

Aim: To construct State chart Diagram representing behavioral view of the system.

StateChart Diagram1: Search Restaurant and Filters

1. InitialState:

- Description: Represents the starting point of the user's journey when they initiate the search for a restaurant within the application.
- Actions: The user enters the application and starts the process of searching for a restaurant.

2. ChooseSearchMethod:

- Description: The user decides on the method they want to use for searching. They have two options: reading safety guidelines or applying filters.
- Actions: The user is presented with choices on how to proceed with the search.

3. ReadSafetyGuidelines:

- Description: If the user chooses to read safety guidelines, this state signifies the phase where they access and review information regarding the safety practices and guidelines followed by the restaurants.
- Actions: The user gains insights into the safety measures taken by restaurants, which may influence their choice.

4. ApplyFilters:

- Description: Alternatively, if the user decides to apply filters, they enter this state. Here, they can specify criteria such as food category, hygiene levels, feedback, and ratings to narrow down their restaurant choices.
- Actions: The user customizes their search based on specific preferences, filtering out options that do not meet their criteria.

5. ViewResults:

- Description: After choosing a search method and providing relevant inputs, the system displays a list of restaurants that match the specified criteria.
- Actions: The user sees a curated list of restaurants that fit their requirements.

6. SelectRestaurant:

- Description: The user selects a specific restaurant from the displayed list based on their preferences or requirements.
- Actions: The user reviews the list and makes a choice based on factors like location, cuisine, or ratings.

7. ViewRestaurantDetails:

- Description: In this state, the user can access comprehensive details about the selected restaurant, including certifications, menu items, and reviews from other customers. ● Actions: The user explores detailed information to make an informed decision about the chosen restaurant.

8. MakeReservation:

- Description: If the user decides to proceed with a particular restaurant, they enter this state to make a reservation or booking for a specific date and time.
- Actions: The user provides booking details such as date, time, and the number of guests.

9. ModifyReservation:

- Description: After making a reservation, the user may have the option to modify certain details, such as the reservation date, time, or the number of guests.
- Actions: The user can adjust reservation details as needed before finalizing.

10. FinalState:

- Description: Represents the conclusion of the user's interaction with the search and filter phase, indicating that they have completed the necessary actions.
- Actions: The user has successfully selected a restaurant, viewed details, and made or modified a reservation. This marks the end of the search and filter phase.

Transitions:

Transitions between states are triggered by user actions and choices, such as selecting a search method, picking a restaurant, making a reservation, or modifying reservation details. User interactions, like clicking buttons, making selections, or submitting forms, lead to transitions between states, guiding the user through the search and filter process. Each transition represents a step forward in the user's journey.

StateChart Diagram2: Booking and Payment

1. InitialState:

- Description: Represents the starting point of the user's journey in the booking and payment phase.
- Actions: The user enters the booking and payment phase, indicating their intention to make a reservation.

2. ChooseReservationOption:

- Description: The user decides on the reservation option, whether it's for dine-in, take-away, or home delivery.
- Actions: The user selects the mode through which they want to experience the restaurant's services.

3. SelectFoodItems:

- Description: If the user chooses dine-in or take-away, they enter this state to select the food items they want to order.
- Actions: The user browses the menu and adds desired items to their order.

4. ChooseDeliveryAddress:

- Description: If the user opts for home delivery, they need to provide the delivery address.
- Actions: The user provides the necessary details for the delivery of their order.

5. ConfirmOrder:

- Description: After selecting food items and specifying delivery details, the user confirms the order.
- Actions: The user reviews their order, confirms it, and moves forward to the payment phase.

6. SelectPaymentOption:

- Description: The user enters this state to choose a preferred payment method, such as cash on delivery, UPI, or cards.
- Actions: The user selects a payment option that suits their preference.

7. MakePayment:

- Description: Upon selecting a payment option, the user proceeds to make the payment for the confirmed order.
- Actions: The user completes the payment process to finalize their order.

8. OrderProcessing:

- Description: This state represents the phase when the system processes the order, including payment verification and preparation of the food items.
- Actions: The system validates the payment, prepares the ordered items, and updates the order status.

9. OrderDelivered/PickedUp:

- Description: Once the order is processed, the user either receives the food at the specified delivery address or picks it up from the restaurant.
- Actions: The user experiences the fulfillment of their order, either by having it delivered to their location or by picking it up personally.

10. ProvideFeedback:

- Description: After the order is completed, the user may enter this state to provide feedback on the overall experience, food quality, and service.
- Actions: The user shares their thoughts and feedback, contributing to the restaurant's understanding of customer satisfaction.

11. FinalState:

- Description: Marks the conclusion of the booking and payment phase, indicating that the user has completed the necessary actions.
- Actions: The user has successfully gone through the entire process, from choosing the reservation option to receiving the order and providing feedback.

Transitions:

Transitions between states are triggered by user actions, such as choosing a reservation option, confirming the order, selecting a payment method, and providing feedback. Each transition represents a step in the user's journey, guiding them through the phases of booking and payment.

StateChart Diagram3: User Management

1. InitialState:

- Description: Represents the starting point of the user management phase.
- Actions: The system is ready for user management tasks, and the initial state signifies the beginning of administrative actions.

2. AdminLogin:

- Description: The admin initiates the user management process by logging into the system using their credentials.
- Actions: The admin provides valid credentials to access the user management functionalities.

3. ViewReports:

- Description: After login, the admin can view various reports generated by employees and restaurant guides, providing insights into system activities. ●
- Actions: The admin gains an overview of system activities, potentially helping in decision-making processes.

4. ManageEmployees:

- Description: In this state, the admin can perform tasks related to employee management, including updating the website, filtering customer records, and applying user-specific filters.
- Actions: The admin can manage employee-related tasks, ensuring accurate and up-to-date information in the system.

5. ManageRestaurantGuides:

- Description: Admin can manage restaurant guides, overseeing their activities, managing bookings, calculating commissions, and handling other related tasks. ●
- Actions: The admin has control over the activities and management of restaurant guides, ensuring smooth operations.

6. GrantPermissions:

- Description: Admin has the authority to grant specific permissions to city employees and restaurant guides based on their roles and responsibilities. ●
- Actions: The admin assigns permissions to different users based on their roles, allowing them access to specific functionalities.

7. ViewComplaintsFeedback:

- Description: Admin can access and view complaints and feedback submitted by users, enabling them to take necessary actions to address concerns.
- Actions: The admin monitors user feedback and complaints, taking steps to improve services and resolve issues.

8. ManageUserAccounts:

- Description: Admin can perform user management tasks, including adding or deleting user accounts, modifying accounts, and updating user profiles.

- Actions: The admin has control over user accounts, ensuring the accuracy and relevance of user information in the system.

Transitions:

Transitions between states are triggered by admin actions, such as logging in, viewing reports, managing employees and restaurant guides, granting permissions, viewing complaints and feedback, and managing user accounts.

Admin actions initiate transitions between different states, guiding them through the various aspects of user management. Each transition represents a step in the administrative workflow, allowing the admin to efficiently manage users, permissions, and system data.

Result: Statechart diagram has been designed and studied.