HO CHI MINH UNIVERSITY OF TECHNOLOGY

FACULTY OF COMPUTER SCIENCE AND ENGINEERING

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SOFTWARE ENGINEERING

REPORT FOR ASSIGNMENT

192

Implemented by:

Triệu Minh Sang – 1852717

Lý Giới An – 1852123

Mai Huỳnh Tuấn Kiệt – 1811018

Hoàng Phương Nam - 1852595

Lecturer: Lê Lam Sơn

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APPENDICES

IRestaurant

PART 1: USE-CASE DIAGRAM FOR IRESTAURANT

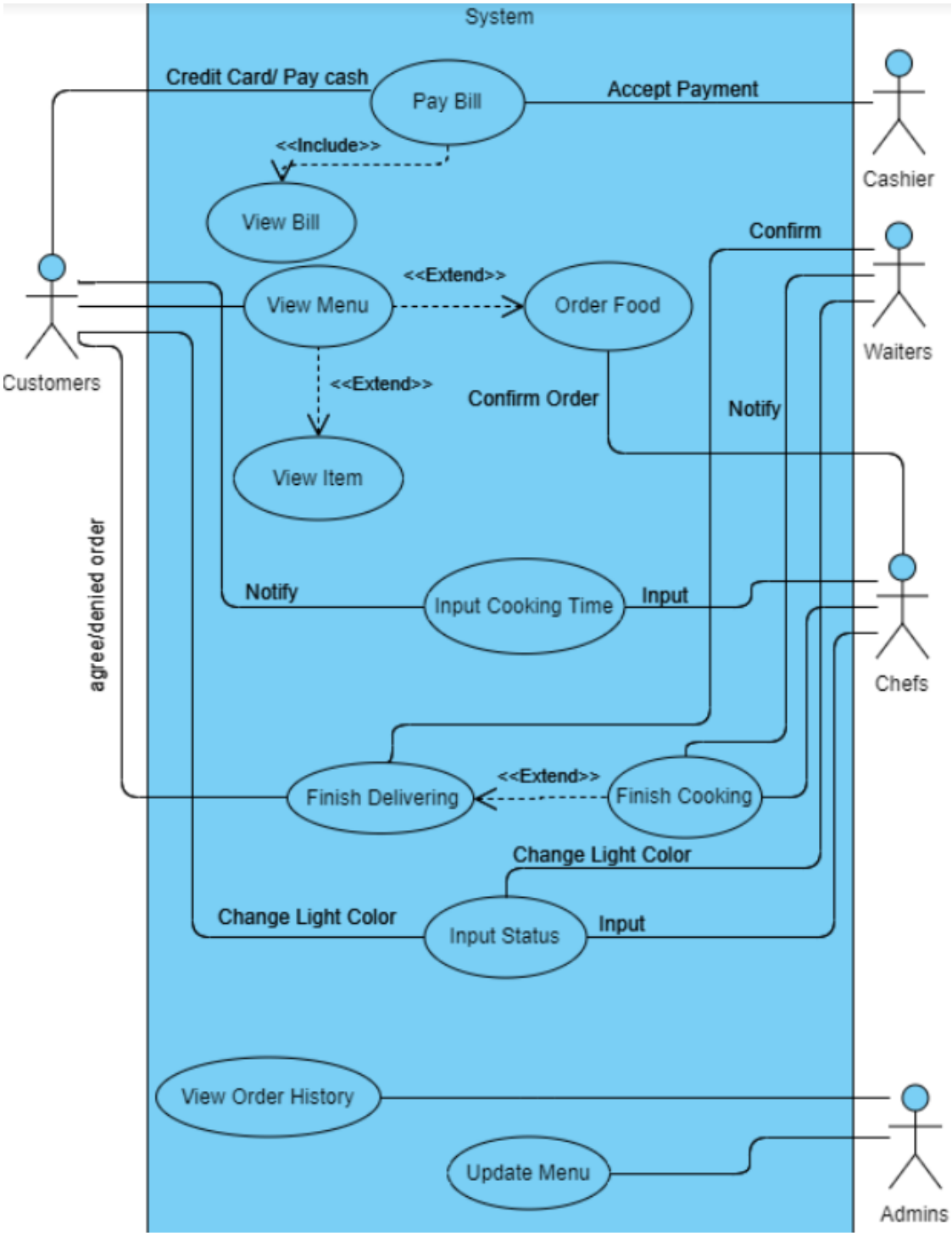

Figure 1: Use-case Diagram For IRestaurant

PART 2: USE-CASE TABULAR

Table 1: View-Menu Use-case Tabular

Use-case name	**View Menu**
Actor	Customers
Description	Customers must access to the menu page on their wearable devices.
Precondition	Customers access to menu by clicking on the Menu button at the Home page on their wearable devices.
Normal Flow	1. Customers click Menu button on their wearable devices to access to the menu page. 2. The list of all items (food and drink) is displayed on the screens of devices. 3. Customers click on a particular item to view its information (name, description, components, price, calories…). 4. Customer click on Back button in order to turn to Home page.
Alternative Flow	Alternative 1: At step 3 3a. Customers can click on the Choose button next to the item information to add it to Order list.
Exception	Exception 1: At step 1: 1a. If Customers cannot access to the Menu page, they can ask Waiters to get a hard copy of Menu.
Note and issues	

Table 2: View Item Use-case Tabular

Use-case name	**View Item**
Actor	Customers
Description	Customers must access to the menu page on their wearable devices.
Precondition	Customers access to Menu page on their wearable devices.

Normal Flow	1. Customers click Menu button on their wearable devices to access to the Menu page. 2. At the Menu page, Customers click on a particular item they want to view the information. 3. The screen displays from that item the detail information which include name, description, components, price, calories… 4. Customer click on Back button in order to turn to Home page.
Alternative Flow	Alternative 1: At step 3 3a. Customer can click the item again to close the detail information.
Exception	
Note and issues	

Table 3: Order Food Use-case Tabular

Use-case name	**Order Food**
Actor	Customers
Description	Customers must access to the menu page on their wearable devices.
Precondition	Customers need to access to Menu page.
Normal Flow	1. Customers click Menu button on their wearable devices to access to the Menu page. 2. At the Menu page, Customers click on a particular item to view its information (name, description, components, price, calories…). 3. Customers click on the Tick button next to the item information to add it to Order list. 4. After choosing all items needed, Customers click on Done button in order to turn to Order page. 5. Customers check the order and click on Confirm button to send a new order to the chefs. 6. Customer wait for the chef's confirmation. 7. When a chef confirm, system notifies that the order is accepted and returns to the Home page.

Alternative Flow	Alternative 1: At step 3 3a. If Customers do not want to choose the item which has been chosen, they can click again on the Tick button to cancel choosing. Alternative 2: At step 5 5a. If Customers want to modify the list, they can click on Back button to return to the Menu page and return to step 3 to change their options. Alternative 3: At step 7 7a. When a chef has confirmed, and Customers want to modify order, they can go to the Menu page and change their list by starting from step 2.
Exception	Exception 1: At step 6: 6a. While waiting the confirmation form a chef, if Customers want to modify the order, they can click on Cancel button on the screen and return to step 3 to change their list. Exception 2: At step 7: 7a. The chef confirms that the order cannot be accepted because of a specific reason (i.e, lack of material). 7b. Customer receive the notification. 7c. Customer can remove that item or choose another one for replacement.
Note and issues	

Table 4: View Bill Use-case Tabular

Use-case name	**View Bill**
Actor	Customers of that current Bills, cashiers
Description	The customers can view their order bill directly on their wearable device or on the cashier's devices who may stay at the entrance (receptionist) or moving around the restaurant.
Precondition	The customer's order needs to be finished and be confirmed by the chefs then the Bill option will appear on the customer's wearable devices. The customer needs to be at the bill page which appear after pressing the bill icon on the device.
Normal Flow	1. Customer selects "Bill" on the wearable device. 2. System present a page with particular prices for the order including number of orders, list of orders, total orders cost, required cooking time, discount, total cost 3. Customer select a particular item in the list of orders 4. System drop down from that item detail information which include number of items, cost of item, size, type of materials, … 5. Customer can click the item again to close the detail information. 6. At the end of the bill page, there will be two button Pay by Credit Card and Pay by Cash
Alternative Flow	Alternative 1: At step 2 2a. The customer selects on the one of the discounts (if exist) 2b. System will drop down from that discount detail information about that event or the reason for discount. Continues step 3 in the normal flow
Exception	Exception 1: At step 2 2a. If there doesn't exist any discount, system present at slot a sentence "None". Exception 2: At step 2 2a. If the cooking time is greater than 20 minutes, the discount will be 50% with the reason "Late delivering".
Note and Issues	Note 1: Before acquiring the bill, the cashiers need to check carefully all information of that bill in case someone input incorrectly.

Table 5: Pay Bill Use-case Tabular

Use-case name	**Pay Bill**
Actor	Customers of that current Bills
Description	The customer can pay their bill by clicking on one of the buttons include Pay by Credit Card and Pay by Cash.
Precondition	The customer needs to be in the bill page which consists 2 buttons Pay by Credit Card and Pay by Cash and the customer need to click one of them.
Normal Flow	1. Customer is in bill page on the wearable device which includes 2 buttons Pay by Credit Card and Pay by Cash. 2. Customer selects Pay by Cash. 3. System inform to the cashier's devices. 4. Customer wait for cashier to come. 5. Customer pays for the bill. 6. Cashier confirm payment. 7. System wearable notifies payment success and return back to home page.
Alternative Flow	Alternative 1: At step 2 2a. Customer selects Pay by Credit Card 2b. System presents to a page consisting type of credit card options 2c. Customer selects one from the option Continues step 3 in the normal flow
Exception	Exception 1: At step 2 2a. If customers cannot afford to pay, they must contact the waiter or cashiers to inform their status and the restaurant will have solution for their situation
Note and Issues	Note 1: It is suggestable to locate 1 cashier at the entrance to check for all customer payment status.

Table 6: Input Cooking Time Use-case Tabular

Use-case name	**Input Cooking Time**
Actor	Chef header

Description	The chef predicts the cooking time and confirm on the computer in the kitchen so as for customers and waiters know.
Precondition	After confirming for a particular order, system presents the page which include one time-selector which requires the chef to input the time for finishing the order.
Normal Flow	1. Chef is in the time-selector page 2. Chef select the appropriate amount of waiting time required for finishing the order 3. If the amount of waiting time is good (< 15 minutes), it will be presented in green color 4. Chef clicks confirm
Alternative Flow	Alternative 1: At step 3 3a. If the amount of waiting time is fine (> 15 minutes && < 20 minutes), it will be presented in yellow color Alternative 2: At step 3 3b. If the amount of waiting time is bad (> 20 minutes), it will be presented in red color Continues step 3 in the normal flow
Exception	Exception 1: At step 4 4a. If the amount of waiting time is bad, when the chef presses the confirm button, system present a confirm model at the middle of the screen with some notice (input by the manager).
Note and Issues	Note 1: The amount of waiting time can affect the bill considerably.

Table 7: Finish Cooking Use-case Tabular

Use-case name	**FinishCooking**
Actor	Chefs of the restaurant
Description	The chefs cook dishes in the customer's order, when that order is done, the chef will confirm with the sever that it is finished, infroming the waiters there is an order ready for delivery.
Precondition	The order must be submitted by the customer and the order has been prepared by the chefs. The chefs must be in that particular order description page to confirm with the sever.
Normal Flow	1. Chef select the order that is finished from the order queue. 2. System show that order description including its state, cooking time, items… 3. Chef select the finish button for that order. 4. Chef select confirm a second time to make sure it is really done. 5. System inform all the waiters about a finished order. 6. System window will go back to the order queue.
Alternative Flow	Alternative 1: At step 3 2a. Chef click back button to select another order. 2b. System window go back to the order queue. Alternative 2: At step 4 4a. Chef select not confirm button if the order is not really finished 4b. System window go back to the order description page
Exception	Exception 1: At step 5 5a. If the order is ruined and cannot be served, the chef must remake the order. 5b. Chef choose that order to reverse its state to cooking.
Note and Issues	Note 1: any chef can choose finish cooking of an order.

Table 8: Finish Delivering Use-case Tabular

Use-case name	**FinishDelivering**
Actor	The waiter carrying that order
Description	The waiter can click the finish delivering button if he has arrived at the destined table and the customer accepts it.
Precondition	The waiter must choose and confirm an order to deliver. That order has not been chosen by any other waiter.
Normal Flow	1. Waiter choose a finished order from the order queue. 2. Waiter click confirm to get that order. 3. Waiter fetch that order and bring it to the corresponding table. 4. Waiter confirm with the customer about the order. 5. Waiter click finish delivery. 6. System window go back to the order queue
Alternative Flow	Alternative 1: At step 5 5a. The customer does not accept the order, the waiter ask for an appropriate reason. 5b. The waiter accept that it is the restaurant's fault. 5c. The waiter clicks remake button to make that order again. Alternative 1: At step 5 5a. The customer does not accept the order, the waiter ask for an appropriate reason. 5b. The waiter does not accept the customer's excuse. Continues step 6 in the normal flow
Exception	Exception 1: At step 1 1a. If more than one waiter selects an order at a same time. The first waiter to click confirm button gets the order, other waiters will get a notification the order no longer available for delivery.
Note and Issues	Note 1: it is required that the waiters choose an order that finished the soonest to keep the customers from waiting for too long.

Table 9: Input Status Use-case Tabular

Use-case name	**Input Status**
Actor	Chefs of the restaurant
Description	The chef changes the status of the orders corresponding to their process in order to keep track of the order queues and inform waiters and customers.
Precondition	Chef must be in an order description page to change its status.
Normal Flow	1. Chef select an order from the order queue. 2. Chef select the status option to change it to the appropriate status. 3. Chef clicks confirm 4. The light of customers' wearable will be changed accordingly.
Alternative Flow	Alternative 1: At step 2 2a. Chef can view the order's description from that order page Continues step 3 in the normal flow Alternative 2: At step 3 2a. The chefs decide that the order has not changed its status after confirming a second time. 2b. Chef click not confirm the cancel update.
Exception	Exception 1: At step 1 2a. If many orders are changed to a same state, the chef can choose batch-selection to update the status of those orders at a same time. Exception 2: At step 2 2a. If a status of an order is not in the available option box (ex: waiting for materials), chefs must tell a waiter to inform the status to the customer of that order
Note and Issues	Note 1: The chefs should update cooking status as soon as something changes so that the waiters and other chefs can cooperate effectively.

Table 10: View Order History Use-case Tabular

Use-case name	**View Order History**
Actor	Administrators
Description	Admins view the statistic of all the orders which are served.
Precondition	Admins need to Log in into the system to let the system verify the role so as to access the Order History.
Normal Flow	1. Admin Log in into the system by smartphone or computer. 2. Admin click on Order History to access to Order History page. 3. Admin choose the time range (i.e, a day, a week, a month…) from Time Range box. 4. The screen displays the List of all Order of the range of time chosen with the overall statistics (total cost, number of bills, …). 5. Admin click on Back button to return to Home page.
Alternative Flow	Alternative 1: At step 4 4a. Admin click on a particular order. 4b. The screen displays the detail of this order including served time, table, list of items, waiter, chef, price…
Exception	Exception 1: At step 1 1a. Admin fail to Log in into system (wrong username or password). 1b. Screen returns to Log in page 1c. Admin log in again
Note and Issues	

Table 11: Update Menu Use-case Tabular

Use-case name	**Update Menu**
Actor	Administrators
Description	Admins modify the list of items (food and drink) in the menu.
Precondition	Admins need to Log in into the system to let the system verify the role so as to access the Update Menu page.
Normal Flow	1. Admin Log in into the system by smartphone or computer. 2. Admin click on Menu button to access to Menu page. 3. Admin click on Update Menu button from Menu page. 4. Admin click on Add Item button. 5. The screen displays the List of blank information of the new item (name, type, description, components, price…). 6. Admin fill the information of the new item. 7. Admin click on Done at the bottom of the Update page. 8. The screen displays the new menu which has been updated. 9. Admin click on Back button to return to Home page.
Alternative Flow	Alternative 1: At step 4 4a. Admin click on Remove Item button. 4b. Screen displays the current menu. 4c. Admin click on the Minus (-) button to remove the item. Alternative 2: At step 4 4a. Admin click on Update Item Information button. 4b. Screen displays the current menu. 4c. Admin click on the item needed to be updated. 4d. The screen displays all the information of that item. 4e. Admin modify some information of that item. 4f. Admin click on the Confirm button to update that item.

Exception	Exception 1: At step 1 1a. Admin fail to Log in into system (wrong username or password). 1b. Screen returns to Log in page 1c. Admin log in again
Note and Issues	

PART 3: ARCHITECTURERAL DESIGN FOR IRESTAURANT

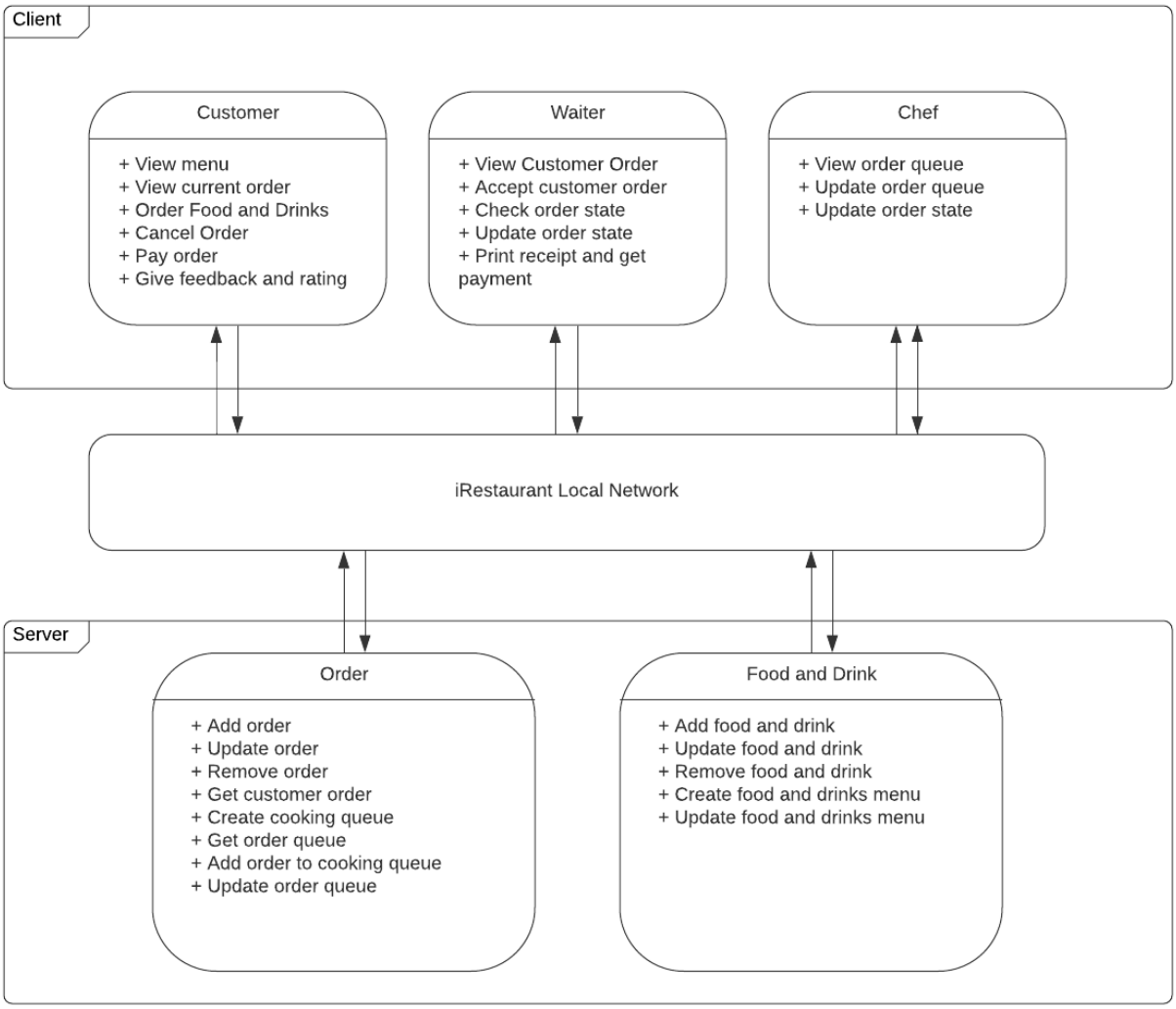

Figure 2: Architectural Design Diagram for IRestaurant

PART 4: STATE CHART DIAGRAM FOR WAITER'S WEARABLE

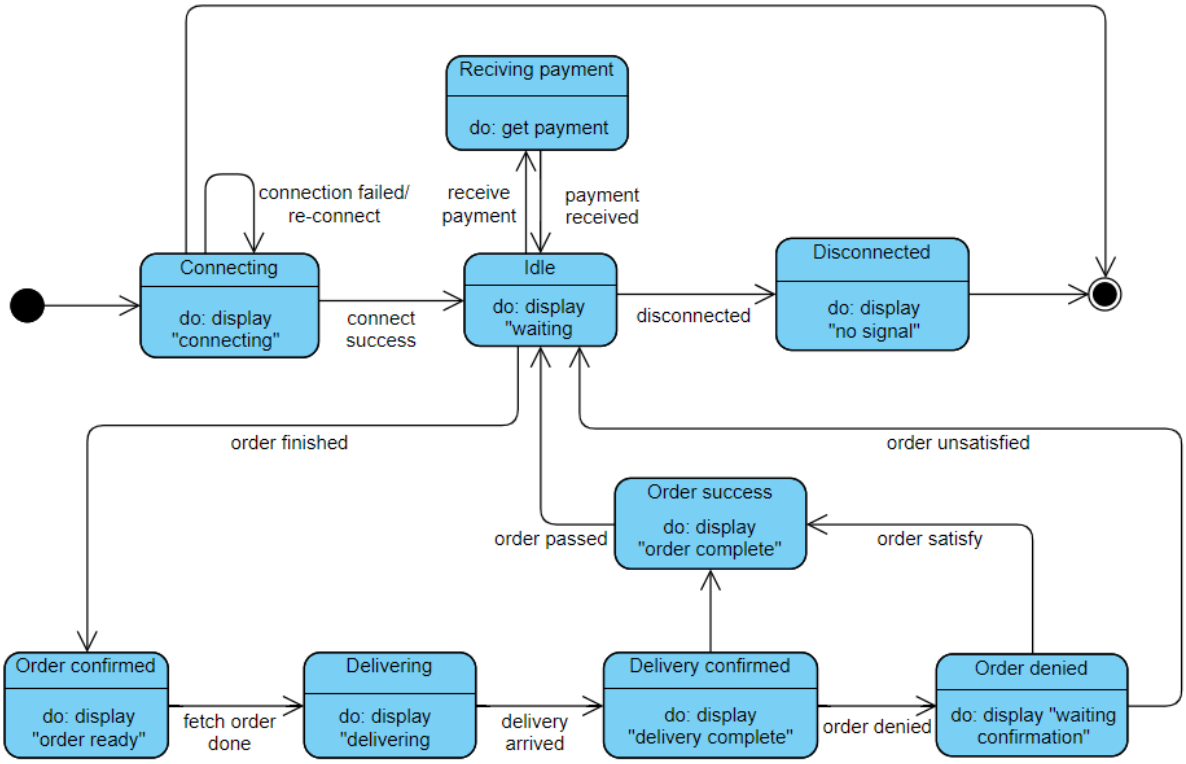

Figure 3: State-Chart Diagram for Waiter's Wearable

PART 5: CLASS DIAGRAM FOR WAITER'S WEARABLE

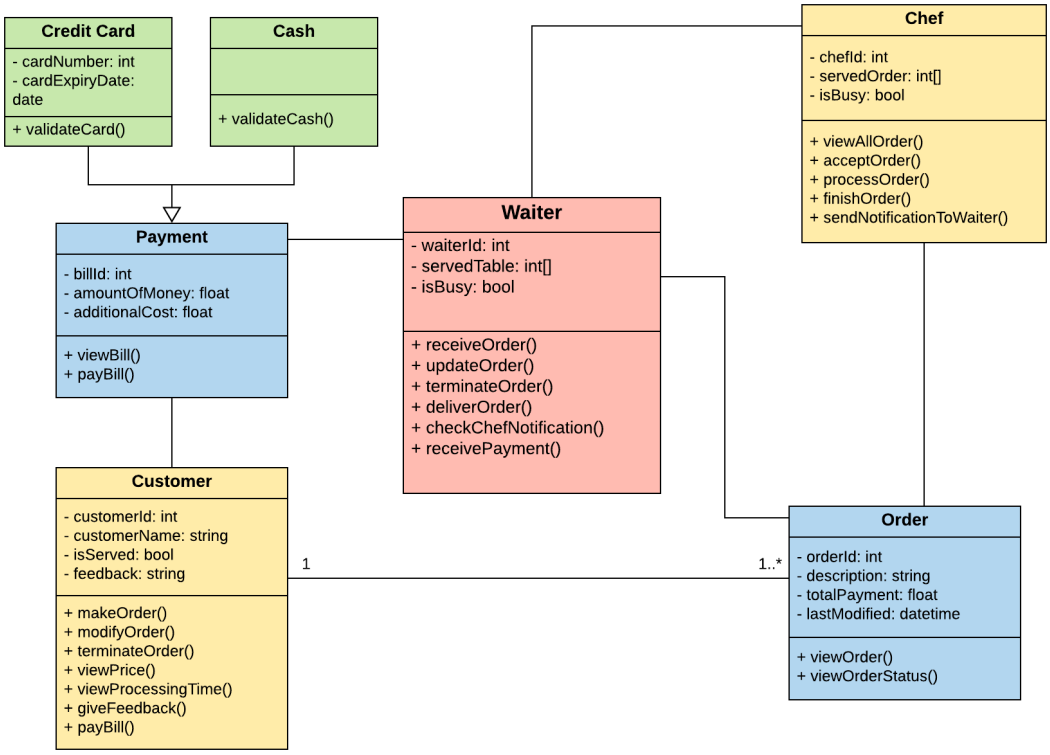

Figure 4: Class Diagram for Waiter's Wearable

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