Specifications:

- User will need to log in with username and password to use application
    - Two types of accounts: Customer and Employee
    - As a customer if you do not have an account, you can create a Customer account but not an Employee account
- What does a Customer have?
    - Username and password
    - Name
    - Auto-generated unique ID
- What can a Customer do?
    - Create a reservation - They can choose date to start stay and how many days they plan to stay, then the price can be generated by our program
        - Program needs to check if any space is available in the hotel for date to start stay and throughout the entire stay
    - Read their reservations – see the details of their reservations
    - Update their reservations – Change the date to start stay and how many days they plan to stay, then the price is recalculated
    - Cancel their reservations
- What does an Employee have?
    - Username and password
    - Name
    - Auto-generated unique ID
- What can an Employee do?
    - Create another Employee account
    - Delete an Employee account
    - With a Customer ID, they can do everything a Customer can for that specific customer
        - For example, create a reservation for a specific customer
    - Change the pricing calculation
        - For example, increase the initial price or increase the price rate of each day spent at hotel from $50/day to $75/day
- What can both Customers and Employees do?
    - See a list of all reservations
    - Possible idea: calendar view of reservations (investigate if possible in Swing)

Possible Use Cases

Customer Books a Room

1. Customer tries to log in with username / ID number and password
2. Program shows options: Book, View, Update
3. Customer selects ‘Book room’ option
4. Program prompts user to enter dates between which they are looking for a reservation
5. User enters two dates
6. Program shows all the rooms available in the given days along with prices
7. User selects the reservation which they wish to make
8. Program saves the reservation and it’s data under Customer’s name and updates the room as ‘reserved’ rather than ‘available’

Variation 1

1.1 Customer does not have an account set up yet, program says account not valid

1.2 Customer selects create new account option and logs in with new account

Variation 2

6.1 There are no available rooms on the dates

6.2 program gives the user an option to re-enter dates, or cancel

6.3 re-enter dates button returns user to #4

6.4 cancel button returns user to #2

Customer Views Their Reservations

1. Customer tries to log in with username / ID number and password
2. Program shows options: Book, View, Update
3. Customer selects ‘View Reservations’
4. Program displays all the reservations that are stored under the users name along with other data such as price, location, room # etc
5. Program displays two options: to return or to cancel reservation
6. Customer is returned to #2

Variation 1

5.1 Customer selects cancel

5.2 The reservation is removed from being under the Customer's name

5.3 The rooms for those dates (which were cancelled) are changed from ‘reserved’ to ‘available’

Employee Creates new Account

1. Employee tries to log in with username / ID number and password
2. Program shows options: Find customer account, Create new account, delete account, view reservations
3. Employee selects ‘create new account’
4. Program prompts employee to enter employee information
5. Program creates new account and displays a “completed” verification

Variation 1

1.1 Employee does not have an account set up yet, program says account not valid

1.2 Employee selects create new account option and logs in with new account

Variation 2

3.1 Customer selects delete account

3.2 The system prompts the input of account holder information

3.3 The Employee selects and confirms for account to be deleted

3.4 The program deletes the account from system

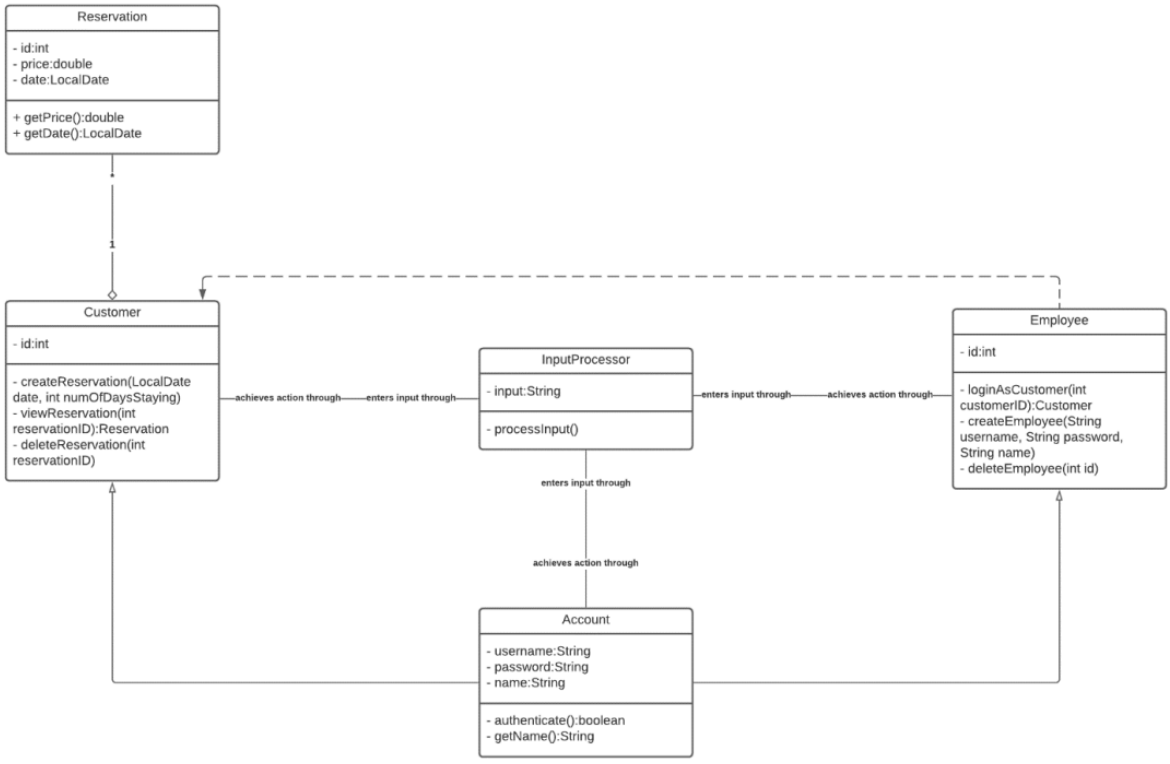
Employee Modifies Customer Information

1. Employee tries to log in with username / ID number and password
2. Program shows options: Customer account, Create new account, delete account, view reservations
3. Employee selects 'Customer account'
4. Program prompts user to enter customer ID number
5. User enters number
6. Program displays Customer information: Book, View, Update
7. Employee can proceed as a customer would with any of the above options (see Customer Use Cases)

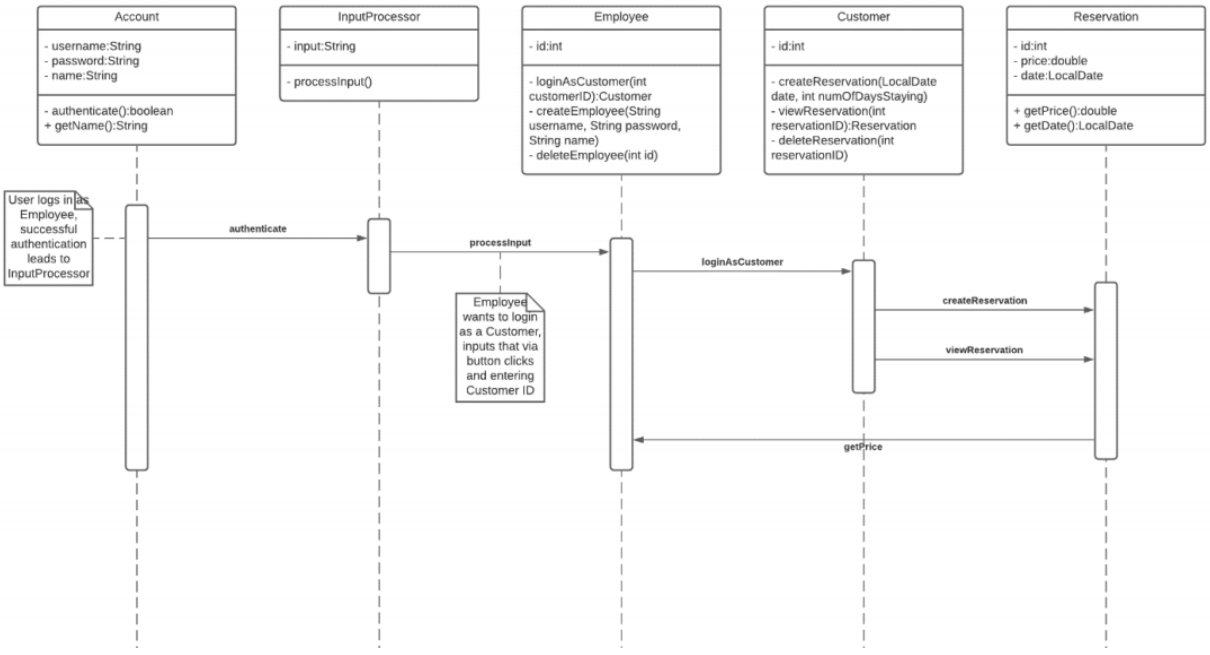
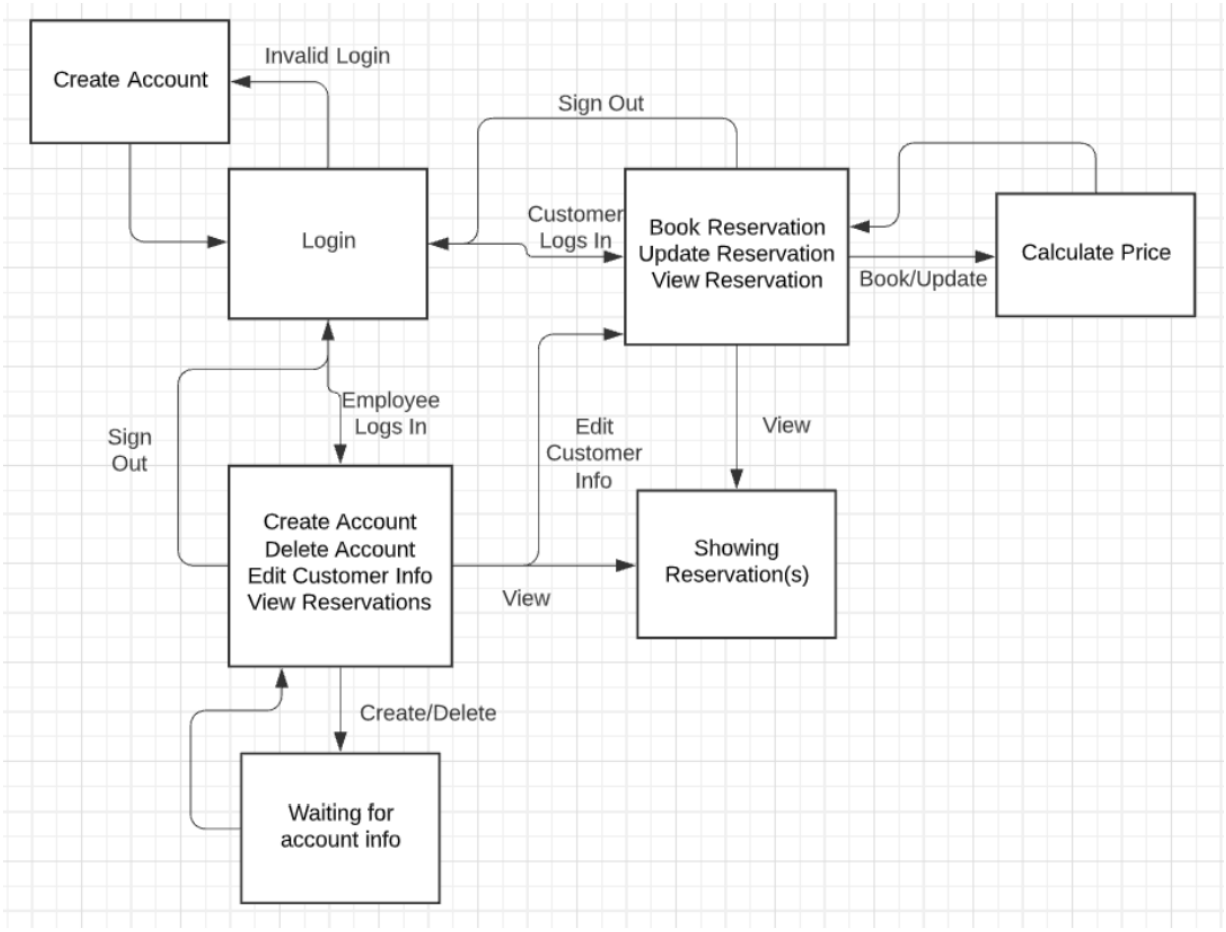
* If Employee selects 'view reservations'

- Program displays options : Show by date, Show reserved, show available
- User can input dates and/or one of the other two options
- Program will list reservations (and its data) based on the inputted information
- Program has a cancel button
- User selects cancel when done
- Program returns to display page

UML Class Diagram



UML Sequence Diagram



UML State Diagram