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Hall Booking System

Problem Statement :

The process of booking halls for events such as meetings, conferences, or functions is often time-consuming and inefficient when managed manually. Users have to physically visit the venue to check availability, negotiate timings, and confirm bookings. This creates inconvenience, miscommunication, and the risk of double bookings.

To overcome these issues, a Hall Booking System is required that allows users to conveniently view hall categories, check availability, book slots online, make secure payments, and receive booking confirmations digitally. At the same time, the system should provide administrators with tools to manage users, bookings, payments, and contact queries efficiently.

This project aims to build a web-based Hall Booking System for a single center offering three types of halls (Small, Medium, Large), with two main user roles: Admin and Normal Public User.

User Roles :

1. Admins - Top Level User

     Super-Admins – Level-1

     Sub-Admins(staff) – Level - 2

2. Customers(End Users) – Level-3

3. Guest User – Level-4

Functionalities :

1. A user visits the website.
2. The user can log in with valid credentials.
3. If the user does not have an account, they can register (sign up).

4. After successful sign up, the user is redirected to the login page.

5. If the user forgets the password, they can reset it using the "Forgot Password" option.

6. Once logged in, the user can navigate to different sections such as Home, About, Category, Contact, Profile, and Start Booking.

7. Now it asks the users to fill up the information which is under the profile section.

8. The user can view available hall categories (Small, Medium, Large) and the halls under each category.

9. The user can click on a hall to view its details such as seating capacity, available projectors, and cost per hour.

10. The user can start the booking process by clicking on the Start Booking option.

11. The user selects the booking date and hall type.

12. The system shows slot availability from 8 AM to 8 PM.

13. Booked slots are marked unavailable, and free slots are shown as available.

14. If no slots are available, a message is displayed indicating unavailability.

15. These availability are processed by Scheduling Algorithms.

16. The user selects a start time and end time for the booking.

17. The booking form is displayed to collect details like name, email, mobile, address, and purpose of booking.

18. The user can also specify if food or beverages are required and select vegetarian or non-vegetarian options.

19. Then the user is select the available menu's based on their food/beverages type.

20. The user must agree to terms and conditions before proceeding.

21. After submitting the form, the user is redirected to the payment page.

22. The user payment is made through Razorpay.

23. On successful payment, the booking is confirmed.

24. An invoice with booking details is generated.

25. An Contract form also sent once the order is placed, it contains of all agreement regarding the hall details.

26. After completion of the booking the invoice and the contract form will be sent via email to the respective customer.

27. The booked halls are directly stored to the history section, and show the current Status.

28. Customer can able cancel the booked rooms based on the policy specified.

29. An admin log in with valid credentials.

30. After login, the admin is taken to the admin dashboard.

31. The admin dashboard provides access to User Management, Booking Management, Contact Management, Profile, and Backup/Restore Management.

32. The admin can create new sub-admins.

33. The admin can delete existing sub-admins.

34. The admin can assign permissions to sub-admins.

35. The admin can view and manage user accounts.

36. The admin can view all bookings in card format.

37. Sub-admins can only be access the specified field assigned by the headadmin.

38. Each booking shows details such as user name, hall type, date, and time.

39. The admin can search or filter bookings by user name, date, or time.

40. The admin can approve or cancel bookings if required.

41. The admin can view all contact requests submitted by users.

42. The admin can respond to user queries.

43. Contact requests can be searched and filtered by user name or date.

44. The admin can view their profile details.

45. Sub-admins can edit only limited fields in their own profiles.

46. The admin can initiate a complete system backup (users, bookings, contacts, food/beverage orders, reports, content).

47. The admin can restore data in case of failures or accidental deletion.

48. The system shows a disclaimer alert before restoring.

49. The system checks available storage before backup and notifies the admin if memory is exceeded.

50. Admins can configure automatic backup schedules (daily/weekly/monthly).

51. Backup logs are available showing when and who performed backup/restore.

52. Admins can download backup files for offline storage.

53. Admins can restore specific modules (e.g., only bookings or only content).

54. The system ensures data integrity and avoids duplication during restore.

Modules :

User Management

Profile-Management:

Super Admins:

- Can create sub-admin accounts.

- Can delete sub-admin accounts.

- Can assign permissions to sub-admins (which modules they can access).

- Can view and delete user accounts.

Sub-Admins (based on permissions):

- Can view user accounts.

- Can edit limited user details (if allowed).

- Cannot create/delete sub-admins.

- Cannot assign permissions.

Customers (End-Users):

- Can view, create, and edit their own account.

- Can delete their own account.

Authentication & Authorization:

- Login functionality available for all roles (Super Admin, Sub-Admin, Customer).
- Registration/Sign-up option provided for new customers.
- Forgot Password & Reset Password support using email or mobile OTP verification.
- Multi-factor authentication (MFA) for enhanced security (e.g., OTP, email verification).

- Session management including login, logout, and auto logout after inactivity.
- Role-based access control (RBAC): Super Admin, Sub-Admin, and Customer have defined access levels.
- Permission assignment: Super Admin assigns which modules Sub-Admins can access.
- Page-level & action-level restrictions (e.g., Sub-Admin cannot delete a Super Admin, Customers cannot access admin modules).
- Access validation checks performed before executing sensitive operations to ensure only authorized roles can perform them.

Booking Management

Super Admins:

- Can view all bookings in card-based format.
- Can search bookings by User Name, Date, Time, or Hall Type.
- Can approve or cancel bookings.
- Can process refund requests initiated by users.
- Can define refund rules (full refund, partial refund, no refund based on policy).
- Can override Sub-Admin actions regarding cancellations/refunds.

Sub-Admins (based on permissions):

- Can view bookings assigned to them.
- Can search bookings by user name, date, or time.
- Can approve or cancel bookings if permissions are given.
- Can process refund requests only if permission is granted.
- Cannot override Admin-approved bookings.

Customers (End-Users):

- Can see available slots and book them.

- Can cancel a booking within the allowed cancellation period.

- Can track refund progress (initiated, processing, completed).

Hall Management :

Super Admins:

- Can edit or update hall details (pricing, capacity, availability, etc.).
- Can mark halls as unavailable during maintenance or special events.
- Can view a collision detection report if two users try to book the same slot at the same time.

Sub Admins:

- Can update hall details such as availability, maintenance status, or pricing if permission is granted.
- Can only manage halls assigned under their access scope

Customers (End-Users):

- Can view all available halls with their details before booking.
- Can filter halls by availability to ensure they only see free options.
- Cannot book overlapping slots

Guest User:

- Can only view content of the hall details and pricing.

Payments Management :

Super Admin :

- View all payment transactions.
- Track failed transactions and take corrective action.
- Process refunds as per policy.
- Configure taxes and service charges.
- Set seasonal/dynamic pricing (weekends, holidays, special occasions).

Sub Admin :

- Generate financial/transaction reports.

Customers (End-Users):

- Choose from multiple payment options (Credit Card, Debit Card, UPI, Wallet, Net Banking).
- View final bill (with taxes and service charges).
- Receive invoice via email after payment.
- Download invoice in PDF.

Content Management

Super Admins:

- Can create, update, or delete content pages (About Us, Terms & Conditions, FAQs, Policies).
- Can manage homepage banners, sliders, room images, videos, virtual tours.
- Can manage blogs, news.

Sub-Admins (based on permissions):

- Can update content pages.
- Can upload images, or videos.

- Can publish blogs/news.

- Cannot delete content unless permission is explicitly given.

Customers (End-Users):

- Can view content pages (About Us, FAQs, Policies).

- Can read room news, blogs, or announcements.

Guest User:

- Can able to view the content pages(About Us, FAQs, Policies).

- Can read room news, blogs, or announcements.

Notification Management :

Super Admins:

- Receive alerts for new bookings.

- Receive notifications for new contact requests.

- Get alerts if backup storage is exceeded.

Sub-Admins (based on permissions):

- Receive booking alerts.

- Receive contact request notifications.

- May get task-related alerts based on their assigned module (e.g., food order updates, content publish requests).

Customers (End-Users):

- Receive booking confirmation notifications.

- Receive booking cancellation/modification alerts.

- Get reminders for upcoming bookings.

- Receive invoice notifications.

Report Management

Super Admins:

- Can download bulk booking reports.

- Can download specific user reports.

- Can search/filter reports by date or name.

Sub-Admins (based on permissions):

- Can generate reports for the modules they manage.

- Can search/filter reports within their scope.

- Cannot access all-user bulk reports unless permission is given.

Customers (End-Users):

- Can download/print booked slots.

- Can download/print invoices.

Backup/Restore Management

Super Admins:

- Can initiate full system backup (users, bookings, contacts, food/beverage, reports, content).

- Can restore data in case of failure or deletion.

- Can schedule automatic backups (daily, weekly, monthly).

- Can view backup logs (who/when performed backup/restore).

- Can download backups for offline storage.

- Can restore specific modules instead of full system.

- Ensures data integrity during restore.

Sub-Admins (based on permissions):

- No access unless explicitly given by Admin.

- If allowed, may only download/view logs of specific module backups (not full system).

Customers (End-Users):

- No access.