Aim: To create a Sequence Diagram to represent the dynamic view (behavior) of the system.

Theory:

Food Safety Portal

Sequence Diagram1: Search Restaurant and Filters

User Interaction:
The sequence starts when the user interacts with the web interface, initiating the process of searching for restaurants.

Search Process:
The web interface sends a search request to the Search System, which is responsible for handling and processing search queries.

Database Interaction:
The Search System queries the database to retrieve information about restaurants that match the user's initial search criteria.

Result Presentation:
The Search System sends the search results back to the web interface, which then displays the information to the user.
Optional Filtering:
If the user decides to apply filters, the web interface sends a filtering request to the Filtering System.

Database Query (Filtering):

The Filtering System, in response to the filtering request, performs additional queries on the database to refine the results based on the specified filters.

Filtered Results:
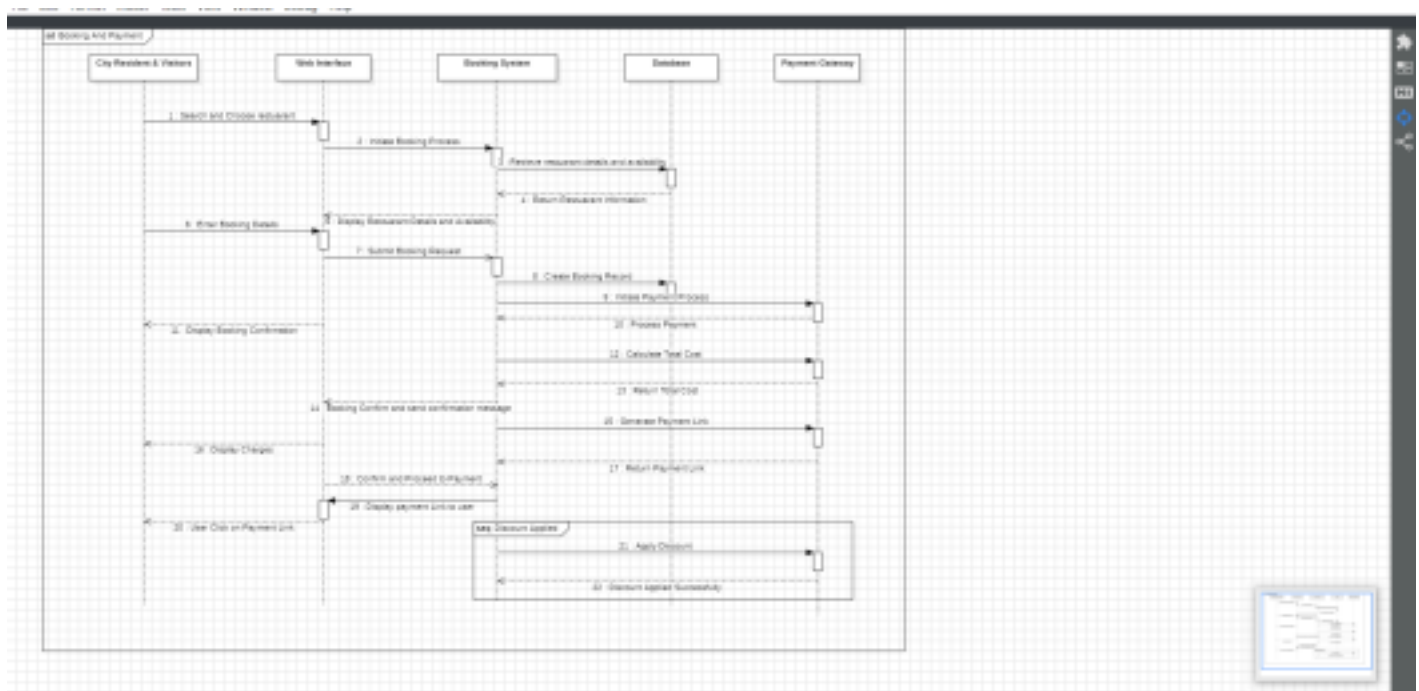The Filtering System sends the filtered results back to the web interface for presentation to the user.

User Interaction with Results:
The user interacts with the displayed results on the web interface, exploring restaurant details, and potentially providing feedback or taking other actions.

Feedback and Actions:
Based on the displayed results, the user may choose to provide feedback, book a table, or take other actions.

Sequence Diagram2: Booking and Payment

Booking Initiation:
The web interface sends a request to the Booking System, initiating the booking process.

Database Interaction (Booking):
The Booking System interacts with the database to retrieve relevant details about the selected restaurant, such as availability and other booking-related information.

Booking Confirmation:
After checking availability, the Booking System confirms the booking and sends a confirmation message back to the web interface.

User Input for Booking Details:
The user provides specific details for the booking, such as date, time, and the number of guests.

Booking Request Submission:

The web interface submits the detailed booking request to the Booking System.

Database Interaction (Booking Details):
The Booking System updates the database with the specific details of the booking, including the user's preferences.

Payment Initiation:
If the booking is successful, the web interface triggers the Payment System to initiate the payment process.

Interaction with Payment Gateway:
The Payment System communicates with an external Payment Gateway to handle the actual transaction securely.

Payment Processing:
The Payment Gateway processes the payment, verifying details and ensuring secure transaction handling.

Payment Confirmation:
Upon successful payment processing, the Payment Gateway sends a confirmation message back to the Payment System.
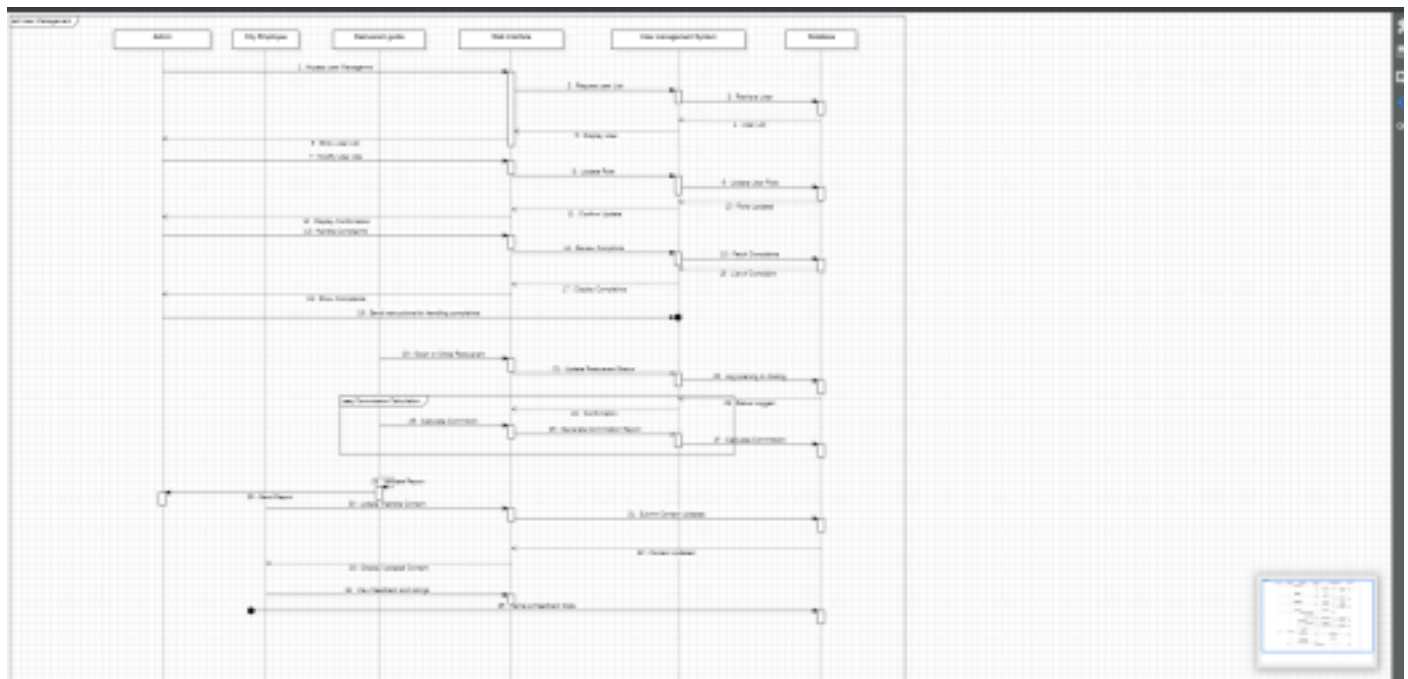
Booking Finalization:
The Booking System finalizes the booking, updating the database with payment details and marking the reservation as confirmed.

Booking Confirmation to User:
The web interface receives the final confirmation from the Booking System and displays it to the user.

Sequence Diagram2: : User Management

Web Interface Interaction:
The user interacts with the web interface to access the user management functionalities.

Authentication Request:
If the user logs in, the web interface sends an authentication request to the User Account Manager.

User Authentication:
The User Account Manager authenticates the user by checking their credentials against the stored information in the database.

Authentication Response:
The User Account Manager responds to the web interface with the outcome of the authentication process (success or failure).

User Profile Access:
After successful authentication, the web interface accesses the user's profile using the User Account Manager.

User Profile Modification:
The user can modify their account details through the web interface, triggering updates in the User Account Manager.

Database Interaction (User Profile):
The User Account Manager interacts with the database to update the user's profile with the modified information.

Admin Module Access:
The Admin Module interacts with the User Account Manager to access and manage user accounts. This includes adding, deleting, or modifying user information.

Permission Checks:
The Admin Module performs permission checks to ensure that only authorized personnel can perform specific user management tasks.

Notification Service Interaction:
The Notification Service interacts with both the Admin Module and the web interface to send relevant notifications to users or administrators.

User Logout:
The user can initiate a logout action through the web interface, ending the current session.

Result: Sequence diagram has been designed and studied.