Lab-3

IT314_Guesthouse_booking_system_16

GROUP NO: 16

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(2) Develop the use case textual description for each use case.

The Guest House Booking System includes several key features that enhance the customer experience. The Apply Filter feature allows customers to refine their search results based on specific criteria, such as location, price, amenities, and availability. The Register Check In feature enables customers to provide their personal details and booking information upon check-in.The Make Payment feature allows customers to securely and easily process their payments for guest house reservations. This feature ensures that payments are processed quickly and efficiently.

Use case	Apply Filter
Description	The system facilitates the customer to filter on the property like type of property, duration to stay/rent, price, rating, amenities, location etc.
Actors	Customer, The system
Pre Condition	The customer should have an active internet connection and he should give input in the filter bar.
Post Condition	The customer should be on the system page.
Flow	The customer will select the relevant filter options given below and then select apply filter.
Alternate Flow	The customer can also apply a customized or more than one filter at once.

Use case	Register Check In
Description	Customers will be allowed to reserve/book the rooms/any guest house facility.
Actors	Customer, System
Pre Condition	Customer needs to login with valid credentials.
Post Condition	The Customer will be notified by a confirmation message of the booking showing details of the reserve facility and the details of charges that may be applicable at times of check-out and cancellation rules.
Flow	1.Log into the guesthouse booking system. 2.Use filter property to look for desired booking 3.The customer will click on the book option shown in the filtered list and the customer will be redirected to the add booking detail pages. 4.The customer will need to add the details like name, age, number of rooms, tentative check in/out date and also needs to upload the identity proof. 5.System will validate the customer details as per the guest house booking policy. 6.On completion of the booking, the customer will get the confirmation notification and will be redirected to my booking section.
Alternate Flow	1.1 If the customer fails to give correct login credentials then the system will prompt the customer with wrong credentials and ask to give correct credentials. 5.1 If the payment fails somehow due to traffic on the payment gateway server, due to wrong credential or due to account balance problem, then the customer will again be redirected to the my booking section with failed payment notification.

Use case	Make payment
Description	The customer has to make the payment of their stay in the hotel. The bill is calculated according to their room type, services accessed, number of days of their stay, and other factors.
Actors	Customer, System
Pre Condition	1.The customer has selected a specific guest house or room to book and has proceeded to the checkout page. 2.The customer has selected a payment method and has entered the necessary payment information, such as credit card or bank account details. 3.The guesthouse Booking system has verified the availability of the selected guest house or room and confirmed the total amount due for the booking. 4.The guesthouse Booking system has successfully connected with the selected payment gateway to process the payment.
Post Condition	1.The payment has been successfully processed, and the customer has received a payment confirmation. 2.The guest house reservation has been confirmed and added to the guest house Booking system. 3.The customer can access the reservation details and confirmation information in the guesthouse Booking system.

Flow	1. Customer checks out of the room and heads to the reception. 2. The receptionist generates the bill. If the customer is a privileged member, a special discount is applicable. 3. The customer can make the payment via cash, card or UPI. 4. Payment is successful. 5. The invoice is given to the customer. 6. The details are updated in their database and the customer finally leaves.
Alternate Flow	4.1 If the payment is not successful, the customer retries using the same or a different method.

Confirm Cancellation: This feature allows guests to cancel their reservations in case of unforeseen circumstances or changes in their plans, with a simple and user-friendly cancellation process.

Use case	Confirm Cancellation
Description	Customer will be provided with the functionality to cancel the booking of rooms/reserve facility
Actors	Customer, System
Pre Condition	For cancellation a customer must login with the id with which he or she has booked a room and must have a valid registration in the check in register.
Post Condition	The system must be redirected to the payment gateway to carry out the refund or fees related transaction based on the cancellation policy of the registered customer.
Flow	1.Log into the guesthouse booking system. 2.Go to see my booking section and select the booking that he/she needs to cancel and click

	on cancel button. 3.The system the customer will be redirected to the payment gateway which will allow the customer to pay using his desired method. 4.As payment is completed payment gateway will redirect back to system and customer will be asked to state cancellation reason.
Alternate Flow	1.1 If the customer fails to give correct login credentials then the system will prompt the customer with wrong credentials and ask to give correct credentials. 4.1 If the payment fails somehow due to traffic on the payment gateway server, due to wrong credential or due to account balance problem, then the customer will again be redirected to the my booking section with failed payment notification.

Get Feedback: This feature enables guests to provide feedback on their experience with the guesthouse, helping the management team to improve their services and overall guest experience. The feedback can be submitted through various channels, such as online forms, email, or in-person surveys, and can be used to make informed business decisions.

Use case	Get Feedback
Description	It is the feature that will prompt the customer to give their valuable feedback when either canceling the booking or at the time of checkout.
Actors	Customer, The system
Pre Condition	Customer should have an active internet connection and he must have an active registration to cancel or checkout.
Post Condition	The system will ask for reasons in case of cancellation and feedback in case of checkout.
Flow	1. The customer will select the cancel button or checkout button in the interface. 2. Then the system will send a notification to customers to provide feedback of their experience.

The use case for registering a guesthouse involves creating a new account within the guesthouse Booking system and adding a hotel profile as described above. This allows the owner or manager to access all the features and functionalities of the system. Registering and submitting necessary documents helps ensure the guesthouse is operating legally.

Use case	Add Hotel Profile
Description	Adding a hotel profile is a feature of a guesthouse Booking system that allows owners or managers to provide important information about their property.
Actors	User, Hotel Owner
Pre Condition	for adding a hotel profile is having a guesthouse Booking system account and all necessary information about the guesthouse.
Post Condition	for adding a hotel profile is that the guesthouse information is stored in the guesthouse Booking system, allowing customers to view and book the guesthouse online.
Flow	1.Log into the guesthouse Booking system 2.Navigate to the hotel profile section 3.Fill in the necessary information about the guesthouse 4.Save the profile
Alternate Flow	1.Log into the guesthouse Booking system 2.Navigate to the hotel profile section 3.Encounter an error or missing information 4.Correct the error or provide the missing information 5.Save the profile

Use case	validate and verify
Description	Validate and verify in adding a hotel profile refers to confirming the accuracy of the information provided to ensure it meets system standards.
Actors	User, System Admin
Pre Condition	The precondition for validate and verify feature is a submitted hotel profile and established system standards and criteria for verifying the profile's accuracy and completeness.
Post Condition	The hotel profile is either approved and published, or rejected and sent back to the owner/manager for corrections in case of issues. This enables customers to view and book the guesthouse online.
Flow	1.Receive the submitted hotel profile from the owner/manager 2.Review the profile for accuracy and completeness according to the established system standards and criteria 3.Approve the profile if it meets the standards and publish it in the guesthouse management system 4.Notify the owner/manager of the approval and publication of the profile
Alternate Flow	1.Receive the submitted hotel profile from the owner/manager 2.Encounter issues with accuracy or completeness of the profile 3.Reject the profile and send it back to the owner/manager for corrections 4.Notify the owner/manager of the rejection and the required corrections

Use case	Register Guest House
Description	The registered guest house feature involves registering a new guest house in the guesthouse Booking system and submitting the necessary documents, such as registration and licensing documents, for verification and approval.
Actors	User, Hotel Owner
Pre Condition	The register guest house feature, including register and submit document, is that the guesthouse owner or manager has access to the guest house Booking system and necessary documents to submit.
Post Condition	The register guest house feature, including register and submit document, is that the submitted documents are reviewed and approved, and the new guest house is added to the guest house Booking system, allowing customers to view and book the guesthouse online.
Flow	1.Access the guesthouse Booking system and select the "Register Guest House" feature 2.Enter the required information and upload necessary documents, such as registration and licensing documents 3.Submit the registration form and wait for the documents to be reviewed and approved by the system administrator 4.Receive confirmation of the approval and publication of the guest house in the guesthouse Booking system.
Alternate Flow	1.Encounter technical issues or errors in the system while registering the guest house 2.Contact technical support for assistance 3.Resolve the issue with the help of technical support and resume the registration process for

	the guest house 4.Submit the registration form and wait for the documents to be reviewed and approved by the system administrator.

(3) Write the non-functional requirements of your system. Justify each of them and why those are applicable.

1. **Performance:**
   - The system should be quick and responsive, with minimal lag times for a better user experience.
   - The system should be able to handle high volumes of concurrent users and transactions.

Explanation:

Here, **performance matters the most**, if the system is not responding, the user quickly gets irritated, which leads to the loss of users and it leads to impact on business. Also, if the user is in a hurry, and wants a quick response, and does not get a quick response, leads to a bad user experience.

2. **Scalability:**
   - The system should be designed to accommodate growth and be easily scalable to meet increasing demands.
   - The system should be good enough to handle a vast database of the users and the property details.

Explanation :

The reason for this is very simple. In later stages, if the number of users increases, we are able to **provide the service to all users at the same pace** as we provide them now. If not, we lose trust from users and a decrease in users number will happen. For example, chat gpt which is very popular nowadays , initially when it was not so popular, the regular user of chat gpt gets easy access and seamless service but now most of the time users get notification of "server

is busy", which is not a good thing. So, we estimated the future growth of the service and designed a scalable system accordingly.

3. **Availability:**
   ○ The system should have a high availability rate(**24x7**) and be designed to minimize downtime.
   ○ The system should have robust disaster recovery mechanisms in place.

Explanation :

This requirement is specifically included for the user who wants to book a guest house at ***any time***, ***according to their convenience***. Let's say our system only works between 8AM to 11 PM, so the users who wanted to book hotels at any other time are not able to do so, which is a problem for users as well as business perspective. Also if we are available for users at any time, it will increase the trust of users for our service and increase the business. For example, if we look at cab services like "ola, uber", most of the time they are available for the user, even at 3AM. So more users will use the services and eventually more business.

4. **Security**:
   ○ The system should have strong security measures to protect sensitive information, such as user passwords and payment information.
   ○ The system should comply with relevant data protection regulations.

Explanation:

Security is the ***most important factor*** now-a-days. In simple words, more ***privacy is equal to more reliability and trust from the user***. Once we gain the trust of the users, they will come back and reuse the service. Many companies use the privacy factor to increase their business. For example, Apple. They increase their privacy, security and come up with the tagline which states that "user privacy is our responsibility". They provide what they commit and hence a good business is going on. Similarly, in our case, if we provide security and ensure that there is no

privacy breach(which is very common nowadays) we get a good impression from users.

5. **Usability:**
   ○ The system should be user-friendly and intuitive, with a clear and simple navigation structure.
   ○ The system should be accessible and usable for users with disabilities.

Explanation:

A clear UI and easy navigation is the key to getting more users. For example, there are two websites which offer the same service at the same cost, but one will get more users than the other and the reasons why it happens are listed below:

Website1	Website2
Users need to login first. Even if they only want to search the site.	Users only need to search when he want to place the order
There are too many options on the screen	Less and most frequently used option on the screen
There is animation in navigation bar and some screen is changing every time (user get irritated by that)	No moving things on the site everything is well structured and static

Now coming to the second requirement that this system should be accessible and usable for users with disabilities, it will help such people to find a guest house without someone's help which will make them independent and also make business out of it.

6. **Interoperability:**
    - The system should be compatible with a range of devices and browsers.
    - The system should be able to integrate with other systems, such as payment gateways, APIs, etc.

Explanation :

Now-a-days, **there is a range of devices available** in the market and everyone is using different types of devices. So, if our system is only available, or works in several browsers or devices, it will decrease the number of customers for us. It is easy to make a website which is working on all the devices, also if we talk about responsiveness, so our site or system should be responsive for mobile devices and desktop both. Therefore we need to find this type of solution.

7. **Reliability:**
    - The system should have a high level of reliability, with minimal errors and bugs.

Explanation :

System reliability is described as the **ability of a system to perform its required functions under static conditions for a specific period**. For example, people are using other web browsers more than internet explorer just not because of its UI, but internet explorer has many errors while working. In the real world it is not possible to make a completely reliable system, so we have to ensure that our system has minimal errors.

8. **Maintainability:**

- ○ The system should be designed to be easily maintainable, with clear documentation and an organized code structure.
- ○ The system should have the capability to be updated and improved over time.

Explanation :

System should be maintainable. A ***maintainable system must be capable of being maintained cost effectively over its expected life time***. If the new requirement comes, we should be able to add new requirements and functionalities easily without incurring heavy cost. If some functionality is not working it should be resolved in a specified amount of time. In the system, if we add new functionality previous functionality must remain.

(1) Draw the use case diagram. State the relationship among the use cases and actors, if applicable.

Use Case Diagram — Hotel Management System

- Authenticate
- Login
- Register Property
- Add hotel profile
- Validate documents
- Submit documents
- Check if hotel is registered
- De-register hotel
- Admin
- Hotel staff
- View Property
- Define filter using date/time
- View Rooms — <<extend>>
- Login — <<include>>
- Register Checkin — <<include>>
- Check room availability
- Book reserve room — <<extend>>
- Handle waiting list
- reserve facility — <<include>>
- Register Checkout — <<include>>
- Proceed to payment
- Make Payment
- View Payment report — <<include>>
- Special discount/offer — <<extend>>
- Member
- Customer
- State reason for cancellation — <<include>>
- Apply for cancellation — <<include>>
- Look in checkin register
- Confirm cancellation — <<include>>
- Check for cancellation policy
- contact admin
- seperate cancellation policy — <<extend>>