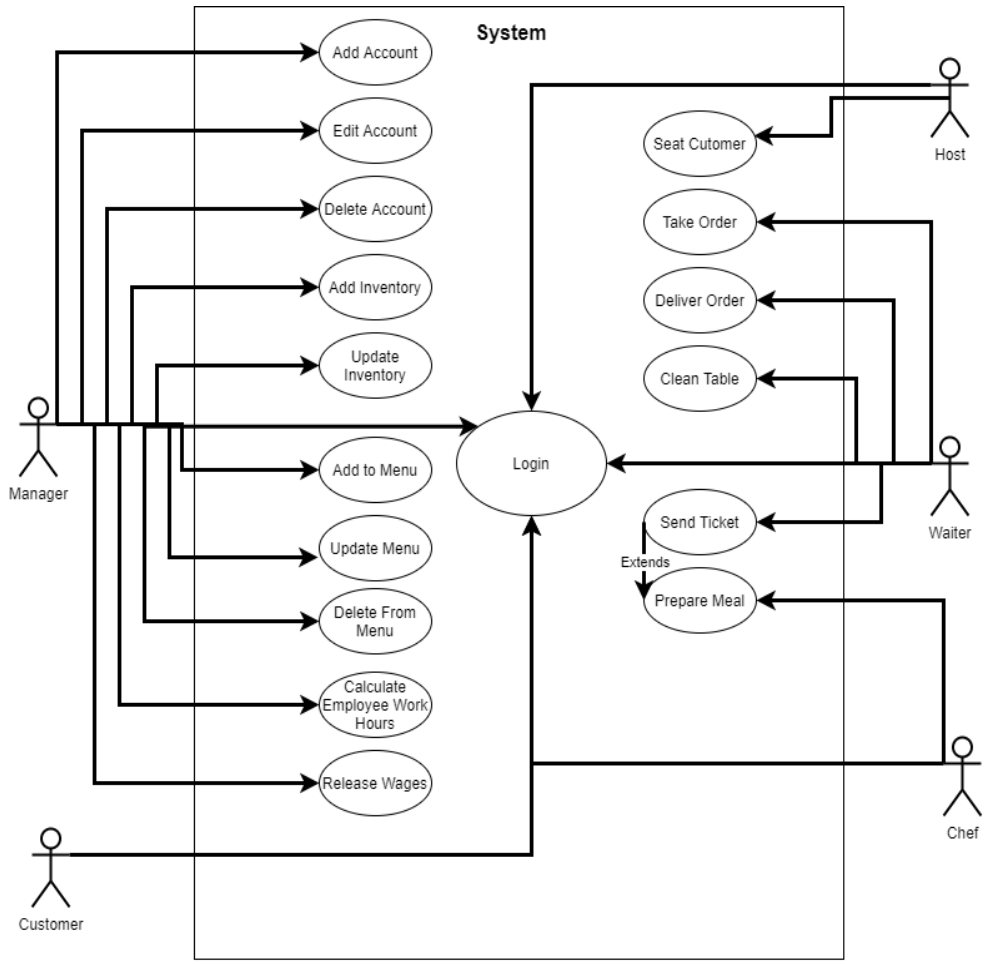
Team: Restaurant Automation

1. Use Case Diagram:



2. Use Case Elaboration:

Use Case 1	Login
Actors	Employees
Goal	To maintain security and avoid any kind of breach in the system
Preconditions	Actors have an account registered to their username

Scenarios	All the actors would sign in at the start of the day to access the system and signout at the end of their day at closing time
Exceptions	Invalid id or password

Use Case 2	AccountsManagement
Actors	Manager
Goal	To add/remove/modify Employees in database system
Preconditions	Manager has an admin account (from which manager can update information in database)
Scenarios	If a new employee is hired, that employee will be added to the database system. If an old employee quits his job he will be removed from the system. If an employee gets a promotion that information will be updated in the system.
Exceptions	Trying to add an employee who is already present in the database. Trying to delete an employee record which does not exists in the database.

Use Case 3	MenuManagement
Actors	Chef
Goal	To add/remove/modify items in menu in database system

Preconditions	Chef has an option on his account from where he can update menu information in the database.
Scenarios	If a new dish is introduced it will be added in the menu. If an old dish has to be removed from the menu, it will be removed by the manager. If the description of the dish has to be modified it will be modified by the manager.
Exceptions	Trying to add an item which is already present in the database. Trying to delete an item record which does not exists in the database

Use Case 4	StatusOfTable
Actors	Host
Goal	To assign tables to new customers if free and keep a track of which tables get free and needs cleaning.
Preconditions	Host has signed in to her account
Scenarios	If new customers are in the waiting area and all the tables are booked, the waiters would set the table number as free if one of the tables get free and is ready for the next customer.

Use Case 5	Ticket

Actors	Waiters, Chef
Goal	To take orders on a tablet and a ticket would be printed in the kitchen where the chef will start preparing the meal.
Preconditions	Waiter and chef have signed in on their accounts.
Scenarios	A customer has decided his order and is waiting for the waiter to place his order. The waiter takes the customer's order and sends the ticket to the kitchen where the chef reads it and starts preparing the customers order.

Use Case 6	Billing
Actors	System, Waiter
Goal	When a customer is done eating, the waiter checks out their order and then the system calculates their bill and a printed receipt is given to the customer.
Preconditions	The customer has finished their meal and is ready to pay their bill.
Scenarios	Customer finishes his/her meal and asks the waiter to bring their check.

Use Case 7	TableCleaning
Actors	System, Waiter

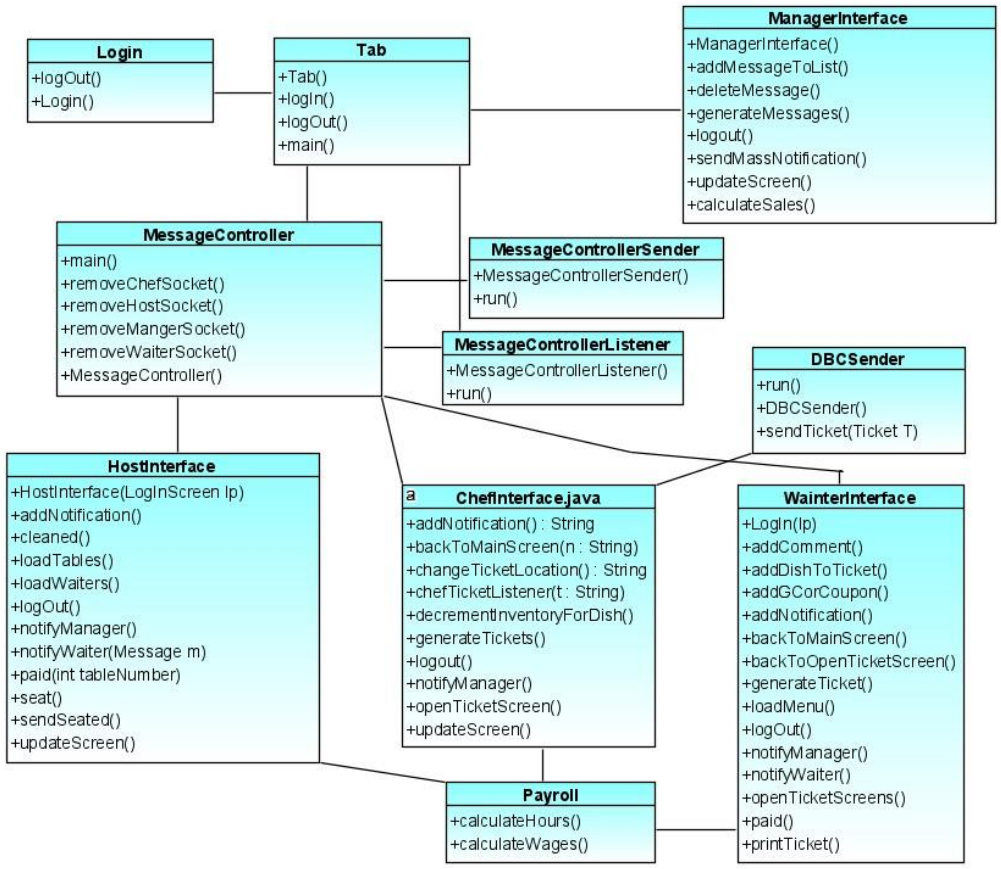
Goal	A notification is sent with the table number to the Waiter who will clean the table.
Preconditions	Paid button is pressed by the waiter at the table where customers have paid their bill.
Scenarios	The customer is done eating and has paid his/her bill. The waiter notifies the Waiter by pressing the paid button on the system. The Waiter knows which table to clean.

Use Case 8	FoodNotification
Actors	Chef
Goal	To notify the waiter that food is ready to serve on the assigned table.
Preconditions	Chef prepares the meal
Scenarios	Chef has prepared the meal and it is ready to serve, so he sends a notification to the waiter and he picks food from the kitchen and serves it on the assigned table.

Use Case 10	CancelOrder
Actors	Customer
Goal	Giving an option to customers to cancel their order within 5 minutes after ordering their food.

Preconditions	Customers have placed their order
Scenarios	Customers have placed their order and they want to cancel it for some reason. They press the cancel order button to notify the chef in the kitchen so he will stop preparing their order.
Exceptions	This feature is only available in the first five minutes after ordering the food.

2. **UML Class Diagram**:



Notes: We may not implement payroll modules

Cost Of Quality:

Task Name	Estimated Effort (hrs)	Implementation	Evaluation	Prevention	Rework
Project Planning	**30**	**27**	**0**	**0**	**3**
Infrastructure Setup	**10**	**7**	**0**	**0**	**3**
UI Design	**20**	**15**	**0**	**0**	**5**
Initial project development and unit testing	**55**	**35**			**15**
Quality AssuranceIntegration/E2E testing	**20**	**12**	**4**	**4**	**0**
Acceptance Testing	**12**	**0**	**6**	**6**	**0**
Software Bug Correction	**30**	**10**	**0**	**0**	**20**

Total	**177**	**106**	**10**	**10**	**36**