வவுனியாப் பல்கலைக்கழகம், இலங்கை
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UNIVERSITY OF VAVUNIYA, SRI LANKA

Online Reception Hall Booking

Project proposal

Software engineering-TICT 3153

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1. Introduction

1.1 Company/Clint background

Muhammad usman is owner of the reception hall located in second floor of the maboole mosq. That building is build twenty years ago ,but all works are still done by manually ,all records are keep in papers and books. There for our group members are urgent to develop an automatic methods.

That hall can include more than five hundred peoples ,catering ,stage decoration , splay systems are arrange by a hall organization comity that hall is have separate two bathroom to refreshment to man and women and also have separate room to prayers and dressing purposes to women

Totally near to hundred staffs are works under 5 comity each and every comity have separate food systems and hall arrangement and prices .customers can choose the one comity to all works.

This hall share is share to mosque community to social service.

1.2 problem statement and difficulties

In this reception hall owner ,customer ,shareholders are involve in this system so manual records are not able to share the information to all members and all parties are want to varies data from admin so manual records are so soo defaults to owner or organizing comity and also tis system have some calculation part to submit so all the calculations are want so accurate value so submit so seprate staffs are work under the calculation part, if any changes from the users it is very hard to change in manual records and hard to search and collect data quickly

1.3 solutions

In this web application admin ,customer ,staffs connect through one platform so admin can get customer and staff dates from this one application not only that this application have automatic calculation method so can get the accurate amount from calculation don't need extra workers to do calculation part.

Customer ,admin ,staffs can get the separate information through separate option buttons and get print out from printing option. Can do any changes from adding ,deleting, editing options.

2. Benefits of the system

2.1 Benefits for administrative.

1. Automated booking management: Administrators can automate the booking process, reducing the need for manual data entry and paperwork. This saves time and reduces the risk of errors.
2. Real-time availability updates: With an online booking system, administrators can update the availability of reception halls in real-time. This helps prevent double bookings and ensures accurate information for customers.

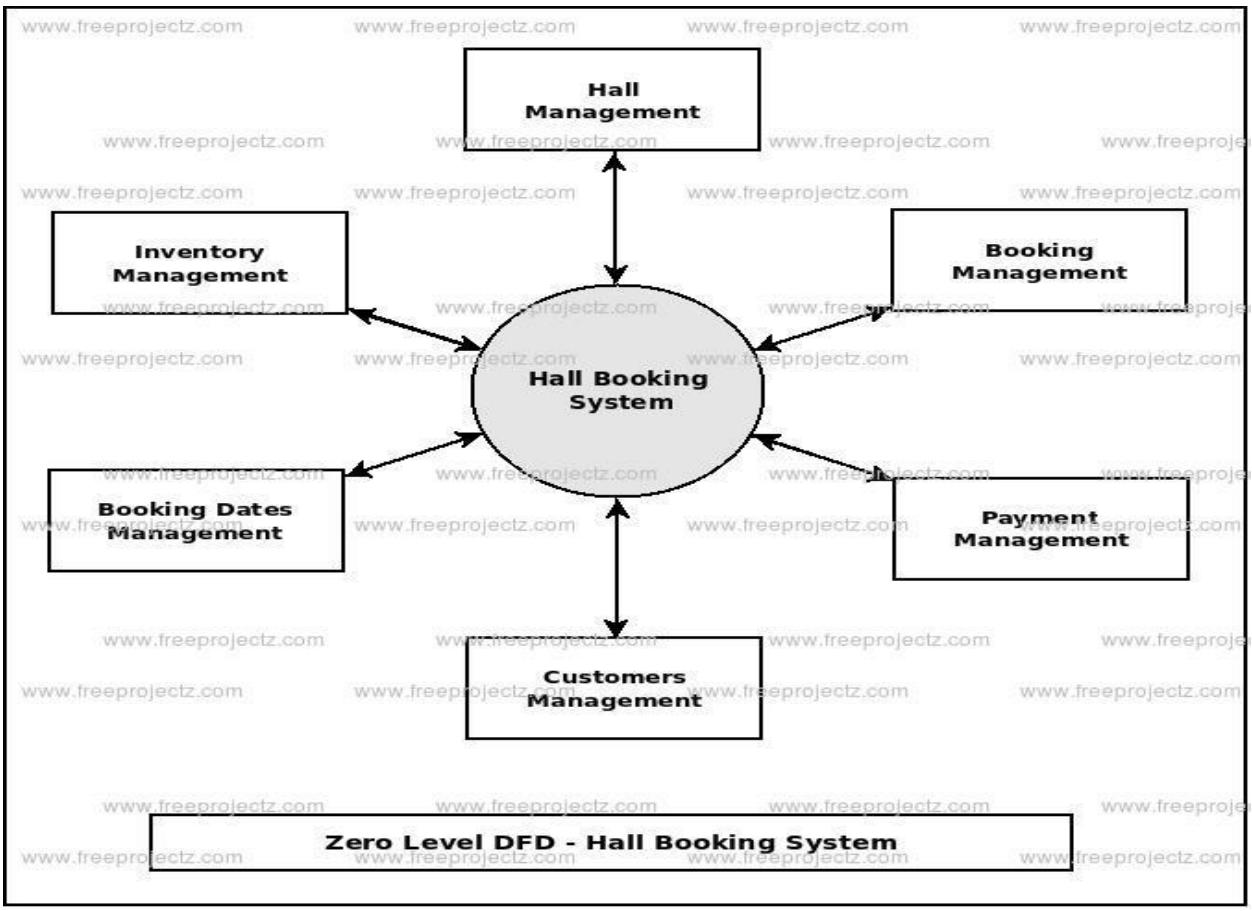
3. Integrated payment processing: Many online booking systems offer integrated payment processing, allowing administrators to securely accept payments online. This reduces the need for manual invoicing and streamlines the payment process for customers.
4. Customer relationship management (CRM): Online booking systems often include CRM features that help administrators manage customer information, preferences, and booking history. This enables personalized communication and targeted marketing efforts to enhance customer satisfaction and loyalty.
5. Accessibility and scalability: Online booking systems can be accessed from anywhere with an internet connection, allowing administrators to manage bookings remotely. Additionally, these systems are often scalable, allowing administrators to easily add new reception halls or expand their offerings as their business grows

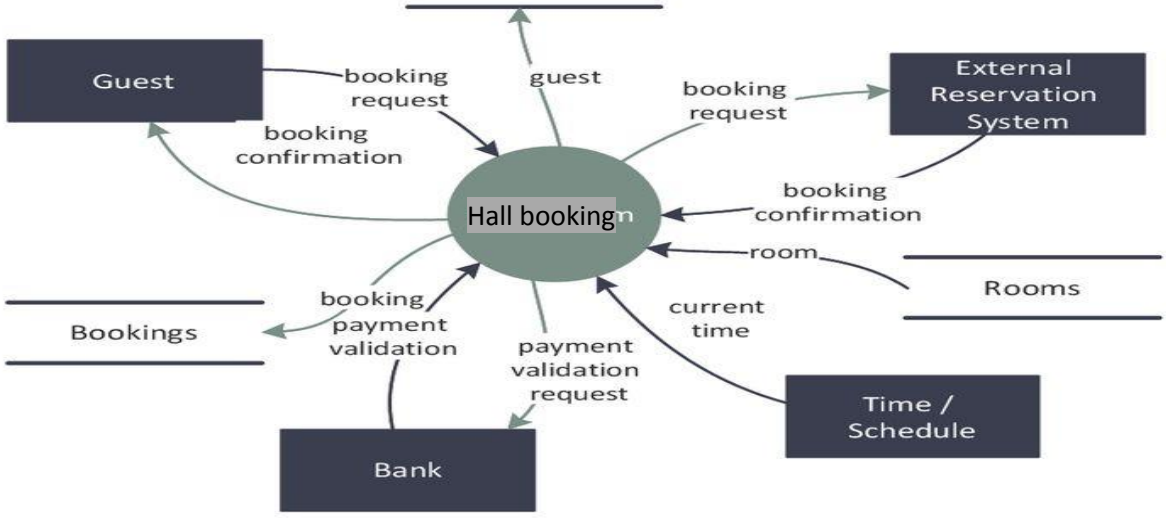
2.2 Benefits for customer.

1. Convenience: Customers can browse reception hall options, check availability, and make bookings from the comfort of their own homes at any time, without the need to visit the venue in person.
2. Time-saving: Eliminates the need for customers to make multiple phone calls or visits to various reception halls to check availability and compare options. They can quickly view all available options and make a decision based on their preferences and budget.
3. Easy comparison: Online booking platforms often provide detailed information about each reception hall, amenities, capacity, and pricing, making it easy for customers to compare different venues and choose the one that best suits their needs.
4. Instant confirmation: Once a booking is made online, customers typically receive an instant confirmation, giving them peace of mind knowing that their reservation is secured.
5. Flexibility: Many online booking systems allow customers to easily modify or cancel their bookings if their plans change, providing flexibility and convenience.
6. Reviews and ratings: Customers can read reviews and ratings from other users who have previously booked the reception halls, helping them make informed decisions and choose a venue with a good reputation.

3. System over view

An online reception hall booking system is a digital platform that allows customers to browse, select, and book reception halls for various events such as weddings, parties, conferences, and meetings. It provides an efficient and convenient way for customers to search for venues, check availability, and make reservations, all from the comfort of their own homes.
Customers can check the availability of reception halls in real-time using an availability calendar. This helps them find suitable dates for their events and avoid scheduling conflicts.
Once customers have selected a reception hall, they can proceed to book it through the online system. They may be required to provide details about their event, such as the date, time, expected number of guests, and any special requests
Throughout the booking process, customers can communicate with the venue staff or administrators through the online platform. This may include asking questions, making special requests, or providing additional information about their event.


Hall Management
Inventory Management
Booking Management
Hall Booking System
Booking Dates Management
Payment Management
Customers Management
Zero Level DFD - Hall Booking System


Guest
booking request
guest
booking request
External Reservation System
booking confirmation
booking confirmation
Hall booking
room
Rooms
booking payment validation
Bookings
payment validation request
current time
Time / Schedule
Bank

4.System functions

4.1 functional Requirement

For Staff:

1. **User Authentication:** Staff members should be able to log in securely using unique credentials.
2. **Dashboard:** A dashboard should provide an overview of current bookings, pending requests, and available slots.
3. **Booking Management:** Staff should be able to create, edit, and delete bookings.
4. **Availability Management:** Staff should be able to update the availability of halls and specify blackout dates.
5. **Notification System:** Staff should receive notifications for new bookings, cancellations, and modifications.
6. **Reporting:** Generate reports on booking statistics, revenue, and customer feedback.
7. **Access Control:** Different levels of access should be assigned to staff based on their roles (e.g., administrator, manager, booking agent).

For Customers:

1. **User Registration:** Customers should be able to create an account with personal details and login credentials.
2. **Search and Booking:** Customers should be able to search for available halls based on criteria like date, time, capacity, and location, and book them.
3. **Reservation Management:** Customers should be able to view, modify, and cancel their reservations.
4. **Payment Integration:** Integrate payment gateways for secure online transactions.
5. **Feedback:** Customers should be able to provide feedback and ratings for their booking experience.
6. **Notifications:** Receive notifications about booking confirmation, payment status, and any changes to their reservation.

For Administrative Users:

1. **User Management:** Administrative users should be able to manage staff accounts, roles, and permissions.
2. **Financial Management:** Monitor revenue, track payments, and generate financial reports.
3. **Content Management:** Manage hall listings, descriptions, and images.
4. **Booking Approval:** Administrative users should have the authority to approve or reject booking requests.
5. **Customer Support:** Access to customer inquiries, complaints, and support tickets.
6. **Analytics:** Analyze booking trends, customer demographics, and user behavior to make informed decisions.
7. **System Configuration:** Configure system settings such as pricing, booking rules, and email templates.

4.2 Nonfunctional requirement

1. **Performance:**
    - **Response Time:** The system should respond to user interactions (e.g., search, booking) within a specified time frame (e.g., < 2 seconds).
    - **Scalability:** The system should be able to handle increasing numbers of concurrent users and bookings without significant degradation in performance.
    - **Throughput:** The system should support a certain number of transactions per second to accommodate peak usage periods.
2. **Reliability:**
    - **Availability:** The system should be available for use 24/7, with minimal downtime for maintenance or updates.
    - **Fault Tolerance:** The system should be resilient to failures, with mechanisms in place to recover gracefully from errors or crashes.
    - **Data Integrity:** Ensure that data stored in the system remains accurate and consistent, with measures to prevent data corruption or loss.
3. **Security:**
    - **Authentication and Authorization:** Users should be required to authenticate themselves securely before accessing sensitive functionality or data.
    - **Data Encryption:** Sensitive data (e.g., payment information, personal details) should be encrypted during transmission and storage to prevent unauthorized access.
    - **Access Control:** Implement role-based access control (RBAC) to restrict access to system resources based on user roles and privileges.
    - **Audit Trail:** Maintain a log of user activities and system events for auditing and forensic analysis purposes.
4. **Usability:**
    - **User Interface (UI) Design:** The system should have an intuitive and user-friendly interface that minimizes the need for training.
    - **Accessibility:** Ensure that the system is accessible to users with disabilities, conforming to relevant accessibility standards (e.g.,
    WCAG).

    - **Multilingual Support:** Provide support for multiple languages to accommodate users from diverse linguistic backgrounds.
5. **Scalability:**
    - **Capacity Planning:** The system should be designed to accommodate future growth in terms of user base, booking volume, and system complexity.
    - **Horizontal and Vertical Scalability:** The system architecture should support both horizontal scaling (adding more servers) and vertical scaling (increasing server capacity) as needed.
    - **Load Balancing:** Distribute incoming traffic evenly across multiple servers to ensure optimal performance and resource utilization.
6. **Maintainability:**
    - **Modularity:** The system should be modularized, with well-defined components that can be easily maintained, updated, or replaced without affecting other parts of the system.
    - **Documentation:** Provide comprehensive documentation covering system architecture, APIs, data models, and development guidelines to facilitate maintenance and troubleshooting.

- **Code Quality:** Adhere to coding standards and best practices to ensure code readability, maintainability, and extensibility.

7. **Compliance:**
    - **Regulatory Compliance:** Ensure that the system complies with relevant regulations and standards (e.g., GDPR, PCI DSS) governing data privacy, security, and financial transactions.
    - **Industry Standards:** Follow industry best practices and standards for software development, such as ISO/IEC 25010 for software quality characteristics.
8. **Performance:**
    - **Resource Utilization:** The system should use system resources (e.g., CPU, memory, disk space) efficiently to minimize waste and optimize performance.
    - **Network Bandwidth:** Minimize network bandwidth usage by optimizing data transfer protocols, compressing data where possible, and caching frequently accessed resources.