Assignment

Description

The Waterfront Resort Reservation System has 2 main actors – Manager and Customer, and 2 main components – Reservation and Payment.

The Manager class consists of the manager’s id and password required to gain access to the reservation system. It has three functionalities i.e. validating the customers, room checking and report generation for the Waterfront Resort. There exists only 1 Manager who serves multiple customers (1 to many relationship).

The Customer class consists of name, contact details, age, gender, address and membership information. The customer can sign-in to the resort, book as well as cancel room, select room and obtain billing information. Every customer has 1 payment method registered at checkout i.e. by debit or credit card. The Card class consists of the card payment information details which when successful, processes the transaction and generates the receipt.

The Reservation class has a reservation id, the customer’s information gathered from Customer class, the package type and the total package cost before checkout. This class can create a new reservation, check status of reservation and cancel a reservation.

The Package class contains information about the package selected by the customer. It has the room information gathered from Room class and it includes the specific amenities offered in the specific package. It also checks for and offers the customer a membership plan and adds a discount based on the selected package.

The Amenities class basically just returns a list of amenities selected for a specific package. All members in the class are having a value of either Yes or No.

The Room class contains the selected room’s information with two possibilities –

The Regular room class which has the room number and the type of bedding i.e. 2 queen size beds or 1 king size bed.

The Suite class also has the room number and the type of bedding i.e. 2 queen size beds or 1 king size bed.

The Payment Checkout class contains the total charges to be paid by the customer while checking out. This includes the room service charges as well as the restaurant dining buffet or cafeteria charges. The final bill is generated and if paid by card, the card is validated, and the secured transaction is processed.

Use Cases

1. Use Case : Customer Check-in

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| --- | --- |
| Action Case | System Response |
| 1. Manager logs in to the system via the manager\_id and password. | Login successful. |
| 1. Manager validates customer by verifying a government-issued photo ID. | Customer validated. |
| 1. Manager asks the customer if they have membership. If yes, they enter the membership\_id. If no, they enter the customer details. | Member verified. /  Customer added to the system. |
| 1. Manager checks for the customer’s room reservation request. | Room available. |
| 1. Manager enters the customer reservation details. This includes package, number and type of rooms and included amenities. | Reservation successful. |

1. Use Case : Check Reservation

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| --- | --- |
| Action Case | System Response |
| 1. Manager logs in to the system via the manager\_id and password. | Login successful. |
| 1. Manager validates customer by verifying a government-issued photo ID. | Customer validated. |
| 1. Manager asks the customer if they have membership. If yes, they enter the membership\_id. If no, they enter the customer details. | Member verified. /  Customer added to the system. |
| 1. Manager checks for the customer’s special package/room reservation request. | Room reserved. /  Package unavailable. |
| 1. Manager asks the customer for another room selection. | Room available. |
| 1. Manager enters the customer reservation details. This includes package, number and type of rooms and included amenities. | Reservation successful. |

1. Use Case : Cancel Reservation

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| --- | --- |
| Action Case | System Response |
| 1. Manager logs in to the system via the manager\_id and password. | Login successful. |
| 1. Manager validates customer by verifying the customer\_id or reservation\_id. | Customer / Reservation validated. |
| 1. Manager asks customer reason for cancellation. If not satisfied, manager offers customer alternative packages. |  |
| 1. Manager processes the cancellation and if applicable, customer pays cancellation fees. | Reservation cancelled.  Charges paid by customer (Transaction #). |

1. Use Case : Customer Check-out

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| --- | --- |
| Action Case | System Response |
| 1. Manager logs in to the system via the manager\_id and password. | Login successful. |
| 1. Manager calculates the total costs and charges of the reservation. This includes the room service charges as well as the restaurant dining buffet or cafeteria charges. | Reservation Costs : #  Service charges : #  Membership Discounts : #  Final Billing Amount : # |
| 1. Manager enters customer’s card information and validates transaction. | Bill paid by customer (Transaction #). |
| 1. Manager asks customer to fill out feedback and survey form. | Feedback submitted. |
| 1. Manager thanks customer for their stay and they look forward to having them again as their guest. | Checkout successful. |

The following UML class diagram depicts the above use case scenarios :

Diagram

Description automatically generated