Bangladesh University of Business and Technology
Department of Computer Science and Engineering

Project Name: Hotel Management System
PROJECT PROPOSAL

SUBMITTED BY

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Problem Definition:

The current hotel management processes rely on outdated and manual systems, leading to inefficiencies in reservation handling, guest management, billing, and inventory control. These inefficiencies result in decreased guest satisfaction, delayed operations, and potential revenue loss for hotels. Additionally, the lack of real-time integration and data security measures poses risks to guest privacy and hampers smooth workflow within the hotel. A modern Hotel Management System is needed to automate and integrate these operations, enhance guest experiences, and ensure secure and efficient management of hotel resources. This system should address these challenges and pave the way for a more streamlined and productive hotel management process.

OBJECTIVES:

- Efficiently handle reservations, guest data, billing, inventory, and reporting processes.
- Automate and optimize hotel operations by developing a Hotel Management System.
- Prioritize data security, accuracy, and compliance with regulations for guest information protection.
- Modernize hotel management processes to improve operational efficiency

METHODOLOGY:

In this software there will two part. One is for administrators. Administrator can assign their room and customers details. And another is for user.User can check room availability and price by login to there account

User panel::

Addressing Complex Engineering Problems (Ps) Through This Project –

- ☐ P1: Project Planning and Scope Definition:
- • Define project objectives, goals, and constraints
- • Create a project schedule outlining key milestones and timelines.
- • Identify project stakeholders and their roles.
- ☐ P2: Requirement Analysis
  Conduct interviews and workshops to gather requirements from stakeholders. Document functional and non-functional requirements for the hotel

management system. Prioritize and validate requirements with stakeholders.

☐ P3:System Design
Develop system architecture and define components.Design database schema, considering data models and relationships.Create user interface mockups and workflow diagrams.

☐ P4:Technology Selection and Setup
Evaluate and choose appropriate technologies for the project.Set up the development environment and necessary tools.

☐ P5: Development
Implement the system based on the defined architecture and design.Follow coding standards and best practices for efficient and maintainable code.Conduct regular code reviews and testing to ensure quality

☐ P6: Integration and Testing
Integrate individual components and modules into a cohesive system.Conduct unit, integration, and system testing to verify functionality and identify defects.Perform user acceptance testing with stakeholders.

☐ P7: Project Evaluation and Closure Evaluate the project against defined objectives and success criteria.Gather feedback from stakeholders for future improvements.Officially close the project, documenting lessons learned and future recommendations.

Addressing Complex Engineering Activities (As) Through This Project
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☐ A1: Database Optimization and Scalability
Design a robust and efficient database structure to handle a large volume of data.Implement database indexing, caching mechanisms, and query optimizations for improved performance and scalability.

☐ A2: Real-time Data Processing
Integrate real-time data processing for dynamic updates on room availability, pricing, and reservations.

☐ A3: Machine Learning for Personalization
Use techniques like collaborative filtering or clustering to enhance guest experience and satisfaction.

☐ A4: IoT Integration for Room Automation
Utilize IoT devices to automate and monitor room amenities.