Name: Prakash Koju, 986714, Bishwas Niraula, 987119

**Hotel Smart Reservation: Use Case Description**

Figure: Use Case diagram of Hotel Smart Reservation system

A close up of a map

Description automatically generated

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 1** | | |
| **Name**  User Register | | |
| **Brief description** This use case allows the admin to create profiles for each staff | | |
| **Actor**  Admin | | |
| **Precondition:** The admin must log in to the system. | | |
|  | | |
| **Flow of Events:** | | |
|  | | |
| **1.1 Create Staff Profile** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The admin calls the create new staff profile command. | The system displays the staff profile form with the fields for name, email username, password and position and Id. |
| 2 | The admin fills out the form and requests the system to save the details. | The system verifies the uniqueness of the user in database and returns the message about new profile creation. |
| **Postcondition:** | | |
| A new staff profile is persisted in the system | | |
| **Business Rule:** | | |
| No duplicate profile, uniqueness is defined by distinct username and user-Id. | | |
|  | | |
| **1.2** **Read/View Staff Profile** | | |
| **Step** | **User Action** | **System Action** |
| 1 | Admin selects to view list of staffs. | The system returns list of staffs registered in the system. |
| 2 | The admin chooses a staff from the list. | The system returns the profile of the staff which details name, email address, username and position. |
| **Postcondition:** | | |
| The staff profile is persisted in the system | | |
| **Business Rule:** | | |
| Staff list and selection consists of staff-Id and staff name | | |
|  | | |
| **1.3 Modify Staff Profile** | | |
| **Step** | **User Action** | **System Action** |
| 1 | Admin selects to view list of staffs. | The system returns list of staffs registered in the system. |
| 2 | The admin chooses a staff from the list to modify. | The system returns editable profile of the staff which details name, email address, username, password and position. |
| 3 | The admin updates the fields required to update and request system to save the modification | The system updates the record and returns the success message (or fail message on exception). |
| **Postcondition:** | | |
| The staff profile will be updated | | |
| **Business Rule:** | | |
| Name, email and user-Id should not be editable | | |
|  | | |
| **1.4 Delete Staff Profile** | | |
| **Step** | **User Action** | **System Action** |
| 1 | The admin selects to view a list of staffs | The system returns list of staffs registered in the system. |
| 2 | The admin selects a profile to delete from list | The system displays a confirmation dialogue window |
| 3 | The admin clicks on OK on the dialog window to confirm deleting the profile | The system confirms that the staff is no more part of the system. The system returns a success/failure message upon deleting the profile from the system. |
| **Postcondition:** | | |
| The staff profile will be deleted | | |
| **Business Rule:** | | |
| The staff must not be accountable for other activity before the deletion process. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 2** | | |
| **Name**  Log-In | | |
| **Brief description** This use case provides access to part of system to admin, staff and customer | | |
| based on their role | | |
| **Actor**  Admin, Staff, Customer | | |
| **Precondition:** The actor should have account registered in the system. | | |
|  | | |
| **Flow of Events:** | | |
|  | | |
| **2.1 Log-In the system** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user selects log-in option displayed in the system | The system displays a log-in page to the user which asks to enter username, password and user-type |
| 2 | The user enters the details as expected to fill in the form. | Depending up on user type (or roll in our case) the system checks existence of the user in the specified group of user-type. The system displays success or failure message based on result of the matching criteria. The system throws index page upon successful login. |
| **Postcondition:** | | |
| User get log in the system based on his roll. | | |
| **Business Rule:** | | |
| Admin should be redirected to admin page; staff should be redirected to staff account and so as for customer too. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 3** | | |
| **Name**  Update hotel detail | | |
| **Brief description** This use case allows the admin to manage hotel information | | |
| **Actor**  Admin | | |
| **Precondition:** The admin must log in to the system. | | |
|  | | |
| **Flow of Events:** | | |
|  | | |
| **3.1 Create Room Profile** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The admin calls the create new room profile command. | The system displays the room profile form with the fields for room number, number of beds, bed type, occupancy capacity, occupancy status, and links of photos of the room. |
| 2 | The admin fills out the form and requests the system to save the details. | The system verifies the uniqueness of the room in database and returns the message about new profile creation. |
| **Postcondition:** | | |
| A new room profile is persisted in the system | | |
| **Business Rule:** | | |
| No duplicate profile, uniqueness is defined by distinct room number. | | |
|  | | |
| **3.2** **Read/View Room Profile** | | |
| **Step** | **User Action** | **System Action** |
| 1 | Admin selects to view list of room. | The system returns list of rooms registered in the system. |
| 2 | The admin chooses a room from the list. | The system returns the profile of the room which details room number, number of beds, bed type, occupancy capacity, occupancy status, and links of photos of the room. |
| **Postcondition:** | | |
| The room profile is persisted in the system. | | |
| **Business Rule:** | | |
| Room list and selection consists of room number. | | |
|  | | |
| **3.3 Modify Room Profile** | | |
| **Step** | **User Action** | **System Action** |
| 1 | Admin selects to view list of staffs. | The system returns list of rooms registered in the system. |
| 2 | The admin chooses a room from the list to modify. | The system returns editable profile of the room which details room number, number of beds, bed type, occupancy capacity, occupancy status, and links of photos of the room. |
| 3 | The admin updates the fields required to update and request system to save the modification | The system updates the record and returns the success message (or fail message on exception). |
| **Postcondition:** | | |
| The room profile will be updated | | |
| **Business Rule:** | | |
| All attributes of the room should be editable | | |
|  | | |
| **3.4 Delete Room Profile** | | |
| **Step** | **User Action** | **System Action** |
| 1 | The admin selects to view a list of staffs | The system returns list of staffs registered in the system. |
| 2 | The admin selects a profile to delete from list | The system displays a confirmation dialogue window |
| 3 | The admin clicks on OK on the dialog window to confirm deleting the profile | The system confirms that the staff is no more part of the system. The system returns a success/failure message upon deleting the profile from the system. |
| **Postcondition:** | | |
| The staff profile will be deleted | | |
| **Business Rule:** | | |
| The staff must not be accountable for other activity before the deletion process. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 4** | | |
| **Name**  Generate Report | | |
| **Brief description** This use case provides way to generate statistical reports of rooms in the hotel | | |
| **Actor**  Admin, Staff | | |
| **Precondition:** The actor should have account registered in the system. | | |
|  | | |
| **Flow of Events:** | | |
|  | | |
| **4.1 Generate and View Report of Rooms** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user selects Report option | The system returns list of option towards user to choose one among Room Status, Customer Detail and Payment Report |
| 2 | The user selects Reports of Rooms | System returns an aggregate report of rooms that shows list of all rooms along with their room details, reservation status, if reserved then check-in date, duration of stay, checkout date, customer head count and payment status. |
| 3 | The user views and/or requests system to save the report for future use. | The system saves the generated report with date and time in designated location. |
| **Postcondition:** | | |
| The room profile is persisted in the system. | | |
| **Business Rule:** | | |
| Reserved rooms must have customer and payment details. | | |
|  | | |
| **4.2 Generate and View Report of Customers** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user selects Report option | The system returns list of option towards user to choose one among Room Status, Customer Detail and Payment Report |
| 2 | The user selects Customer Detail | The system returns list of customers who reserved and/or stayed in the hotel. The report includes room number assigned to the customer, number of co-occupants, check-in/out date and payment status as well. |
| 3 | The user views and/or requests system to save the report for future use. | The system saves the generated report with date and time in designated location. |
| **Postcondition:** | | |
| The customer list is persisted in the system | | |
| **Business Rule:** | | |
| Each customer must have some payment history at least for reservation. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 5** | | |
| **Name**  View Rooms | | |
| **Brief description** This use case provides list of available room eligible to reserve for customer | | |
| **Actor**  Staff, Customer | | |
| **Precondition:** Anybody can view the unreserved or available rooms of the hotel before | | |
| reservation. | | |
| **Flow of Events:** | | |
|  | | |
| **5.1 View Rooms** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user selects View Rooms option. | The system displays list of available rooms with attributes such as bed type, number of beds, room photos etc. |
| **Post condition:** | | |
| The room status is persisted in the system | | |
| **Business Rule:** | | |
| Only the room which are not reserved or unoccupied should be enlisted in the report. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 6** | | |
| **Name**  Reserve Room | | |
| **Brief description** This use case is used to reserve a room in the hotel | | |
| **Actor**  Staff, Customer | | |
| **Precondition:** Person who want to reserve a room should first log in to the system | | |
|  | | |
| **Flow of Events:** | | |
|  | | |
| **6.1 Reserve Room** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user selects View Rooms option. | System displays list of available rooms with attributes such as bed type, number of beds, room photos etc. |
| 2 | User evaluates rooms and selects and ask system to make it reserve. | The system temporarily takes out the room from available room list to restrict other users to reserve it. The system returns a form to fill up customer detail with estimated check-in/out date. |
| 3 | The customer fills up the form and submit. | The system collects data and store them in database. Then user is given an option for payment of booking amount. |
| 4 | The user selects one of the payment methods (debit card, credit card, PayPal and hotel reward points) | The system returns form corresponding to card type to collect card information properly. |
| 5 | User fill the form with card information | System verifies the card information and authentication with concerned bank. Upon success, reverts to user for confirmation of payment. |
| 6 | User confirms for payment against booking charge. | If payment is success, the room is assigned to the user as reserved and returns a Confirmation Number. Otherwise system prompts the user having insufficient balance and update the card information. |
| **Post condition:** | | |
| The room status will be reserved to the customer and will not be available until next checkout or | | |
| reservation cancellation | | |
| **Business Rules:** | | |
| Payment must be successful before the room status changes to reserved. | | |
| Payment must be at least equal to the booking charge. | | |
| If Reservation is performed by staff, record of staff should be kept in the record for future reference. | | |
|  | | |
| **6.2 Update Reservation** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user asks the system to provide reservation information | System returns the reservation made by the customer. |
| 2 | The user selects and option to edit the reservation information | The system enables the reservation information to be modified by the user. |
| 3 | The user modifies the information accordingly and submits the form. | The system updates the reservation information |
| **Post condition:** | | |
| The room status will be updated | | |
| **Business Rules:** | | |
| The user can update the information at most twice before the check-in date. | | |
| The user is not allowed to change the room number. | | |
| Changing the room is permitted only through staff by transferring the credit information to new | | |
| reservation. | | |
|  | | |
| **6.3 Cancel Reservation** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | The user asks the system to provide reservation information | System returns the reservation made by the customer. |
| 2 | The user selects and option to cancel the reservation information | The system confirms with user for reservation cancellation. |
| 3 | The user confirms for cancellation. | The system removes the room from customer’s reservation and room is enabled for further reservation. The systems alerts repayment if cancellation occurred 24hrs ahead of check-in date. |
| **Post condition:** | | |
| The room status will be updated | | |
| **Business Rules:** | | |
| The user cannot delete the reservation after check-in done. | | |
| The customer be refunded 50% of reservation amount if cancelled before 24 hours and 100% before 48 hours of check-in date. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 7** | | |
| **Name**  Check-In | | |
| **Brief description** This use case provides customer to check in the hotel | | |
| **Actor**  Staff | | |
| **Precondition:** Staff must log-in the system. | | |
| Customer must have Reservation Confirmation Number | | |
| **Flow of Events:** | | |
|  | | |
| **7.1 Check-In** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | Staff selects Check-In option in system | System asks staff to enter customer’s reservation confirmation number. |
| 2 | Staff checks customer’s reservation confirmation number and submit it in system | System checks and validates the confirmation number with database record. The system returns a form to update customer detail including number of occupants, check-in, check-out, need of breakfast, meal etc. |
| 3 | The staff all information in favor of the customer and submits in system. | System holds the records and gives a printing job to print use-case-agreement paper to sign by the customer.  The system checks due balance to be paid by customer and gives an option to customer for payment of due balance. |
| 4 | The customer selects one of the payment methods (debit card, credit card, PayPal and hotel reward points) | The system returns form corresponding to card type to collect card information properly. |
| 5 | User fill the form with card information | System verifies the card information and authenticates with concerned bank.  If payment is success, the room is assigned to the user as reserved. Otherwise system prompts the user having insufficient balance and update the card information. |
| **Post condition:** | | |
| The room status will be reserved to the customer and will not be available until next checkout. | | |
| **Business Rules:** | | |
| Payment must be cleared before check-in. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 7** | | |
| **Name**  Check-In | | |
| **Brief description** This use case provides customer to check in the hotel | | |
| **Actor**  Staff | | |
| **Precondition:** Staff must log-in the system. | | |
| Customer must have Reservation Confirmation Number | | |
| **Flow of Events:** | | |
|  | | |
| **7.1 Check-In** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | Staff selects Check-In option in system | System asks staff to enter customer’s reservation confirmation number. |
| 2 | Staff checks customer’s reservation confirmation number and submit it in system | System checks and validates the confirmation number with database record. The system returns a form to update customer detail including number of occupants, check-in, check-out, need of breakfast, meal etc. |
| 3 | The staff all information in favor of the customer and submits in system. | System holds the records and gives a printing job to print use-case-agreement paper to sign by the customer.  The system checks due balance to be paid by customer and gives an option to customer for payment of due balance. |
| 4 | The customer selects one of the payment methods (debit card, credit card, PayPal and hotel reward points) | The system returns form corresponding to card type to collect card information properly. |
| 5 | User fill the form with card information | System verifies the card information and authenticates with concerned bank.  If payment is success, the room is assigned to the user as reserved. Otherwise system prompts the user having insufficient balance and update the card information. |
| **Post condition:** | | |
| The room status will be reserved to the customer and will not be available until next checkout. | | |
| **Business Rules:** | | |
| Payment must be cleared before check-in. | | |

|  |  |  |
| --- | --- | --- |
| **Use Case Number: 8** | | |
| **Name**  Check-Out | | |
| **Brief description** This use case provides customer to check out of the hotel | | |
| **Actor**  Staff | | |
| **Precondition:** Staff must log-in the system. | | |
| Customer must have Reservation Confirmation Number | | |
| **Flow of Events:** | | |
|  | | |
| **8.1 Check-Out** | | |
| **Step** | **User Action** | **System Actions** |
| 1 | Staff selects Check-Out option in system | System asks staff to enter customer’s reservation number or room number. |
| 2 | Staff checks and confirms the customer’s reservation number or room number and submit it in system | System checks and validates the submitted information with database record. The system checks if any due payment remains till the date. If all payments are cleared, the staff is asked to confirm the checkout |
| 3 | The staff confirms for check-out process. | System saves all information in the database and reset the room’s availability for next reservation. |
| **Post condition:** | | |
| The room will be enlisted in available rooms for reservation. | | |
| **Business Rules:** | | |
| Payment must be cleared before check-out. | | |