 8/26/24	Fri 9/6/24	3
7		Integration	10 days	Sun 9/8/24	Fri 9/20/24	4,5,6
8		Testing and Bug Fixin	16 days	Sun 9/22/24	Mon 10/14/24	7
9		Deployment and Lau	5 days	Mon 10/14/24	Sun 10/20/24	8
10		Post-Launch Mainter	15 days	Mon 10/21/24	Sun 11/10/24	9

Explanation :-

- **Project Planning :-** Define project goals, scope, stakeholders, and develop a project plan. This is the foundational phase where the project's objectives and deliverables are clearly outlined.
- **Requirements Gathering** :- Collect and document the functional and non-functional requirements from stakeholders, such as hotel staff and management. This phase ensures that all the necessary features and specifications are understood.
- **System Design** :- Develop the architecture of the system, including database schemas and user interface mockups. This phase involves creating a blueprint for the system.
- **Front-End Development** :- Develop the user interface components of the system. This includes designing screens and forms that users will interact with.
- **Back-End Development** :- Develop the server-side logic, including database interactions, API endpoints, and core functionalities. This phase involves building the logic that powers the front-end.
- **Database Development** :- Design and implement the database that will store all the system's data. This includes creating tables, relationships, and ensuring data integrity.
- **Integration** :- Combine the front-end, back-end, and database components into a cohesive system. This phase ensures that all parts of the system work together seamlessly.
- **Testing and Bug Fixing** :- Thoroughly test the system to identify and resolve any issues or bugs. This phase ensures the system functions correctly and meets the specified requirements.
- **Deployment and Launch** :- Deploy the system to the production environment and launch it for use. This involves setting up the system on servers and making it accessible to users.
- **Post-Launch Maintenance** :- Provide ongoing support and maintenance, including bug fixes, updates, and enhancements. This phase ensures the system remains functional and efficient after launch.

2.7 Decision Table :-

Condition	Action 1	Action 2	Action 3
User is logged in	Book a room	View booking history	Logout
User has payment info	Book a room	Prompt to add payment info	View payment info
Room booking in progress	View details	Contact reception	Cancel booking
Room booking completed	View receipt	Rate experience	Book another room

In this decision table, the conditions are listed in the left-hand column, and the possible actions are listed in the header row. Each cell in the table represents a specific combination of conditions and actions, and the corresponding action(s) to take based on those conditions.

For example, if a user is logged in and has payment information, they are allowed to request a book. If the book is in progress, they can view the details. If the book is completed, they can view the receipt, rate the experience , or book another room.

Using a decision table like this can help ensure that all possible combinations of conditions and actions are considered and accounted for in the design and development of the Hotel Management System (HMS).

2.8 Tracking Gantt :-