

# Group Project: Software Requirements

PA2550: Seminar Series in Software Engineering

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Group ID: Group 1

## Bed and Breakfast Reservation System

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# 1 Project Description

## 1.1 Title

Bed and Breakfast Reservation System (BnB)

## 1.2 Project Aim and Objectives

The goal of this project is to develop a web application that allows users to make reservations for breakfast, accommodations, and social events like Concerts, Karaoke Night, and Scavenger Hunt offered by the BnB. The application can also be accessed by unregistered users who can view the rooms and events available in the system. They can also sign up and find all the information about the Bed and Breakfast. The users of the website are the Guests, Manager, and Front-desk Staff. The application will provide guests with an online booking platform to reserve rooms, breakfast, and social events. It will also display up-to-date information on room availability and upcoming social events at the BnB. Upon completing a reservation, guests will receive an email confirmation of the reservation. Guests can also cancel reservations. Payments are not handled by the system. It is handled in person by the Front-Desk Staff. Additionally, the system will notify the manager and front desk staff of all reservations and cancellations made through the website. The system will also allow the BnB manager and front desk staff to make reservations for guests. The system will also generate statistical reports, allowing the BnB manager to analyze booking trends and performance over time.

## 1.3 Objectives:

- To allow guests to make reservations for breakfast, accommodations, and social events.
- To provide an online booking platform that displays up-to-date information on room availability and social events.
- To send email confirmations to guests upon successful reservations.
- To allow guests to modify or cancel their reservations.
- To notify the manager and front desk staff of all reservations and cancellations made through the system.
- To enable the manager to modify the room's availability.
- To generate statistical reports on reservations made at various times. Reports would include the total number of guests at the BnB, total number of children at the BnB, total number of events at the BnB, total revenue incurred at the BnB, and total reservations made during a particular period of time. These reports will be viewed by the BnB Manager.

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## 2 User Descriptions

Name	Description	Responsibilities
Guest	Any person who would use the system to make a reservation at the BnB must be registered. Un-registered persons can use the system but cannot make a reservation.	Search for available rooms, View available rooms, View social events, Sign Up, Make a reservation, Modify reservation, Cancel reservation.
Front Desk Staff	BnB staff who interact with guests at the front desk and manage room allocations and social events through the system.	View available rooms, Allocate rooms, Update availability of rooms, Create social events, Update social events, View social events, Enter user details, Make a reservation, Modify reservation, Cancel reservation, Confirm bookings, Check-in customers, Update payment status, Check-out customers.
Manager	The person who manages the BnB.	View available rooms, Allocate rooms, Update availability of rooms, Create social events, Update social events, View social events, Enter user details, Make a reservation, Modify reservation, Cancel reservation, Confirm bookings, Check-in customers, Update payment status, Check-out customers, View reports, Add room details, Create new users, Modify users, Modify room details.

Table 1: User Descriptions

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### 3 Software Features and Requirements

A guest looking to book a room visits the BnB's website. The guest opens the website and searches for available rooms by entering their desired check-in and check-out dates, the number of adults, and the number of children. The guest views a list of available rooms and clicks on an individual room to see more details, including amenities and pricing. The guest clicks the "Reserve" button to save the reservation. A sign-up page appears, prompting the guest to enter their details: first name, last name, email, phone number, address, city, country, state(which is optional), ZIP Code and password. After successfully signing up, the guest is redirected to the reservation page, where they confirm the reservation details and submit the information. The system generates a unique booking reference. The guest receives a confirmation of their reservation along with a unique booking reference. The guest can log in at any time to view, modify, or cancel their reservation through their account.

Front desk staff log in to the system through the website to manage reservations. They search for available rooms to assist guests, create new reservations, or modify existing ones. The staff can also add or update information about social events offered by the BnB. When guests arrive, the front desk staff checks them in and updates their payment status in the system. Upon departure, the staff checks out the guests and marks the rooms as available for future reservations. The front desk staff receives notifications of all online reservations, modifications, and cancellations to keep them updated on the current reservations.

The Manager of the BnB logs in to access all the functionality available to the front desk staff, including managing reservations and room availability. In addition, the manager can view detailed reports on reservations and room utilization to monitor the BnB's performance. The manager also has administrative control to add or remove user accounts ensuring proper access control within the system.

#### 3.1 Requirements

- REQ1: The system shall allow guests to sign up to the system.

The guests shall provide the following details:

- First name
  - Last name
  - Email address
  - Phone number
  - Address
  - City
  - State (optional)
  - Country
- REQ2: The system shall allow registered guests to log in and make reservations.
  - REQ3 The system shall allow guests to search for available rooms based on the number of adults, number of children, and check-in and check-out dates.

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- REQ4 The system shall allow guests to view individual rooms so that they can select rooms.
  - REQ5 The system shall allow guests to reserve selected rooms and save the information.
  - REQ6 The system shall allow guests to make reservations for social events they would like to participate in during their stay at the BnB.
  - REQ7 The system shall send an email notification to the guest along with a unique booking code to confirm the reservation has been made with the BnB.
  - REQ8 The system shall allow guests to modify or cancel their reservations.
  - REQ9 The system shall send email notifications on modification or cancellation of the reservation to the guest, front desk staff, and manager.
  - REQ10 The system shall allow the creation of BnB staff accounts by the BnB Manager. The following details shall be required:
    - First name
    - Last name
    - Email address
    - Phone number
    - Role
    - Address
    - ZIP Code
    - Country
    - City
    - State(optional)
  - REQ11 The system shall allow the manager to submit room information.
  - REQ12 The system shall allow the manager to modify room information.
  - REQ13 The system shall allow BnB staff to add information on social events. The following details shall be required:
    - Name
    - Date
    - Start time
    - End time
    - Venue
    - Host
    - Minimum Number of people
    - Maximum number of people
    - Age restrictions

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– Additional Information

- REQ14 The system shall allow BnB staff to update social events.
- REQ15 The system shall allow the BnB staff to make reservations on behalf of guests.
- REQ16 The system shall send notifications to BnB staff on reservations and cancellations made by guests.
- REQ17 The system shall allow BnB staff to modify reservations, check-in and check out guests, and update payment status.
- REQ18 The system shall allow guests and BnB staff to log out of their accounts.
- REQ19 The system shall allow the manager to get reports on BnB reservations.
- REQ20 The system shall allow the BnB manager to modify staff accounts.

### **3.2 Non-functional Requirements**

- The system shall ensure the privacy of guests information and limit access to reservations to logged-in users.
- The website supports operating systems like Windows 8 and above, and macOS 10.5 and above.