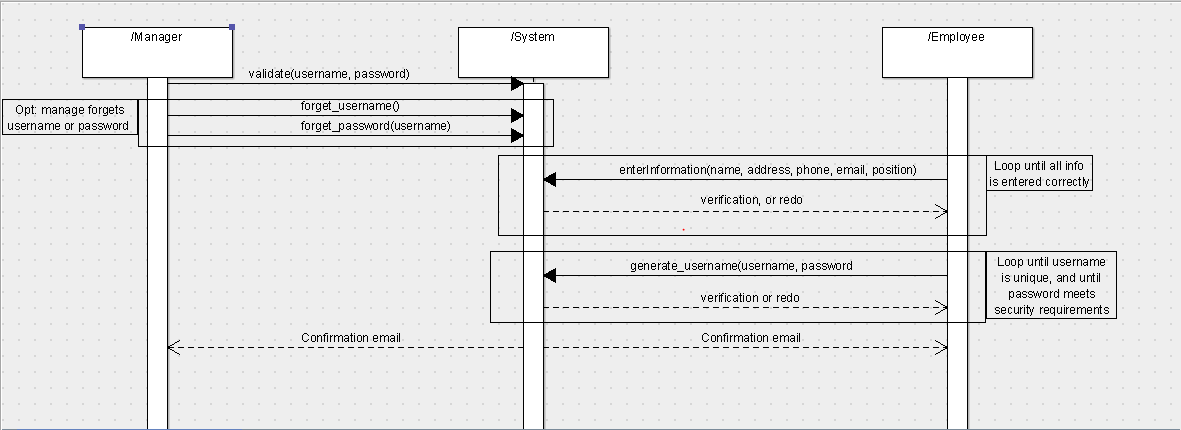
**System Sequence Diagram: Process Hiring an employee**



**Use case 1: Process hiring**

**------------------------------------------------------------------------------------------**

**Primary Actor:** Restaurant Manager

**Stakeholders and Interests**: All employees are affected. All employees have to be registered in order to have access to the system. This is an automated way to keep track of employee records.

**Preconditions:** The manager must be identified and authenticated in order to register a new employee.

**Success guarantee:** The employee is registered with the system. The employee is also given an employee ID. Confirmation is sent to the employee’s and managers email account.

**Main success scenario:**

1. Employee and manager are both present to register employee.
2. Manager authenticates, and is given permission by the system to add, edit, or remove employees.
3. Manager or employee enters standard employee information. Information could include name, address, phone number, email, job, relevant education/certifications, etc.
4. System adds employee to database.
5. System asks employee to generate username and password in order to use system.
6. Employee enters a valid username and password.
7. System generates a profile for the employee, and associates username and password with employee profile.
8. Confirmation emails are sent to both the employee and manager.

**Extensions:**

2a) Manager enters incorrect username and password

1. System notifies the manager that the username and password are incorrect.
2. System prompts the manager for the username and password again.
   1. Manager does not remember username/password
      1. Email is sent to the manager with a temporary username/password.
      2. Manager uses temporary login information, and resets password if needed.

3a) Missing fields for information

1. System notifies user that necessary fields are needed in order to register the employee.
2. System highlights fields with missing or incomplete information.
3. System is redirected to the “enter information” page.

3b) Employee with same information is entered twice

1. System identifies two employees with the same email address.
2. System notifies user that the employee could not be added
   1. Note: If existing profile contains a mistake, the manager must edit or delete existing profile separately.

6a) Employee username already exists

1. The system notifies the employee that the username already exists.
2. System then re-prompts user to select a username and password.

6b) Employee password is invalid

1. System notifies employee that the password entered is not valid.
2. System defines parameters for a password. (ie. must be x characters long, and contain y special characters)
3. System re-prompts employee to enter a password.

**Special Requirements**: System must be able to generate employee profile in less than 10 seconds.

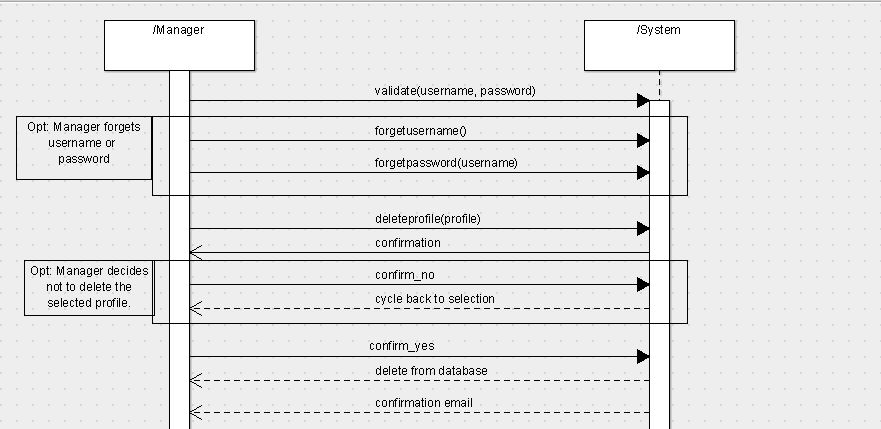
**Technology and Data Variation List:**

2a) Manager must be given special permissions to add, edit, or delete an employee profile.

3a) Employee information is entered via a keyboard (touch or physical).

**Frequency of Occurrence:** On average, a few times a year.

**Sequence Diagram: Process Firing Employee**

****

**Use case 2: Process firing an employee**

**------------------------------------------------------------------------------------------**

**Primary Actor:** Restaurant Manager

**Stakeholders and Interests**: All employees are affected. All employees could potentially be fired, or leave to pursue another career. This is an automated way to keep track of employee records.

**Preconditions:** The manager must be identified and authenticated in order to fire an employee. The employee profile must already exist in order to be edited or removed.

**Success guarantee:** The employee’s profile is deleted from the system.

**Main success scenario:**

1. Manager authenticates username and password.
2. Manager selects option to add, edit, or delete employee profile.
3. Manager selects employee profile to delete.
4. System asks manager for confirmation to delete profile.
5. Manager selects “yes”.
6. Employee profile is deleted from list of current employees.
7. System sends confirmation email to manager.

**Extensions:**

1a) Manager enters incorrect username or password

1. System notifies the manager that the username or password are incorrect.
2. System prompts the manager for the username or password again.
   1. Manager does not remember username/password
      1. Email is sent to the manager with a temporary username/password.
      2. Manager uses temporary login information, and resets password if needed.

5a) Manager chooses not to delete the selected profile

1. Manager clicks “No”
2. System keeps selected profile.
3. System goes back to asking which profile the manager wants to delete.

**Special Requirements**: System must be able to remove employee profile in less than 10 seconds.

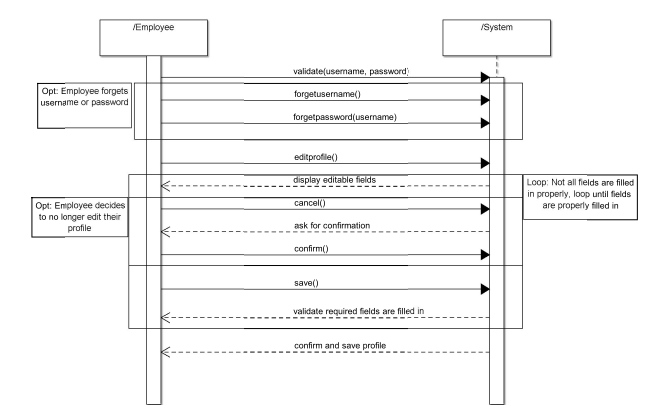
**Technology and Data Variation List:**

1a) Manager must be given special permissions to add, edit, or delete an employee profile.

1b) Manager is using mouse, keyboard, or touchscreen to interact with system.

**Frequency of Occurrence:** On average, a few times a year

**Sequence Diagram: Edit Employee profile**



**Use case 3: Process editing employee profiles**

**------------------------------------------------------------------------------------------**

**Primary Actor:** Employee

**Stakeholders and Interests**: All employees are affected. All employees may need to eventually edit their profile. This is an automated way to keep track of employee records.

**Preconditions:** The employee must have an existing profile.

**Success guarantee:** The employee’s profile is deleted from the system.

**Main success scenario:**

1) Employee authenticates with a username and password.

2) Employee selects option to edit their profile.

3) Employee makes necessary changes.

4) Employee clicks the save option.

5) System ensures employee actually wants to overwrite existing profile

6) Employee confirms

7) System saves new employee profile

**Extensions:**

1a) Employee enters incorrect username and password

a. System re-prompts employee for username and password.

b. The “forgot username” and “forgot password” options will send email in case

employee forgot either username or password

i. employee given option to reset either username or password

4a) Not all required fields for employee profile are valid

a. System displays an error message to employee

b. System highlights fields that are missing, incomplete or invalid

c. Employee is able to re-edit fields, and attempt to save again

5a) Employee does not actually want to overwrite their previous profile.

a. System ignores any changes made before the last save and retains copy of

old profile.

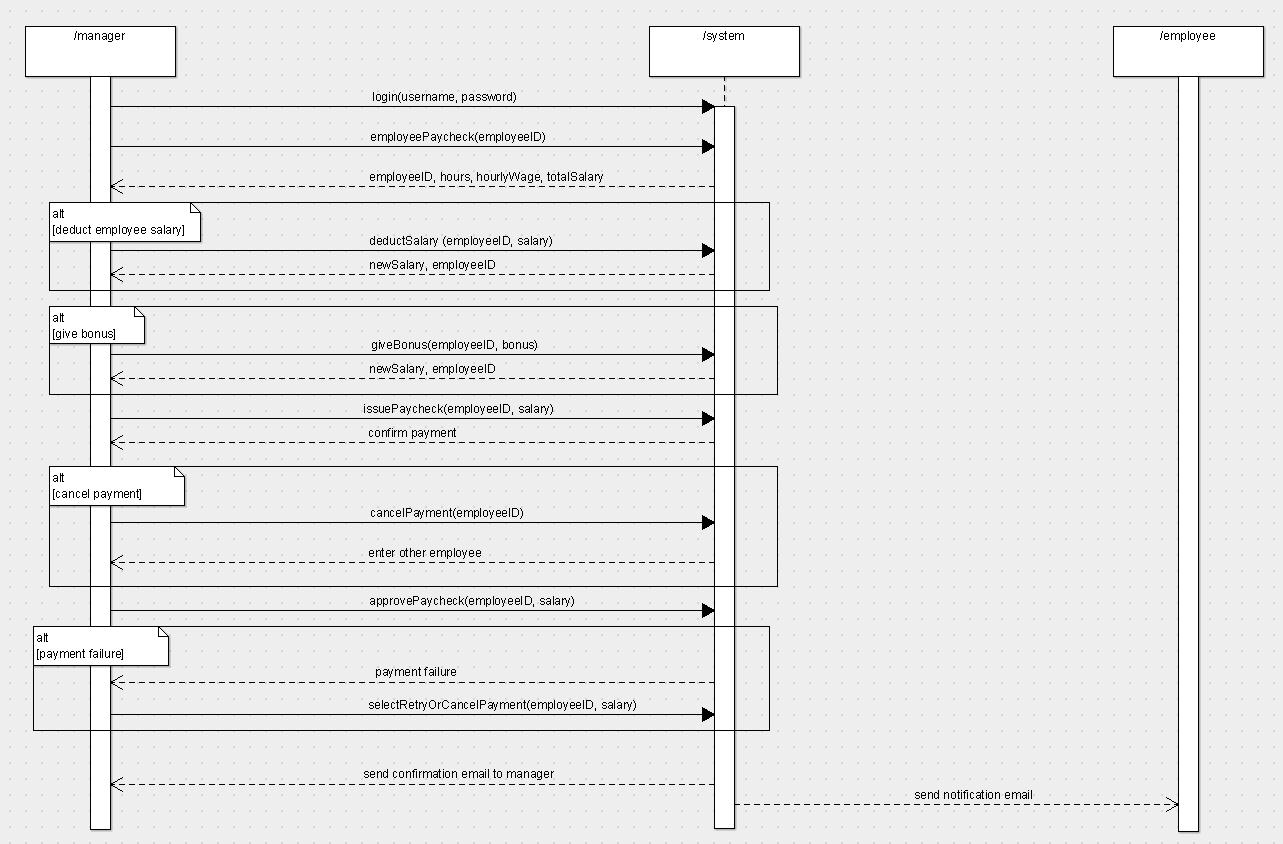
**Special Requirements**: System must be able to process changes in less than 10 seconds.

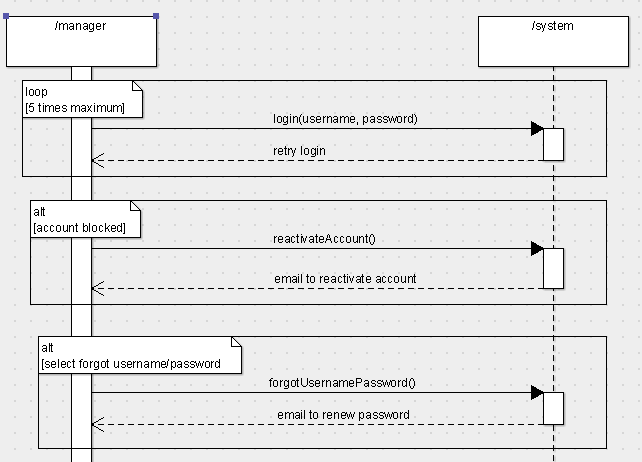
**Technology and Data Variation List:**

1a) Employee using touchscreen, mouse, or keyboard to enter information

**Frequency of Occurrence:** On average, a few times a year

**System Sequence Diagram: Employee paycheck UC 4**

****

**System Sequence Diagram: Alternative Scenario 1 for UC 4**

**Use Case 4: Employee paycheck**

**--------------------------------------------------------------------------------------**

**Primary Actor:** Restaurant Manager

**Stakeholders and Interests:** All employees are affected. Depending on the number of work hours, each employee will receive their monthly paycheck. The bank is also one of the stakeholders.

**Preconditions:** All employees must be registered in the system. Their work hours must be stored in the database. The manager should be authenticated in order to give monthly paychecks.

**Success guarantee:** All employees receive their monthly paycheck.

**Main Success Scenario:**

1.       Manager enters the username and password for successful authentication.

2.       Manager selects the issue employee paycheck option.

3.       The system returns the employee id, employee hours, hourly wage, and total salary.

4.       Manager issues a paycheck for the employee.

5.       System asks the manager for paycheck confirmation.

6.       Manager selects “yes.”

7.       A paycheck is issued on the employee’s name.

8.       A confirmation email is sent to the employee.

9.       A notification email is sent to the employee that his/her paycheck is ready.

**Extensions:**

1.       Manager enters wrong username and password.

                               i.            System alerts the manager with incorrect username or password.

                              ii.            System allows the manager to re-enter username and password.

a.       Manager successfully logs in to the system.

b.      Manager fails to login again.

·       After a certain amount of unsuccessful login (let’s say 5), the manager’s account gets blocked for security purposes.

·       A notification email is sent to the manager regarding the login attempts. A link is provided to reactivate the account and to change the password.

                            iii.            Manager selects the “forgot username or password.”

a.       An email is sent to the manager with a link to reset the password.

2.       Manager chooses to not issue the paycheck.

                               i.            Manager selects no during the issue paycheck confirmation.

                              ii.            System keeps the employee information.

                            iii.            System asks the manager to select the employee for the monthly paycheck.

3.       Manager decides to deduct the employee salary.

                               i.            Manager selects the modify salary option.

                              ii.            Manager enters the amount to be deducted along with reasoning.

                            iii.            Manager issues the paycheck.

                            iv.            System asks the manager for paycheck confirmation.

                              v.            Manager selects yes.

                            vi.            A confirmation email is sent to the manager.

                           vii.            A notification email is sent to the employee regarding the update in the paycheck.

4.       Manager decides to give bonus to the employee.

                               i.            Manager selects the modify salary option.

                              ii.            Manager enters the amount to be added along with reasoning.

                            iii.            Manager issues the paycheck.

                            iv.            System asks the manager for paycheck confirmation.

                              v.            Manager selects yes.

                            vi.            A confirmation email is sent to the manager.

                           vii.            A notification email is sent to the employee regarding the update in the paycheck.

5.       Failure to issue the paycheck.

                               i.            Manager is notified with the failure.

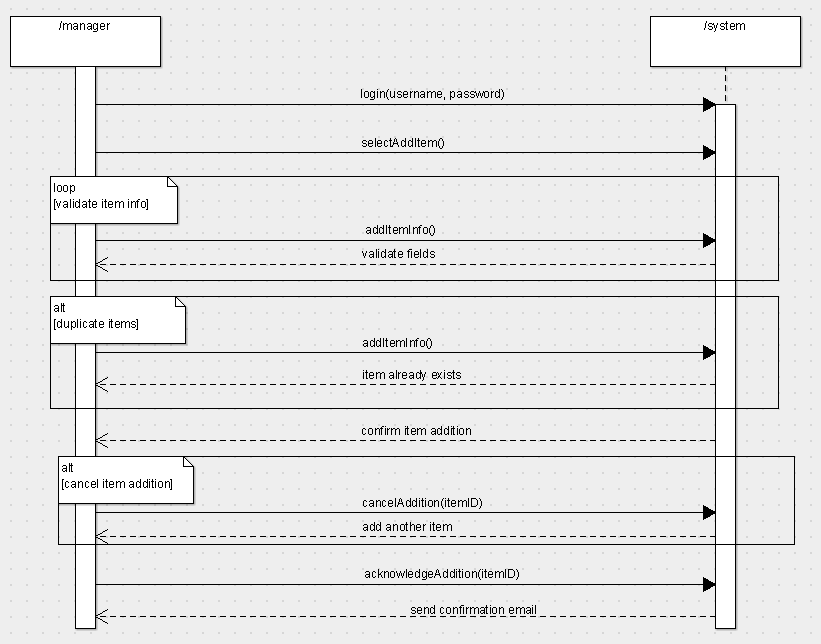
                              ii.            Manager can select the retry payment or cancel the payment.

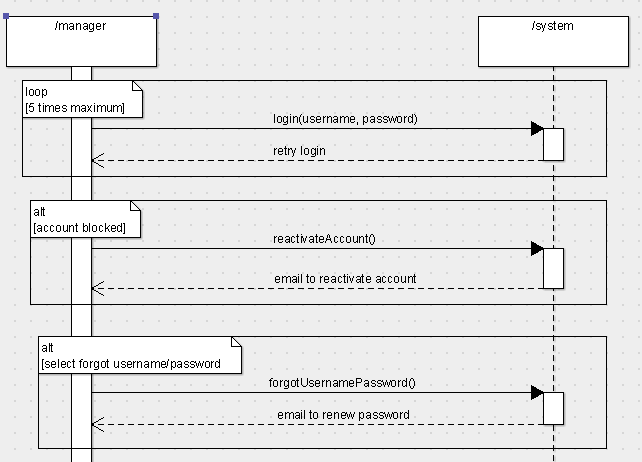
**Special Requirements:** System must issue the paychecks as well as notify the customers within two minutes.

**Technology and Data Variation List:**

1. A database that would store the employee information, hours worked, and total salary.
2. An internet server to issue the paycheck.

**Frequency Occurrence:** Once a month for all the employees.

**System Sequence Diagram: Add inventory UC 5**

**System Sequence Diagram: Alternative Scenario 1 for UC 5  
**

**Use Case 5: Add inventory**

**-------------------------------------------------------------------------------------------------**

**Primary Actor:** Manager

**Stakeholders and Interests:** The cook and the customers are affected.

**Preconditions:** The manager must be authenticated by the system. Each item must have a unique id.

**Success guarantee:** The item is added and the system is updated.

**Main Success Scenario:**

1.       Manager enters the username and password for successful authentication.

2.       Manager selects add new item to the inventory interface.

3.       Manager adds information of the new item.

4.       System validates the fields and checks for duplicates.

5.       On successful validation, the system asks the manager for confirmation to add the inventory.

6.       Manager selects yes.

7.       System adds the item to the database.

8.       System sends an email to the manager regarding the inventory addition.

**Extensions:**

1.       Manager enters wrong username and password.

                              i.            System alerts the manager with incorrect username or password.

                              ii.            System allows the manager to re-enter username and password.

a.       Manager successfully logs in to the system.

b.      Manager fails to login again.

·       After a certain amount of unsuccessful login (let’s say 5), the manager’s account gets blocked for security purposes.

·       A notification email is sent to the manager regarding the login attempts. A link is provided to reactivate the account and to change the password.

                            iii.            Manager selects the “forgot username or password.”

a.       An email is sent to the manager with a link to reset the password.

2.       Manager chooses to not add the inventory.

                               i.            Manager selects no during the confirmation of adding the inventory.

                              ii.            System asks the manager to add another inventory.

3.    The item already exists in the database

       i.       System notifies the manager regarding the duplication of item.

      ii.       System asks the manager to enter a new unique inventory.

4.    Validation error

       i.      System notifies the manager of any validation errors, such as missing fields.

      ii.      Manager reenters the information.

     iii.      System validates the information.

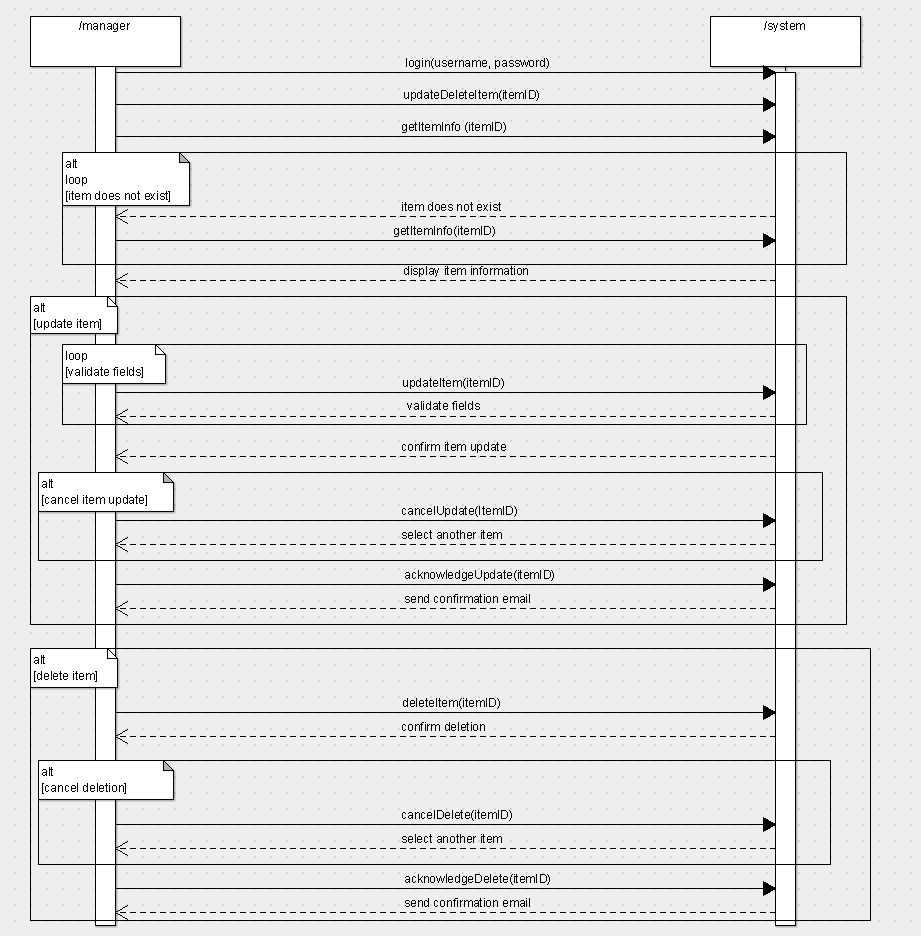
**Special Requirements:** The system must add the inventory to the database within five seconds.

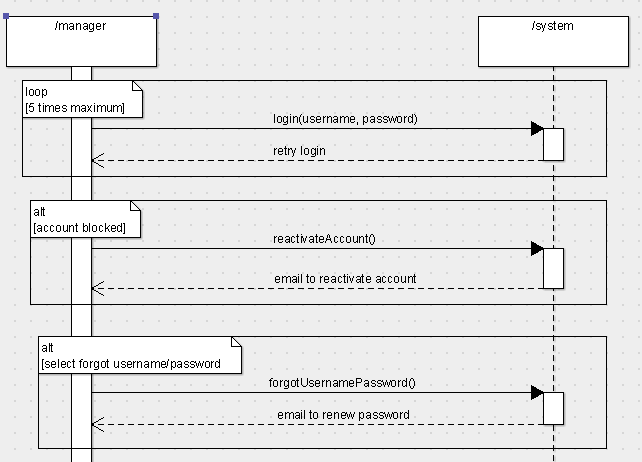
**Technology and Data Variation List:**

1.       A database to store all the item information.

2.       The manager will use a PC, laptop, tablet, or smartphone to add the inventory.

**Frequency Occurrence:** Few times in a month.

**System Sequence Diagram: Update or delete inventory UC 6**

**System Sequence Diagram: Alternative Scenario 1 for UC 6  
**

**Use Case 6: Update or delete inventory**

**-------------------------------------------------------------------------------------------------**

**Primary Actor:** Manager

**Stakeholders and Interests:** The cook and the customers are affected.

**Preconditions:** The manager must be authenticated by the system. Each item must have a unique id.

**Success guarantee:** The item is updated or removed from the system.

**Main Success Scenario:**

1.       Manager enters the username and password for successful authentication.

2.       Manager selects update or delete item from the inventory interface.

3.       Manager updates the information of the an item or selects an item for deletion.

4.       In the case of updating an item, the system validates all the fields.

5.       The system asks the manager for confirmation to update or delete an item from the inventory.

6.       Manager selects yes.

7.       System adds the item to the database.

8.       System sends an email to the manager regarding the inventory addition.

**Extensions:**

1.       Manager enters wrong username and password.

                              i.            System alerts the manager with incorrect username or password.

                              ii.            System allows the manager to re-enter username and password.

a.       Manager successfully logs in to the system.

b.      Manager fails to login again.

·       After a certain amount of unsuccessful login (let’s say 5), the manager’s account gets blocked for security purposes.

·       A notification email is sent to the manager regarding the login attempts. A link is provided to reactivate the account and to change the password.

                            iii.            Manager selects the “forgot username or password.”

a.       An email is sent to the manager with a link to reset the password.

2.       Manager chooses to not update or delete an item from the inventory.

                               i.            Manager selects no during the confirmation of adding the inventory.

                              ii.            System restores the original information of that item to the database.

3.    The item does not exist in the database

       i.       System notifies the manager that the item does not exist.

      ii.       System asks the manager to try again.

4.    Validation error during update

       i.      System notifies the manager of any validation errors, such as missing fields.

      ii.      Manager reenters the information.

     iii.      System validates the information.

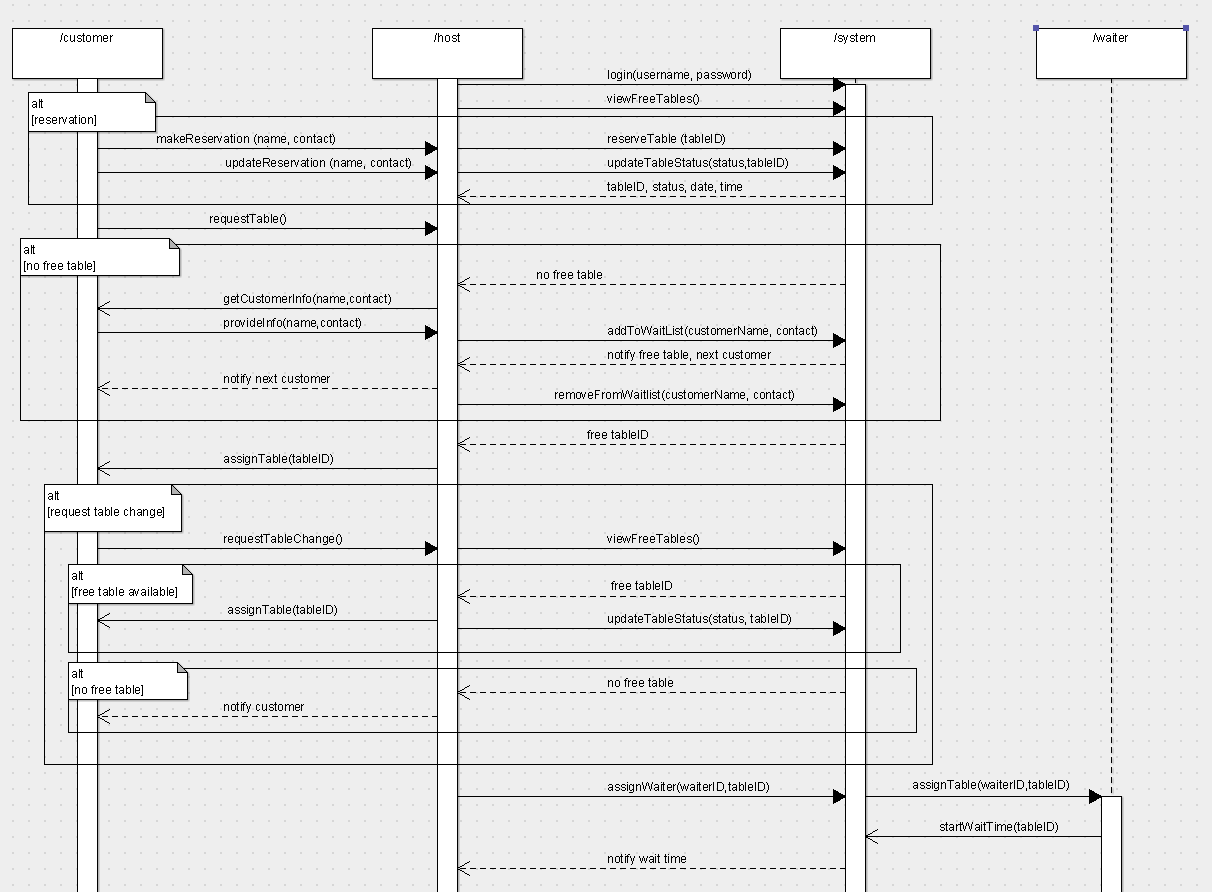
**Special Requirements:** The system must update or delete the inventory in the database within five seconds.

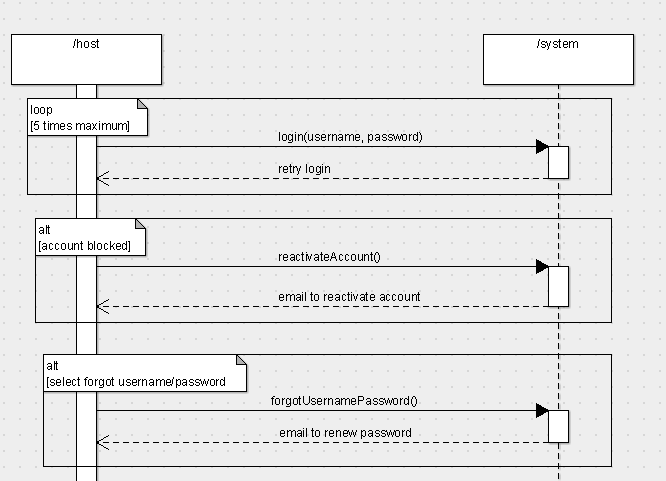
**Technology and Data Variation List:**

1.       A database to store all the item information.

2.       The manager will use a PC, laptop, tablet, or smartphone to update or delete the inventory.

**Frequency Occurrence:** Few times in a month.

**System Sequence Diagram: Customer Seating UC 7**

**System Sequence Diagram: Alternative Scenario 1 for UC 7**

**Use Case 7: Customer Seating**

**----------------------------------------------------------------------------------------**

**Primary Actor:** Host

**Stakeholders and Interests:** The customers and restaurant employees, such as waiters, will be affected.

**Preconditions:** The host is authenticated by the system. There is a customer who hasn’t been seated, and there is a waiter who hasn’t been assigned to that table yet.

**Success guarantee:** Customer is seated and a waiter is assigned to that table.

**Main Success Scenario:**

1.       Host enters the username and password for successful authentication.

2.       Host selects the view table interface, and selects an unoccupied table for the customer.

3.       System asks for confirmation to reserve the table.

4.       Host selects yes.

5.    System changes the table status to occupied.

6.       Host assigns a waiter to the table.

7.      System starts the waiting time of that table.

**Extensions:**

1.       Host enters wrong username and password.

                               i.            System alerts the host with incorrect username or password.

                              ii.            System allows the host to re-enter username and password.

a.       Host successfully logs in to the system.

b.      Host fails to login again.

·       After a certain amount of unsuccessful login (let’s say 5), the host’s account gets blocked for security purposes.

·       A notification email is sent to the host regarding the login attempts. A link is provided to reactivate the account and to change the password.

                            iii.            Host selects the “forgot username or password.”

a.       An email is sent to the host with a link to reset the password.

2.       There are no free tables available.

                               i.            The host takes the customer information and adds them to the waiting list.

                              ii.            When the system changes tables status from occupied to free, the first customer in the     waiting list is notified.

                            iii.            The customer is removed from the waiting list after being seated at that free table.

3.       Customer wants to change the table.

                               i.            Customer requests the host to change the table.

                              ii.            Host checks for free tables.

a.       If there is a free table, the customer can switch their table. The system updates the table status accordingly, and it adds the waiting time from the first table to the second table.

b.      If there are no free tables, the customer continues to be seated at that same table.

4.       Customer wants to reserve the table beforehand.

                   i.            Customer requests a reservation online or by calling the restaurant.

                  ii.            If there is a free table during the customer’s requested date and time period, the system updates the status of that table to be reserved.

                iii.            Once the customer arrives on their reservation date and time, the system updates the table status from reserved to occupied.

                iv.            If the customer cancels the reservation, the system updates the table status from occupied to free.

**Special Requirements:**

       i.            The system must be able to update the table status within ten seconds.

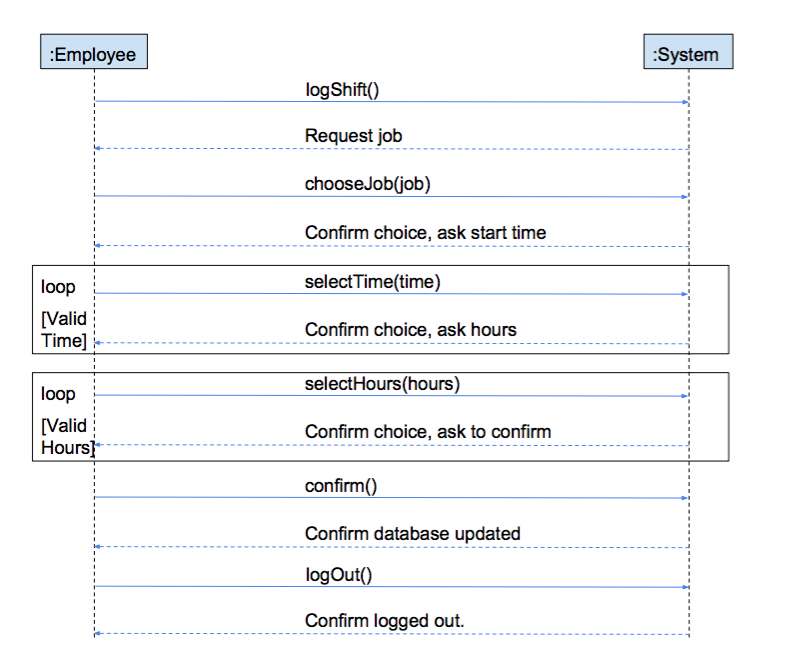
      ii.            The system must notify the assigned waiter if the waiting time on that table has crossed a threshold value.

**Technology and Data Variation List:**

       i.            The host would use a computer, laptop, or tablet to assign tables and waiters.

**Frequency Occurrence:** Multiple times in a day.

**System Sequence Diagram: Alternative Scenario 1 for UC 12**



**Use case 12: Record Employee Shift**

**------------------------------------------------------------------------------------------**

**Primary Actor:** Employee

**Stakeholders and Interests**:  All employees require payment. Managers and restaurant owners are also stakeholders because payroll is an important financial aspect to restaurant management.

**Preconditions:** Employee has an account, and has been authenticated

**Success guarantee:** Time spent working has been successfully recorded

**Main success scenario:**

           1. Employee selects “time sheet entry” option on internal management tablet

           2. Employee selects job

           3. Employee inputs start time

           4. Employee inputs number of hours worked

           5. Employee saves time sheet entry

           6. System records time sheet entry

           7. Employee logs out.

**Extensions:**

3a) Employee enters an invalid start time

                       a. System notifies the employee of invalid entry

                       b. Employee is brought back to edit page

                       c. Employee asked to enter a valid time

           4a) Employee enters an invalid number of hours worked

                       a. System notifies the employee of invalid entry

                       b. Employee is brought back to edit page

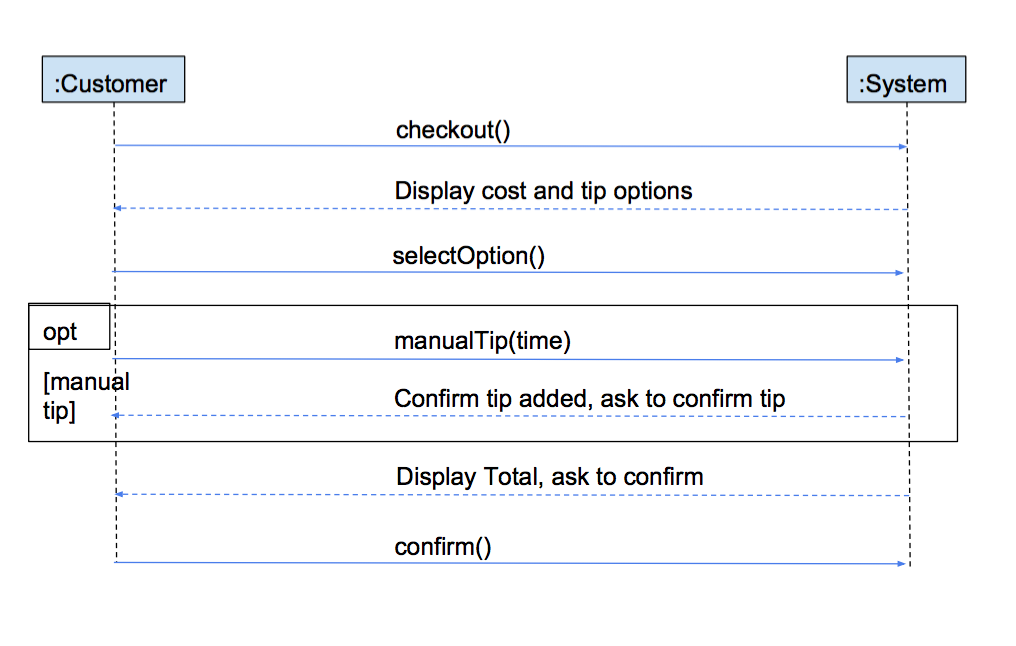
                       c. Employee asked to enter a valid number of hours

**Special Requirements**: Entry must be recorded in less than 10 seconds.

**Technology and Data Variation List:** All data is entered via touchscreen on a tablet

**Frequency of Occurrence:** Every time an employee works a shift

**System Sequence Diagram: Alternative Scenario 1 for UC 13**



**Use case 13: Calculate customer tip**

**------------------------------------------------------------------------------------------**

**Primary Actor:** Customer

**Stakeholders and Interests**:  Employees who could benefit from a more generous suggested tip.

**Preconditions:** Customer is paying for meal.

**Success guarantee:** The tip has been successfully added to order total.

**Main success scenario:**

           1. Default tip of 15% is calculated based on order total

           2. Tip is added to order total

           3. Customer reviews order total, and confirms the correct total

**Extensions:**

3a) Customer chooses to adjust tip amount.

                       a. Customer can select option to adjust tip

                       b. Customer enters tip amount in dollars

                       c. New tip amount is added to order

**Special Requirements**: None.

**Technology and Data Variation List:** Customer views amount on a tablet and adjusts tip amount via a touchscreen.

**Frequency of Occurrence:** Every time a customer orders

**System Sequence Diagram: Alternative Scenario 1 for UC 14**



**Use case 14: Show Menu Items**

**------------------------------------------------------------------------------------------**

**Primary Actor:** Customer

**Stakeholders and Interests**:  Managers and employees because they want an accurate portrayal of what is on the menu. Customers also want a graphic display of different options in order to make a more informed decision.

**Preconditions:** Customer is signed in (potentially as a guest).

**Success guarantee:** The customer is able to view menu items

**Main success scenario:**

           1. The customer clicks through different tabs

                       a. Representative of different menu sections

           2. Customer is able to tap menu item

           3. Information about menu item appears

                       a. ingredients, health information, gluten-free available, house special, etc.

           4. Option to order item also appears

**Extensions:**

3a) Customer wants to go back to main menu

                       a. A back button will bring customers back to previous location

**Special Requirements**: Text must be large enough to view from 1ft away. Pictures require a resolution of 3.1 mega pixels. Touch response time and loading time combined must be less than 1 second.

**Technology and Data Variation List:** All user input through touchscreen.

**Frequency of Occurrence:** Every time a customer wants to view the menu