Capstone Case Study : ParkView.com

ParkView is one of the leading chain of hotels by Grand Park.

The hotel has sixty rooms and is built in a cozy environment with excellent security systems. It also has the following facilities: stand-by generator, DSTV, internet access, bar, swimming pool, laundry services, air-conditioned rooms, telephone and transport for conveying customers to their respective destinations.

*The hotel has the following types of rooms:*

Presidential suite, Executive, Deluxe, Super deluxe. The hotels currently make use of the manual system of room reservation.

The management and booking of Rooms in hotels is a tedious and complicated task especially if it is done manually. Keeping track of large customers and all their details requires an inordinate space for file cabinets, not to mention the time the hotel administrator would spend going back and forth to file cabinets so as to look up each customer’s information. This is why a good hotel reservation system is needed to make this task as easy as possible.

Hence Park View Management has requested for a complete digitization of their of a hotel reservation System. The system has to be developed as a web portal so that the users can directly access the hotel page, view its features, check the room availability and book accordingly. The developed software should be maintainable, reliable and scalable.

ParkView.com is a hotel reservation website where users can book suites available in Park View hotels and resorts present in several top cities. Users can also book transport to the destination and cab services available in a particular hotel.

*The Parkview online hotel reservation site should have the following features during different phases of development:*

* *Objective* -

To design a clean, online modern hotel reservation platform that delivers a seamless and engaging user experience

* Technology – Dot net core, Asp.net Mvc with EF, Sql server, C# Linq, Html/Css/Bootstrap, Web api & Javascript with Angular.

Modules:

* *Login:*
* Includes Google, Facebook, Twitter OpenID Authentication. To feature separate login views for Guest user & Admin Dashboard.
* *Reservation:*
* Online hotel booking system enables guests to schedule dates and length of stay, room selection, and payment all in one place.
* *Searching:*
* Basic Search Operation which allows the customers to filter out the events, genre etc. Searching the room, genres making use of Autocomplete.
* *Pages & Features:*
* Hotel page view displays a list of room names, room categories, number of rooms available, specialties of the hotel. It also contains the different types of suites available in the hotel the description of the suites.
* Features page will display the hotel facilities available like pool, wifi, laundry,room service,gym,park,cab booking etc along.
* *Cart & Payment:*
* The final Payment Gateway will provide the total amount, calculating the base price and including the tax calculations.

The cart should feature addition , removal & clearance of the included items .Razorpay/Paytm or any Upi or card payment feature needs to be integrated.

Implementation:

1. User-Centric Front-End:

* Create an engaging and responsive website layout using HTML, CSS, and Bootstrap to offer an exceptional user experience.
* Enhance user interactions with Angular and JavaScript, ensuring smooth navigation and dynamic content updates.
* Design an intuitive booking form that enables guests to select room types, dates, and preferred amenities.

2. Intelligent Back-End Architecture:

* Develop a solid back-end foundation using C# and Asp.net, managing core logic and data interactions.
* Utilize Entity Framework (EF) and LINQ to streamline database operations.
* Design an intricate database schema accommodating guest profiles, room availability, reservations, and cab bookings.

3. Advanced Amenities:

* Empower guests to personalize their stay with amenities selection, including spa services, dining preferences, and leisure activities.
* Integrate a seamless cab booking feature, allowing guests to schedule sightseeing trips with ease.
* Implement algorithms to optimize cab routes, ensuring efficient exploration of local attractions.

4. Empowering Admin Panel:

* Create a secure admin panel with robust authentication, enabling hotel staff to manage room inventory, guest inquiries, bookings, and cab reservations.
* Implement real-time updates for room and cab availability to provide accurate information.

5. Secure Payment Integration:

* Seamlessly integrate secure payment gateways, facilitating secure online transactions for room reservations, amenities, and cab bookings.
* Implement encryption and data protection to safeguard sensitive guest information.

6. Validation and Business Logic Rules:

* Implement Business logic – see the below section for more pointers.

Application Flow & Features :

* Guest can register at the portal to book a room according to a category and room availability. Options to choose from a range of hotels across locations should be given.
* While booking - Accept Guest name, number of guests, check in and checkout date, room type
* Children upto 5yrs will be free without bed
* Above 7-12 yrs will be with an addition bed charge of 2500/day for deluxe room
* Rates for room types
  + Presidential suite – 28000k/day
  + Executive – 20000/day
  + Super deluxe – 14000/day
  + Deluxe – 8000/day
* Promos /discount code can be applied periodically.
* Once booked, the logged in user should be able to manage booking – View the past bookings, Check the order with fares & discounts, book cab for sightseeing, food preferences or to change the dates or cancel booking.
* Admins of the website are allowed to add rooms, enter room details, room category, room pics, availability. The picture of the rooms can be uploaded dynamically. A particular room can be searched for using the search bar.
* Every data entered needs to be validated for Crud & Db Storage
* Total pages for the site required would be - Home, Features, Rooms, Book a Stay, Manage Booking, Login, About, Contact pages, Site Map, etc . Other extra pages can be created as per the requirement and added features

*Business Validations -*

* Enforce business logic rules to ensure the validity of guest inputs and booking requests.
* Validate guest information, including contact details and payment information, to prevent errors.
* Implement logic to prevent booking conflicts, considering room availability and amenity scheduling.
* Establish rules for cancellation and modification of reservations, adhering to hotel policies.
* Calculate the receipt for the user with total number of days(nights& days),
* Charges for the booking – Mon-Thu(regular rate) /Fri-Sun(+3000/day).
* If the Christmas eve/Christmas or New year eve/New year (+5000/-)
* Additional tariff for food & stay.
* Separate billing for cab booking. While booking if the cab/travel services is availed , depending on the sight seeing destinations and km coverage & day/hours , cab fare will be calculated & charged.
* Print also the day they are checking out with tax gst – 18%.
* Page not found - Error page needs to be redirected to if user tries an erroneous page url. Use Custom exception.
* Security needs to implemented at all level with Authentication & Authorization usin Owin/OId & Single Sign-on
* Payment Gateway can be additionally included using Razor pay/Upi.
* Entire website should have a consistent look and feel using a design framework like bootstrap/css.

Conclusion:

Your meticulous design and development of this digital booking system will elevate ParkView.com's guest experience to new heights. Seamlessly integrating modern amenities booking, providing a user-friendly interface, and implementing intricate validation and business logic rules allows a seamless flow of application process. The solution embodies the hotel's dedication to excellence and innovation in the hospitality industry.