HARAMAYA UNIVERSITY

HOTEL BOOKING SYSTEM PROPOSAL

COLLEGE OF COMPUTING AND INFORMATICS

Submission Date:

27/01/2025 G.C

Haramaya, Harar,1000   +251900000000   group3@sectiona.com

Table of contents

Project Title and Group Number

PROJECT TITLE - **HOTEL BOOKING SYSTEM**

Section - A

Group - 3

Team Profile

#	Name of Member	ID no	Roles
1	Kenean Dita Meleta (Author, Leader)	0629/15	- Documentation - Programming - Version Control
2	Atinaf Bedasa Debela	0176/15	- Version Control - Programming
3	Mesfin Ayele Wake	0732/15	- Information Gathering - Front-end Coding
4	Kidist Teshome Asefa	0620/15	- Design - Front-end Coding
5	Dawit Mengesha Beriso	0297/15	- Testing - Programming

Proposed Project Description

The problem domain revolves around the **hospitality industry**, focusing on the challenges faced by hotels in managing bookings, customer interactions, and operational efficiency. Traditional systems for hotel booking are often manual, error-prone, and time-consuming, which can lead to double bookings, delays in updates, and poor customer satisfaction. Customers face difficulties in checking real-time availability, modifying bookings, or making seamless payments. At the same time, hotels struggle with resource management, tracking occupancy, and maintaining effective communication with guests. These inefficiencies hinder overall performance and customer retention. Our project seeks to address these issues by providing a streamlined, automated, and user-friendly booking management system.

Issues We Intend to Address:

1. **Inefficient Booking Processes**: Many hotels still rely on manual or outdated systems, leading to errors like double-booking or mismanagement of available rooms.
2. **Lack of Real-Time Availability**: Customers often face delays or cannot access accurate information about room availability.
3. **Poor Customer Experience**: Traditional systems lack features like personalized booking options, easy cancellations, or seamless payment methods, which frustrates users.
4. **Ineffective Management of Resources**: Hotels struggle to track occupancy, revenue, and inventory (e.g., room supplies) effectively.
5. **Communication Gaps**: There's often poor communication between hotel staff and customers, such as delays in confirming bookings or handling special requests.

Our system aims to solve these issues by providing an automated, user-friendly, and efficient solution that benefits both customers and hotel administrators.

Project Objectives

The primary objective of the **Hotel Booking Management System** is to streamline the booking process and improve both customer experience and hotel operations. We aim to accomplish the following:

1. **Automate the Booking Process**: Create an efficient system for customers to book rooms online in real-time.
2. **Enhance Customer Experience**: Provide features such as flexible booking, payment options, and personalized services.
3. **Streamline Hotel Management**: Improve room availability tracking, occupancy reports, and resource management.
4. **Improve Communication**: Ensure timely notifications and streamlined communication between hotel staff and customers.
5. **Increase Accessibility**: Develop a system accessible on multiple platforms (web and mobile).

And some of the Services provided by the proposed system will include:

1. **Online Room Booking**: Customers can search for available rooms, view room details, and book in real-time.
2. **Development**: A new program will be written using web technologies like HTML, CSS, JavaScript, and a backend framework.
3. **User Account Management**: Users can create profiles, manage their reservations, and access booking history.
4. **Development**: A custom-built user management module will be implemented.
5. **Flexible Payment Options**: Secure payment gateways (e.g., Stripe, PayPal) will allow multiple payment methods.

Some tools and programs that include existing ones are the following:

I. **Development**: Existing tools like payment API integrations will be used.

II. **Room Availability Tracking**: Tracks and updates room status in real time to prevent double bookings.

III. **Development**: A custom module for room inventory will be created.

IV. **Booking Modification and Cancellation**: Customers can edit or cancel bookings with instant updates.

V. **Development**: A new module will be written for this feature.

VI.   **Automated Notifications**: Email or SMS updates for booking confirmations, reminders, and cancellations.

VII.   **Development**: Existing tools (e.g., Twilio, SendGrid) will be integrated.

VIII. **Hotel Admin Dashboard**: Provides tools for staff to manage bookings, track occupancy, and generate reports.

IX.   **Development**: A custom dashboard will be developed.

X.   **Customer Support Integration**: A chat system or inquiry form for addressing customer questions and special requests.

System's Functionalities

The functionalities of the proposed system will be summarized as the following:

- Real-time room booking and availability tracking.
- User account creation and booking management.
- Payment processing with flexible options.
- Automated email/SMS notifications for updates.
- Admin dashboard for resource and revenue tracking.
- Feedback collection and inventory management.
- Customer support system integration.

Potential and Actual Customers

Potential Customers:

- ➢ Small to medium-sized hotels or resorts transitioning to online booking.
- ➢ Travel agencies seeking a centralized booking platform.
- ➢ Corporate clients needing bulk room booking for events or employees.

Actual Customers (if applicable):

- ➢ Specific hotels that have expressed interest in automating their booking processes.

Plan of Work

The following sections will briefly include what will the short-term expected goals are. This peek can be edited after the time for building the actual system is verified.

Week 1: Requirement Gathering and Analysis

- o Conduct meetings to understand the requirements of the hotel booking system.
- o Document the system's functional and non-functional requirements.
- o Create use case diagrams and user stories for key functionalities (e.g., booking, payments, and admin dashboard).

Deliverable: **Requirements Specification Document**

Week 2: System Design

- o Design wireframes for the user interface (UI) of the booking platform.
- o Create database schema and decide on technologies (e.g., programming languages, frameworks, and hosting platforms).
- o Define the system architecture, including frontend-backend interaction and APIs.

Deliverables: **UI Wireframes** (for customer and admin views), **Database Schema** and **System Architecture Diagram**.

Week 3: Frontend and Backend Development (Initial Setup)

- o Set up the development environment (e.g., repositories, frameworks).
- o Start building the basic frontend for the booking system (homepage, search, and room display).
- o Begin backend development by implementing the database and API endpoints for room availability and user management.

Deliverables: **Basic Frontend Prototype** , **Initial Backend API Endpoints** (basic CRUD operations for rooms and users).

Week 4: Integration and Basic Functionality

o Integrate the frontend with backend APIs to enable real-time room availability tracking.

o Implement the user registration and login system.

o Add functionality for customers to search for available rooms and make basic bookings.

Deliverables: **Integrated Frontend and Backend for Room Booking**, **User Registration and Login System**.

By the end of these four weeks, we aim to have a functional prototype with core booking features and a clear plan for further development.

Team Subgroups and Task Assignments

To ensure efficient development, the team will be divided into subgroups with clearly defined responsibilities, focusing on functional features that directly contribute to the system's usability. Each subgroup will consist of two members to allow collaboration while maintaining focus.

Subgroup A: Customer Registration and Account Management

✓ Develop the **user registration system**, allowing users to create accounts with basic details (name, email, and password).

✓ Implement **user authentication**, including login/logout functionality and session management.

✓ Build a **profile management feature** for users to update their information and view booking history.

Resources Needed:

o Expertise in authentication libraries.

o Access to a secure database to store user credentials.

Subgroup B: Room Booking and Availability Management

- ✓ Design and implement the **room search and availability feature**, displaying real-time information on available rooms.
- ✓ Develop the **room booking functionality**, allowing customers to select dates and confirm reservations.
- ✓ Enable **booking modifications and cancellations**, with instant updates to the database.

Resources Needed:

- o Expertise in database queries (SQL or NoSQL).
- o Real-time data synchronization tools.

Subgroup C: Payment Processing and Resource Management

- ✓ Integrate **payment gateways** (e.g., Stripe, PayPal) to handle transactions securely.
- ✓ Implement features for **invoice generation** and payment confirmation.
- ✓ Build a **refund and cancellation module**, automating refunds for canceled bookings.
- ✓ Create a **reporting module** to generate insights on revenue, occupancy rates, and user activity.
- ✓ Develop a **resource tracking system** for room supplies and inventory.

Resources Needed:

- o Access to payment gateway APIs.
- o Knowledge of secure payment protocols.
- o Knowledge of data visualization libraries (e.g., Chart.js).

Terms and Conditions

1. Introduction: This document outlines the terms and conditions for the web project proposal. By accepting this proposal, the client agrees to these terms.

2. Scope of Work: Services include website design, development, testing, and deployment as per agreed specifications. Additional features or changes outside the scope may incur extra fees.

3. Project Timeline: The timeline will be mutually agreed upon. Client delays in providing required information or approvals may revise the timeline.

4. Payment Terms: Payments follow the proposal's schedule, made in installments based on milestones. Late payments may cause additional charges or delays.

5. Client Responsibilities: The client must provide accurate requirements, timely content, and prompt approvals/feedback.

6. Intellectual Property: Ownership of the website transfers to the client upon full payment. The developer may showcase the project in their portfolio. Third-party assets remain subject to their licenses.

7. Confidentiality: Both parties agree to keep project information confidential unless agreed otherwise in writing.

8. Limitation of Liability: The developer is not liable for indirect or consequential damages. The client ensures legal and regulatory compliance of the website.

9. Termination: Either party may terminate with written notice. Clients pay for work completed until termination. Developers may issue prorated refunds for undelivered work.

10. Revisions and Changes: The proposal includes a set number of revisions. Additional revisions or significant scope changes may incur extra fees and timeline adjustments.

11. Support and Maintenance: Support terms, if included, are as per the proposal. Ongoing support beyond the term requires a separate agreement.

12. Governing Law: This agreement is governed by the laws of The Uniform Commercial Code (UCC) or specific state laws, with disputes resolved in its courts.

13. Acceptance By signing or electronically accepting, the client agrees to these terms.

Client Name: _____

Signature: _____

Date: _____