



Gebze Technical University

CSE 343 Software Engineering, Fall 2022
Assignment 2 - System Modelling

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System:

Martı Lounge is a famous restaurant chain, and the head office of Martı Lounge wants to get an automated order management system in which the branch can digitally update the available menu whose images, ingredients, list, and prices are defined by the head office. The customer of the branch can either give the order using the web page that can be launched via QRCode and track the status of their order or give the order via the waiter. Chefs in the branches can see the orders on the screen placed in kitchen and can update the status of the order using a web panel. Please consider allocation the staff.

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a. General View

Stakeholders of the Automated Order Management System (AOMS) and what stakeholders can do in the AOMS can be listed as follows:

- **Head Office**

Head Office can add/remove branches to/from the AOMS and can edit them. Also Head Office can add predefined menu* which will be default menu for each branch and, can edit the menu of any branch as well as the default menu.

Head Office can add/remove waiter and chefs to/from any branch and can display transaction of branches as well as the total revenue of the company.

*menu includes list of meals/beverages that each has image, ingredients, price, and category.

- **Branch Manager**

Branch Manager, can update the menu provided by the Head Office, can add/update/remove a product.

He/She can view the account of any table and close any account from the *tables panel* (cash, debit card, online).

Branch Manager can add/remove a waiter, cashier and a chef to the branch and can display transaction of the branch. Also, he/she is the only authorized user to cancel an order.

- **Chef**

Chef in the AOMS, can display the order queue in the *chef panel* and can change the status of the any order to inform the Waiters in his/her branch.

- **Waiter**

Waiter in the AOMS can take the order from the costumer and add it as a new order to inform 'kitchen.'

- **Costumer**

Costumer can give order by Waiter or via AOMS by scanning the QRCode of AOMS on the table. (Each table has a unique QRCode)

The customer can pay his/her account online payment system as well as paying at the cashier.

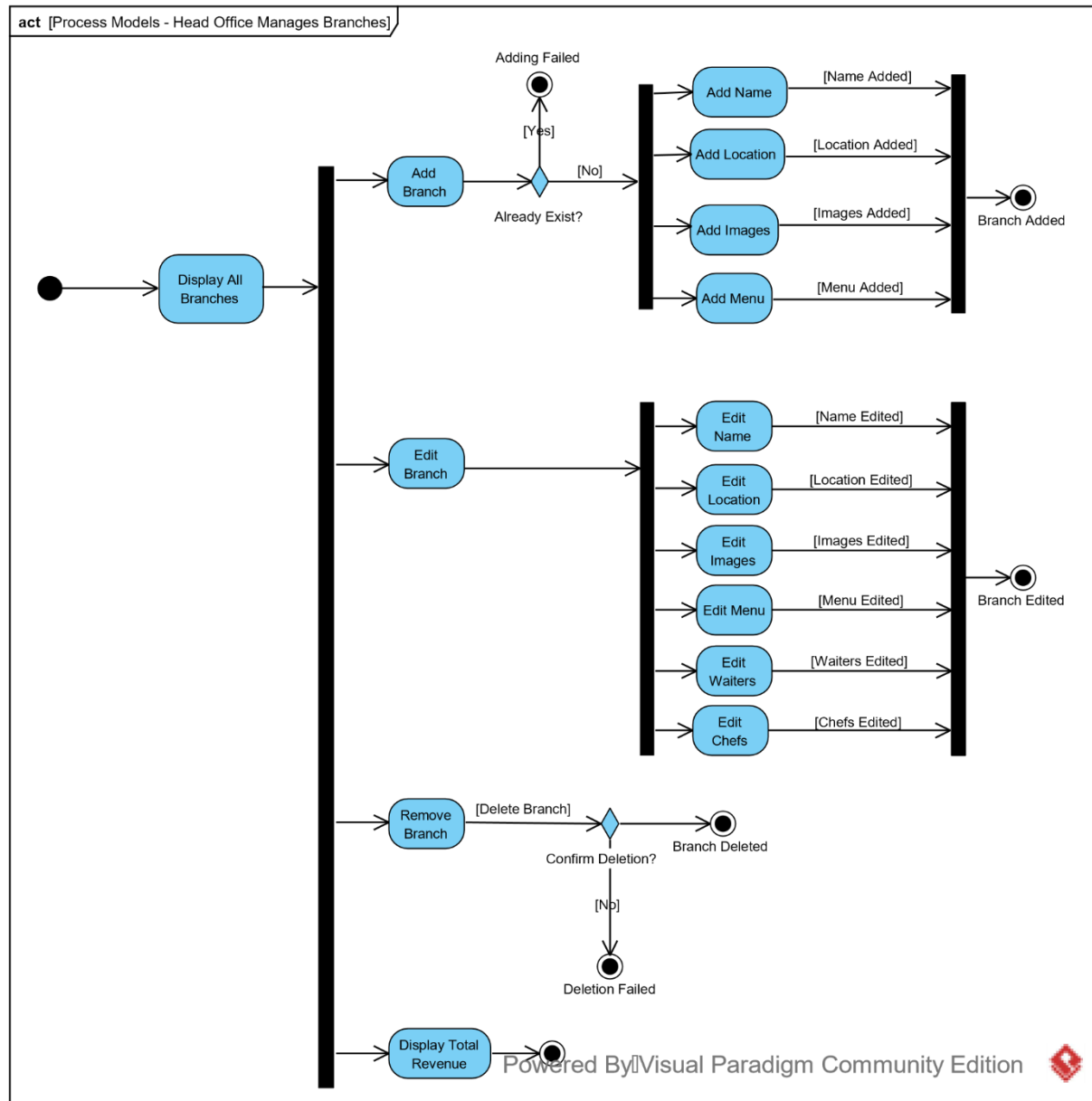
- **Cashier**

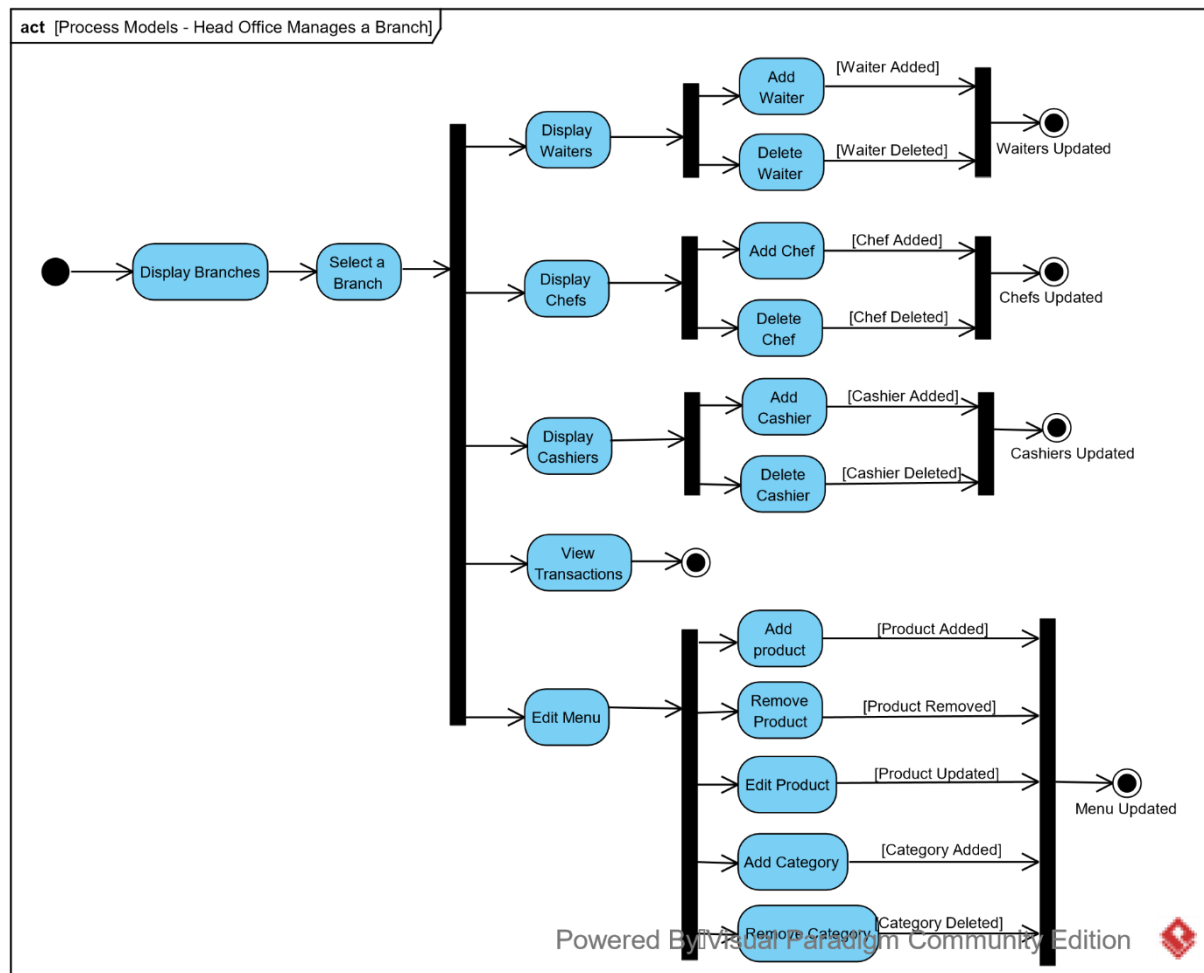
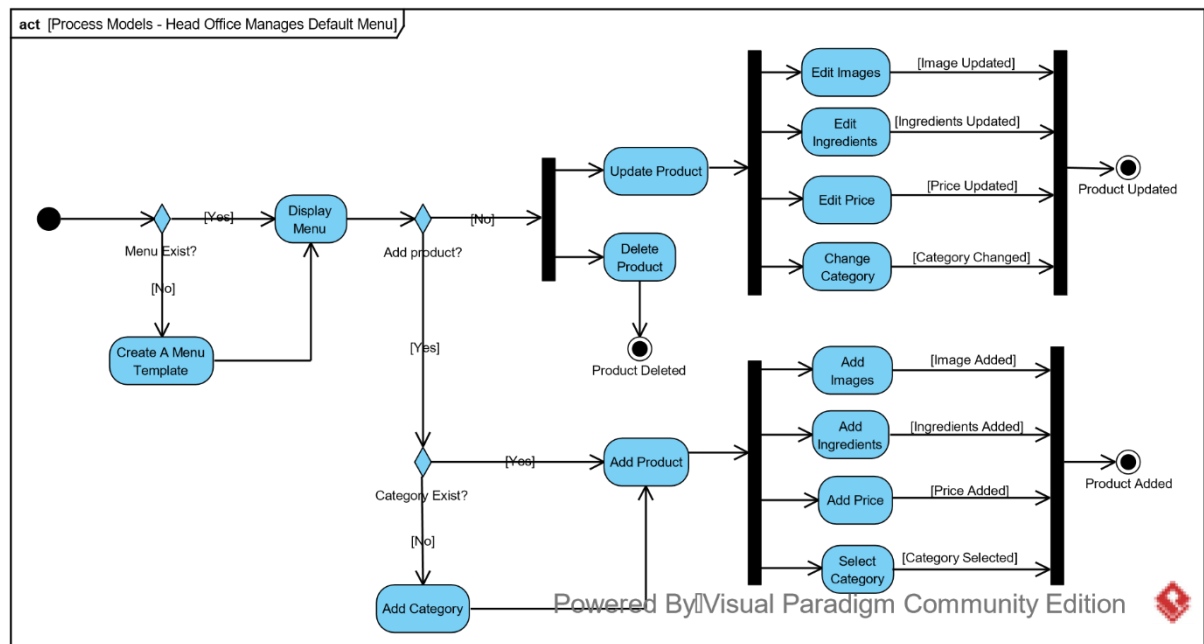
Cashier in AOMS, can take the payment from the customer and close it as 'cash or credit card' or close the account of the customers who have paid online 'online' in the *tables panel*.

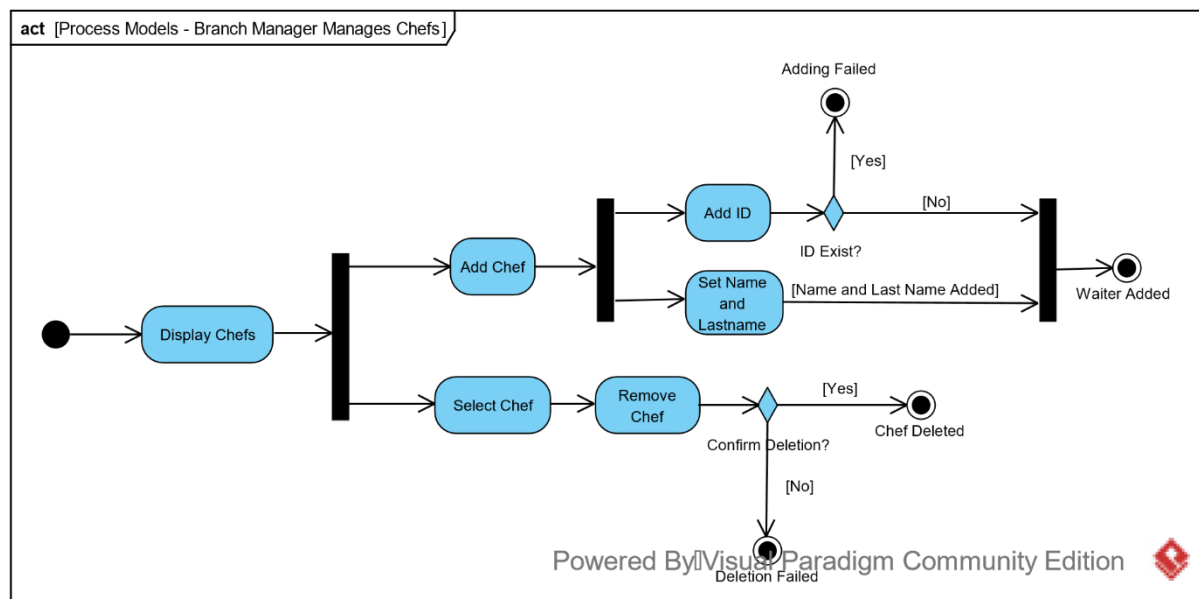
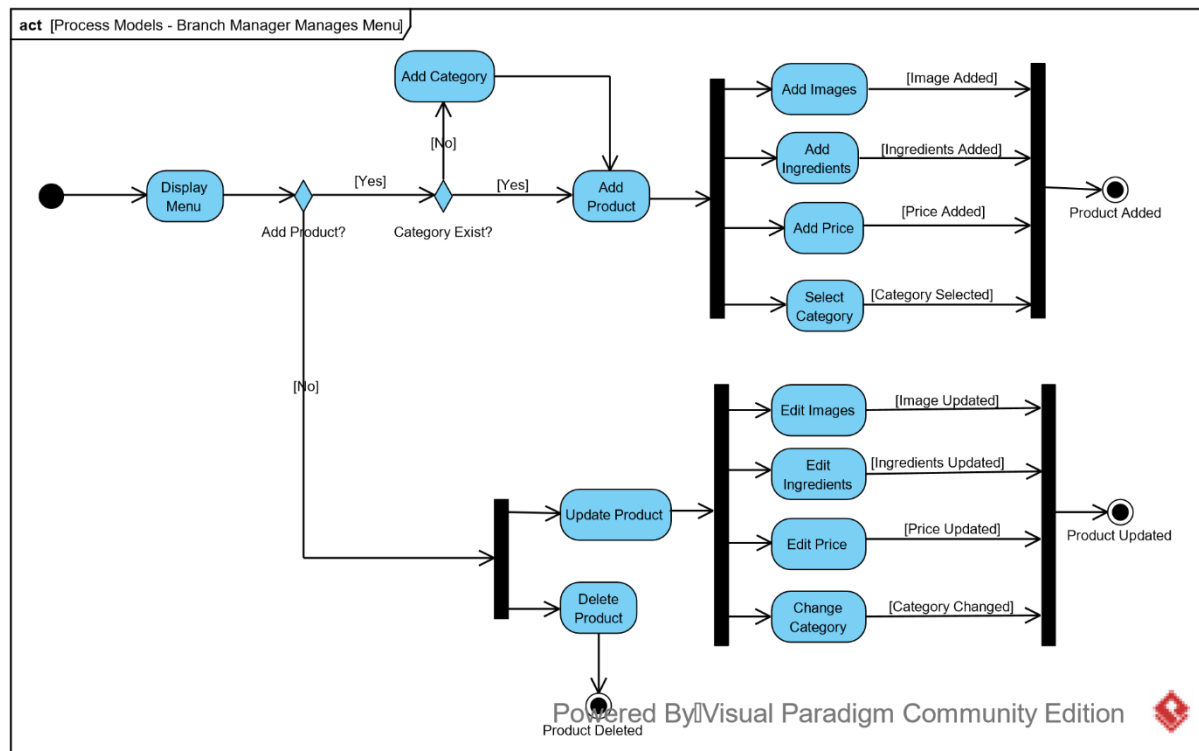
- **Payment System**

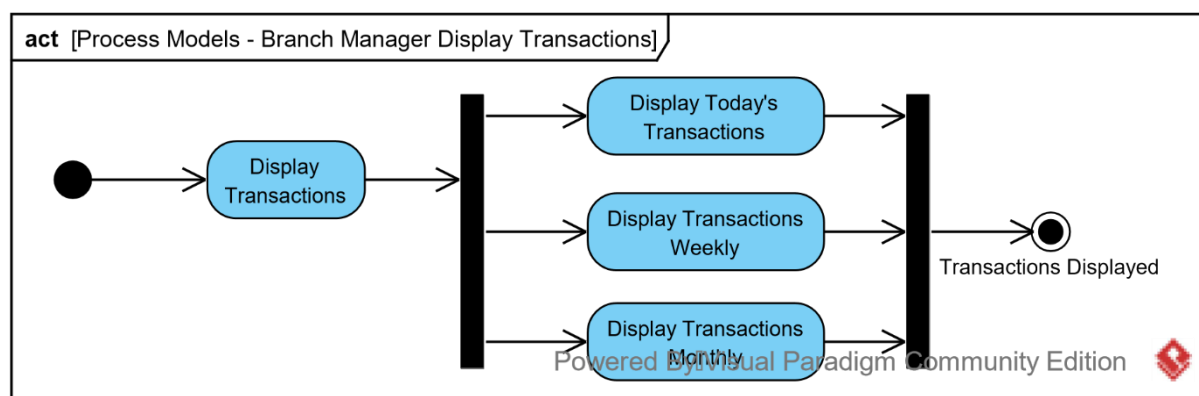
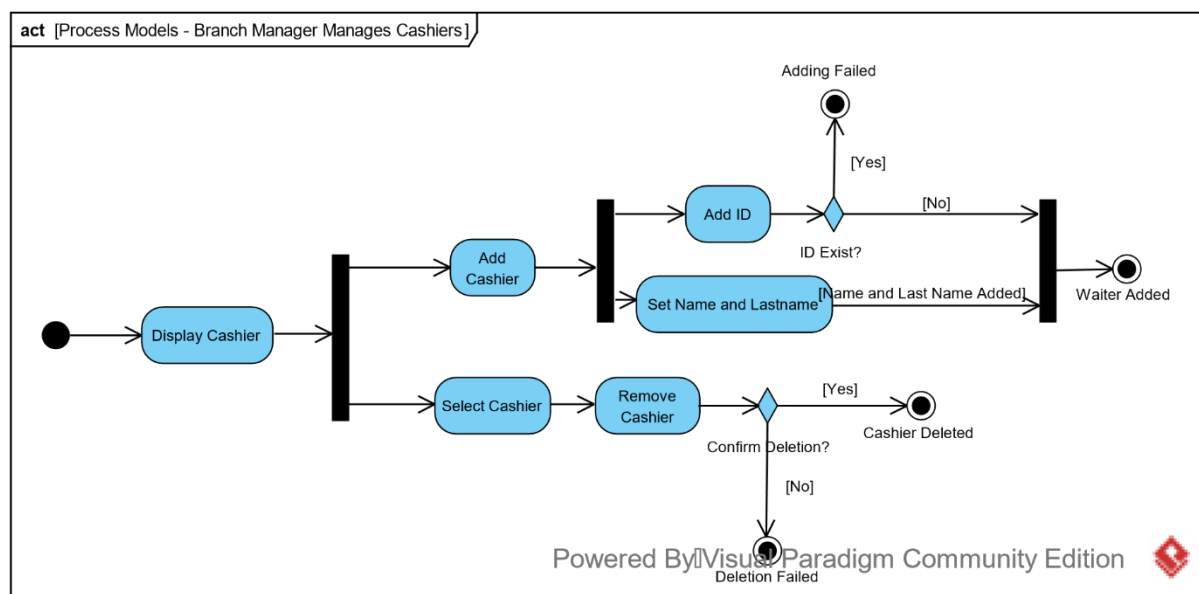
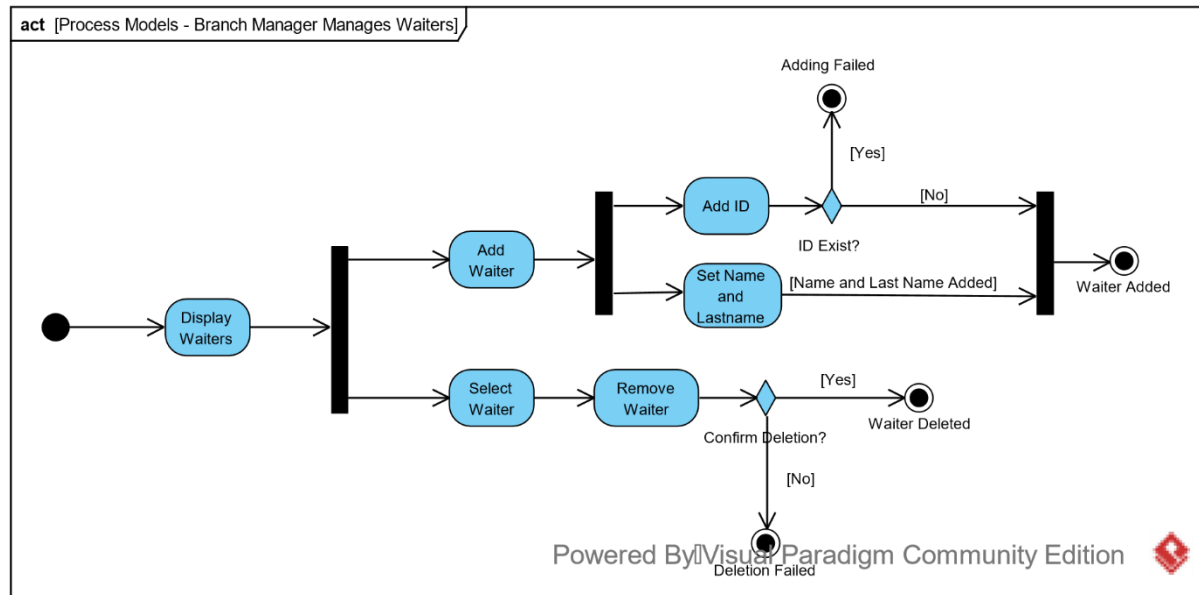
This system is the system that enables the costumer to make online payment for QR Code orders.

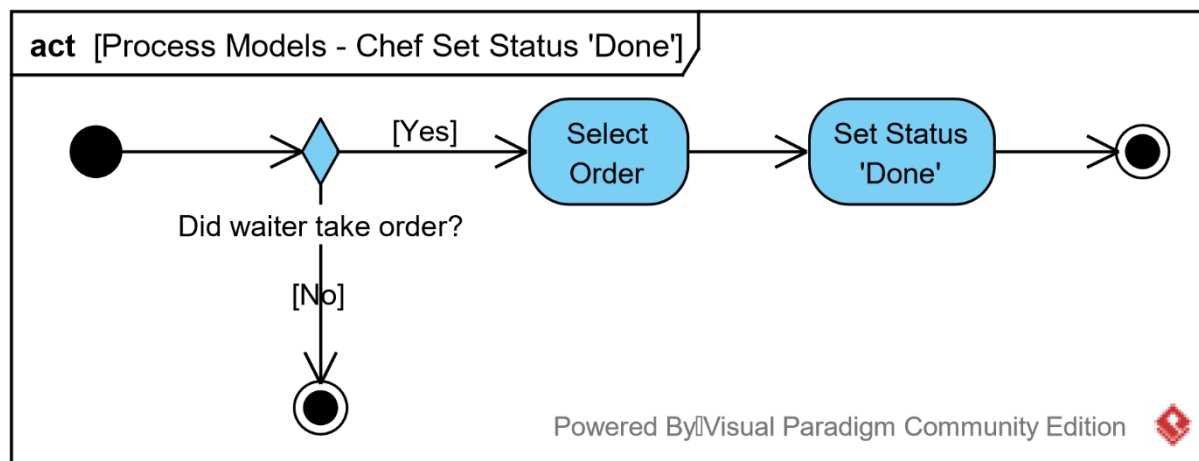
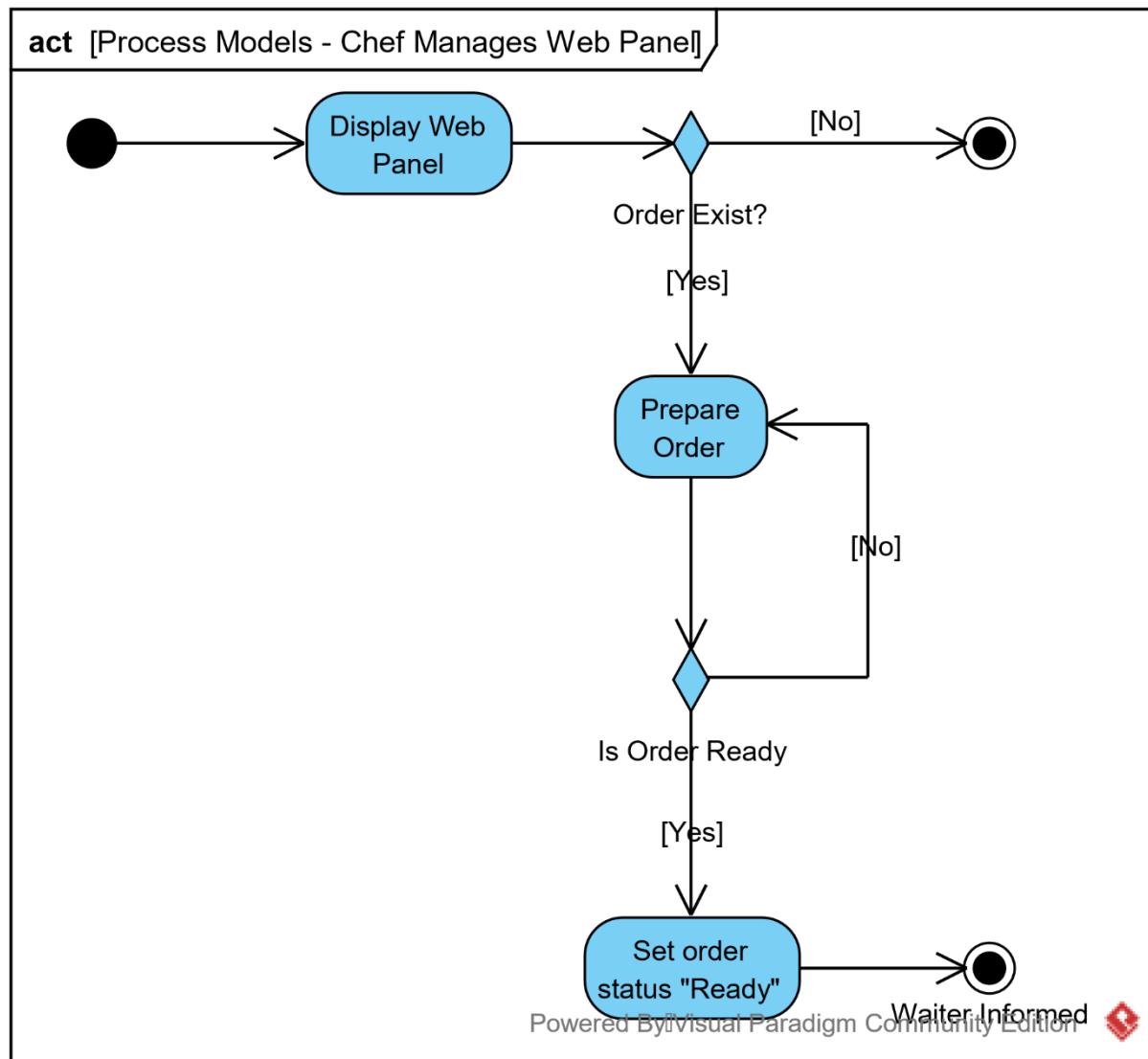
b. Process Model



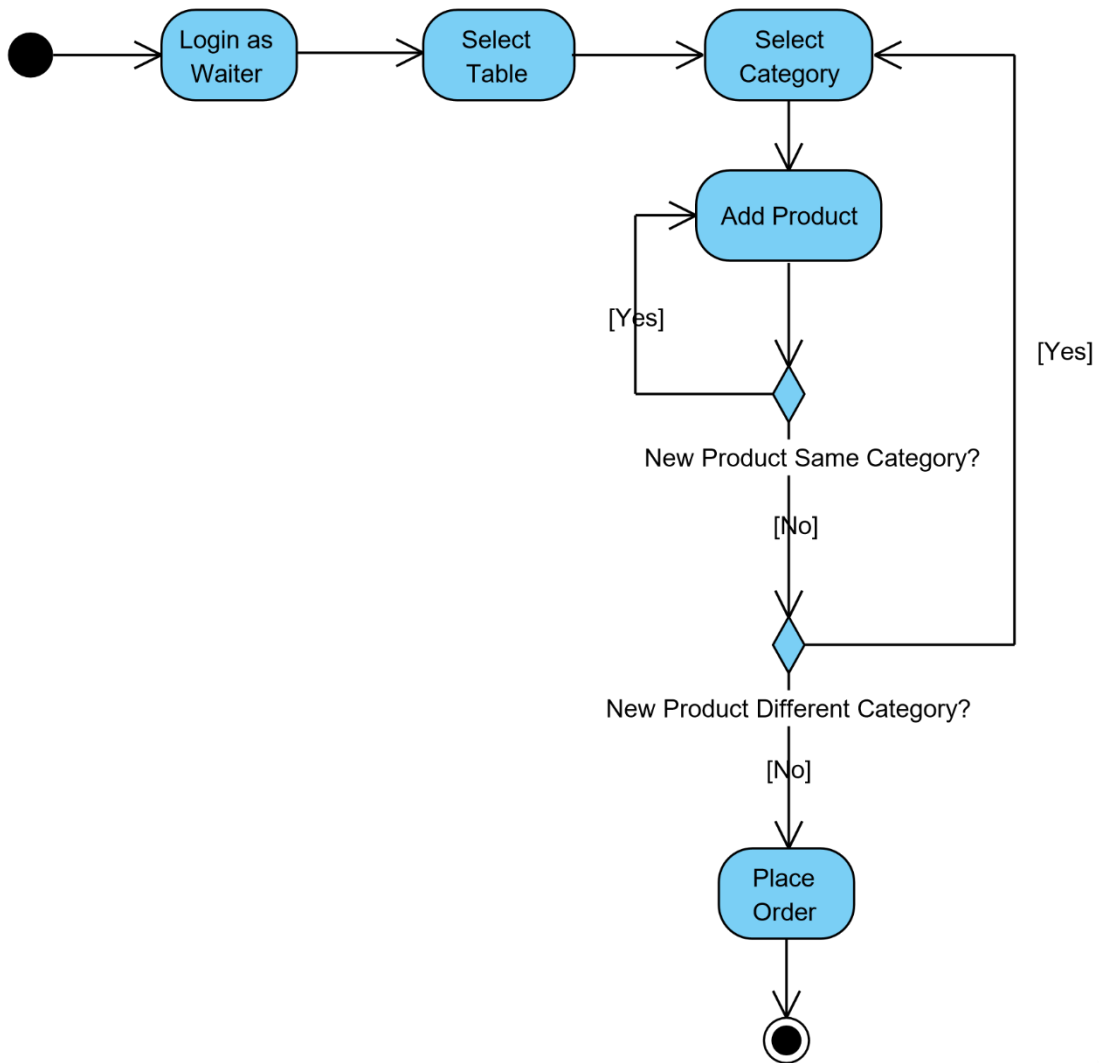


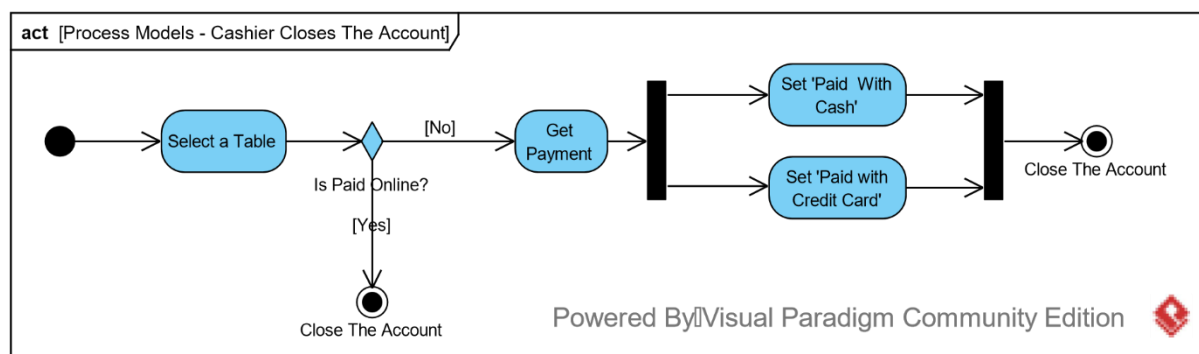
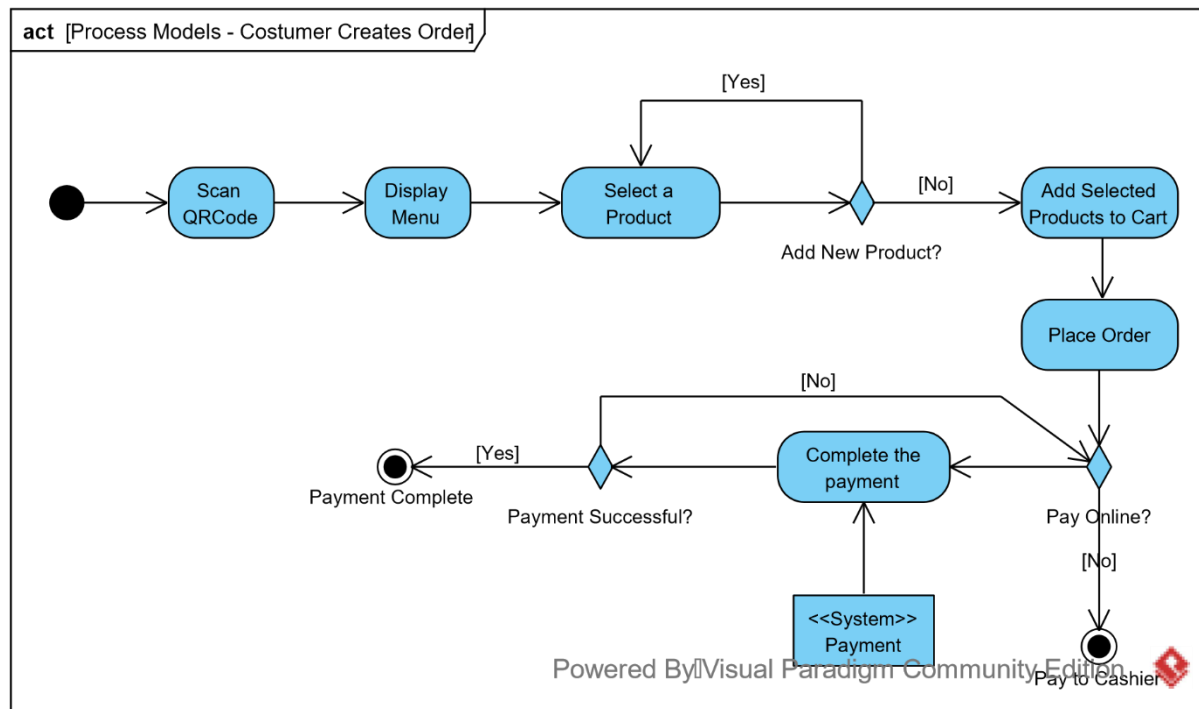






act [Process Models - Waiter Takes Order]





c. Use Case

Tabular Descriptions of Use Cases:

AOMS: Head Office creates a default menu	
Use Case	Head Office can provide a default menu for branches.
Actors	Head Office, AOMS
Data	Product List (images, ingredients, prices, categories)
Stimulus	User commands issued by Head Office.
Response	Confirmation of menu created.
Comments	#

AOMS: Head Office edits a product from the default menu	
Use Case	Head Office can edit a product from the default menu.
Actors	Head Office, AOMS
Data	New image, ingredient, price, and category
Stimulus	Head Office, selects a product and clicks the 'edit' button.
Response	Message of 'Changes Approved'
Comments	Head office selects a category then a product, then changes the product properties.

AOMS: Head Office adds a product to the default menu	
Use Case	Head Office can add a product from the default menu.
Actors	Head Office, AOMS
Data	Product (includes image, ingredient, price, and category)
Stimulus	'Add Product' command issued by Head Office.
Response	Confirmation of product added.
Comments	Head Office is the only stakeholder can add a product from the 'default menu'

AOMS: Head Office deletes a product from the default menu	
Use Case	Head Office can delete a product from the default menu.
Actors	Head Office, AOMS
Data	#
Stimulus	Delete command issued by Head Office.
Response	Confirmation of product removed.
Comments	Head Office is the only stakeholder can delete a product from the 'default menu'

AOMS: Adding a branch	
Use Case	Head Office adds a new branch.
Actors	Head Office, AOMS
Data	Branch name, location, images, and the default menu.
Stimulus	User command issued by head Office
Response	Confirmation of new branch created.
Comments	Head Office adds a new branch to the AOMS. Then, Branch Manager will be able to manage this branch.

AOMS: Editing any branch	
Use Case	The Head Office can edit any branch in the AOMS.
Actors	Head Office, AOMS
Data	New name, location image and menu.
Stimulus	User command issued by Head Office.
Response	Confirmation of branch is updated.
Comments	Head office has special permission to edit any branch.

AOMS: Deleting any branch	
Use Case	Head Office
Actors	Head Office, AOMS
Data	#
Stimulus	Delete branch command issued by Head Office.
Response	Confirmation of branch is deleted.
Comments	Head office must have a special permission to be able to delete a branch.

AOMS: Display total revenue	
Use Case	Head Office displays total revenue
Actors	Head Office, AOMS
Data	The total revenue
Stimulus	Opening the system.
Response	#
Comments	In the home page, total revenue will be displayed automatically.

AOMS: Head Office adds a waiter to any branch

Use Case	Head Office, adds a new waiter to a branch
Actors	Head Office, AOMS
Data	Waiter name, Waiter ID
Stimulus	'Add Waiter' command issued by Head Office.
Response	Confirmation of 'Waiter Added' message
Comments	Head Office, selects a branch and can add a waiter to the branch unless, there is not any waiter with same ID.

AOMS: Head Office deletes a waiter from any branch

Use Case	Head Office deletes a waiter from a branch.
Actors	Head Office, AOMS
Data	#
Stimulus	'Delete Waiter' command issued by Head Office.
Response	Confirmation of 'Waiter Deleted' message
Comments	Head Office, selects a branch and can delete a waiter from the branch.

AOMS: Head Office adds a chef to any branch

Use Case	Head Office, adds a new chef to a branch
Actors	Head Office, AOMS
Data	Chef name, Chef ID
Stimulus	'Add Chef' command issued by Head Office.
Response	Confirmation of 'Chef Added' message
Comments	Head Office, selects a branch and can add a chef to the branch unless, there is not any chef with same ID.

AOMS: Head Office deletes a chef from any branch

Use Case	Head Office deletes a chef from a branch.
Actors	Head Office, AOMS
Data	#
Stimulus	'Delete Chef' command issued by Head Office.
Response	Confirmation of 'Chef Deleted' message
Comments	Head Office, selects a branch and can delete a chef from the branch.

AOMS: Head Office edits menu of a branch	
Use Case	Head Office, can update a product, add a new product and delete a product from the menu of a branch
Actors	Head Office, AOMS
Data	Product (image, ingredients, price, category)
Stimulus	'Edit Branch' command issued by Head Office.
Response	Confirmation of changes accepted.
Comments	Head Office, has a special permission to add, remove or update a product in the branch menu. (Do not mess with default menu)

AOMS: Branch Manager adds product	
Use Case	Branch Manager adds a new product to his/her branch's menu.
Actors	Branch Manager, AOMS
Data	Product (images, ingredients, price, category)
Stimulus	'Add Product' command issued by Branch Manager
Response	Confirmation of product added.
Comments	Branch Manager, can add a new product to the branch's menu that is not in the default menu that was provided by Head Office.

AOMS: Branch Manager deletes product	
Use Case	Branch Manager can delete a product from branch's menu.
Actors	Branch Manager, AOMS
Data	#
Stimulus	'Delete Product' command issued by Branch Manager.
Response	Confirmation of product deleted.
Comments	Branch Manager can delete a product from the branch's menu.

AOMS: Branch Manager can edit a product	
Use Case	Branch Manager can edit a product from the branch's menu.
Actors	Branch Manager, AOMS
Data	New image, ingredients, price, category
Stimulus	'Edit Product' command issued by Branch Manager
Response	Confirmation of product updated.
Comments	Branch Manager can edit, image or ingredients or price or category of a product in the menu.

AOMS: Branch Manager adds category	
Use Case	Branch Manager adds a category to the branch's menu.
Actors	Branch Manager, AOMS
Data	Category name
Stimulus	'Add category' command issued by Branch Manager.
Response	Confirmation of category added.
Comments	Branch Manager can change his/her branch menu which was provided by Head Office.

AOMS: Branch Manager closes an account	
Use Case	Branch Manager closes the account after the customer has paid and left.
Actors	Branch Manager, AOMS
Data	Information on how the account was paid
Stimulus	Close account command issued by Branch Manager
Response	Confirmation of account closed
Comments	Customer can pay online, with credit card or cash. After Branch Manager closes the account, the result is transferred to the transactions section. If customer paid only, no need to set payment 'online.'

AOMS: Branch Manager add a waiter to his/her branch	
Use Case	Branch Manager, adds a new waiter to his/her branch
Actors	Branch Manager, AOMS
Data	Waiter name, Waiter ID
Stimulus	'Add Waiter' command issued by Branch Manager.
Response	Confirmation of 'Waiter Added' message
Comments	Branch Manager, can add a waiter to his/her branch unless, there is not any waiter with same ID.

AOMS: Branch Manager deletes a waiter from his/her branch	
Use Case	Branch Manager deletes a waiter from his/her branch.
Actors	Branch Manager, AOMS
Data	#
Stimulus	'Delete Waiter' command issued by Branch Manager.
Response	Confirmation of 'Waiter Deleted' message
Comments	Branch Manager, deletes a waiter from his/her branch

AOMS: Branch Manager adds a chef to his/her branch	
Use Case	Branch Manager, adds a new chef to his/her branch
Actors	Branch Manager, AOMS
Data	Chef name, Chef ID
Stimulus	'Add Chef' command issued by Branch Manager.
Response	Confirmation of 'Chef Added' message
Comments	Branch Manager, can add a chef to his/her branch unless, there is not any chef with same ID.

AOMS: Branch Manager deletes a chef from his/her branch	
Use Case	Branch Manager deletes a chef from his/her branch.
Actors	Branch Manager, AOMS
Data	#
Stimulus	'Delete Chef' command issued by Branch Manager.
Response	Confirmation of 'Chef Deleted' message
Comments	Branch Manager, deletes a chef from his/her branch.

AOMS: Branch Manager displays transactions	
Use Case	Branch Manager, views the transactions of his/her branch daily, weekly, and monthly.
Actors	Branch Manager, AOMS
Data	Transactions
Stimulus	'Open Transactions' command issued by Branch Manager.
Response	Transactions page will be displayed.
Comments	Branch manager can display today's transaction, transactions week by week and month by month.

AOMS: Branch Manager, cancels an order	
Use Case	Branch Manager can cancel any order that is active on the <i>tables panel</i> .
Actors	Branch Manager, AOMS
Data	Information of order canceled
Stimulus	Cancel Order command issued by Branch Manager
Response	Confirmation of order is canceled
Comments	After Branch Manager cancel an order, the information of the canceled order will be added to the transactions and if order is not 'ready' kitchen will be informed.

AOMS: Chef sets order status to 'preparing'	
Use Case	Chef changes status of the order 'preparing' from the 'order has been taken'
Actors	Chef, AOMS
Data	#
Stimulus	'Set status preparing' command issued by Chef.
Response	Status of order has been changed.
Comments	After a new order taken either from waiter or costumer, the order will be appeared on the <i>Chef Panel</i> . The status of the order is 'order has been taken.' Before starting to prepare the order, Chef changes the status of the order 'preparing.'

AOMS: Chef sets order status to 'ready'	
Use Case	Chef changes status of the order 'ready' from the 'preparing'
Actors	Chef, AOMS
Data	#
Stimulus	'Set status ready' command issued by Chef.
Response	Status of order has been changed.
Comments	After the order is complete, the Chef changes the status to 'ready'. In this way, the waiter is notified.

AOMS: Chef sets order status to 'done'	
Use Case	Chef changes status of the order 'done' from the 'ready.'
Actors	Chef, AOMS
Data	#
Stimulus	'Set status done' command issued by Chef
Response	Status order has been changed.
Comments	After waiter takes the order, the Chef changes the status to 'done.' In this way order will be added to the transactions.

AOMS: Waiter adds order to the system	
Use Case	Waiter takes order from the Costumer and adds it to the AOMS.
Actors	Waiter, AOMS
Data	Products
Stimulus	'Create order' command issued by Waiter.
Response	Order has been taken.
Comments	Waiter takes order from the costumer. First selects the category, then the product. Each selected product will be added to a list. After Waiter approve the order, the order will be sent to the kitchen. Order status will be 'order has been taken' by default. By this way, <i>kitchen</i> will be informed.

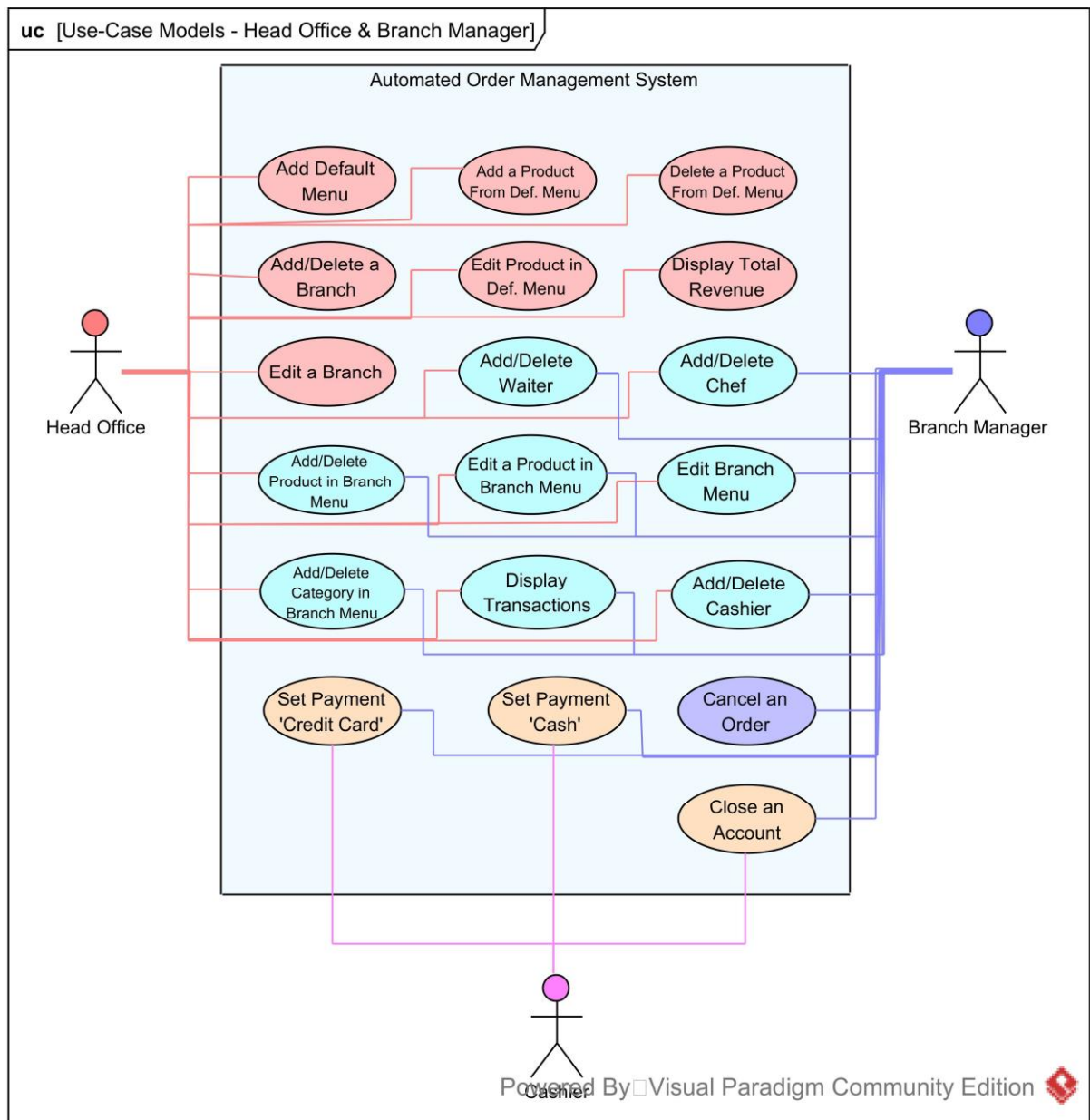
AOMS: Customer logs in the system	
Use Case	Costumer scans the QRCode on his/her table and will directed to the AOMS
Actors	Costumer, AOMS
Data	#
Stimulus	Scanning the QRCode on the table
Response	Costumer directed to the system.
Comments	Costumer scans the QRCode is on the table. The QRCode is unique for each table. In this way, he/she will have unique AOMS profile that will be able to create orders.

AOMS: Customer gives order	
Use Case	Costumer gives order via menu that is opened on his/her phone.
Actors	Costumer, AOMS
Data	List or products
Stimulus	'Complete Order' command issued by costumer.
Response	Order has been taken.
Comments	After costumer finish his/her order, the order will be place the queue on the Chef's web panel and its status will be 'order has taken' by default.

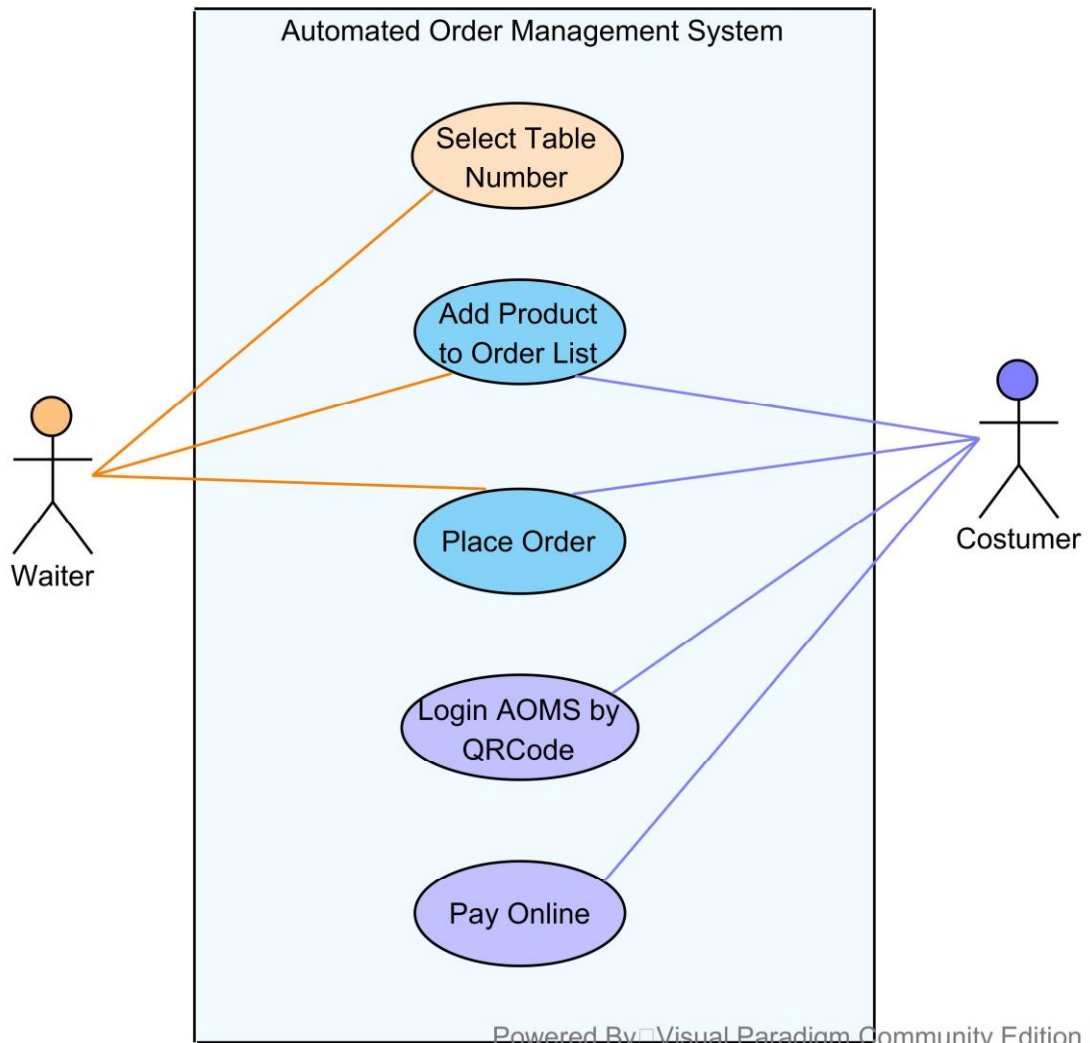
AOMS: Costumer pays online	
Use Case	Costumer can pay his/her orders via Payment System.
Actors	Costumer, Payment System, AOMS
Data	How much is the account
Stimulus	'Pay' command issued by costumer.
Response	'The payment has been made.' message
Comments	#

AOMS: Cashier closes an account	
Use Case	Cashier closes the account after the customer has paid and left.
Actors	Cashier, AOMS
Data	Information on how the account was paid
Stimulus	Close account command issued by Cashier
Response	Confirmation of account closed
Comments	Costumer can pay online, with credit card or cash. After Cashier closes the account, the result is transferred to the transactions section.

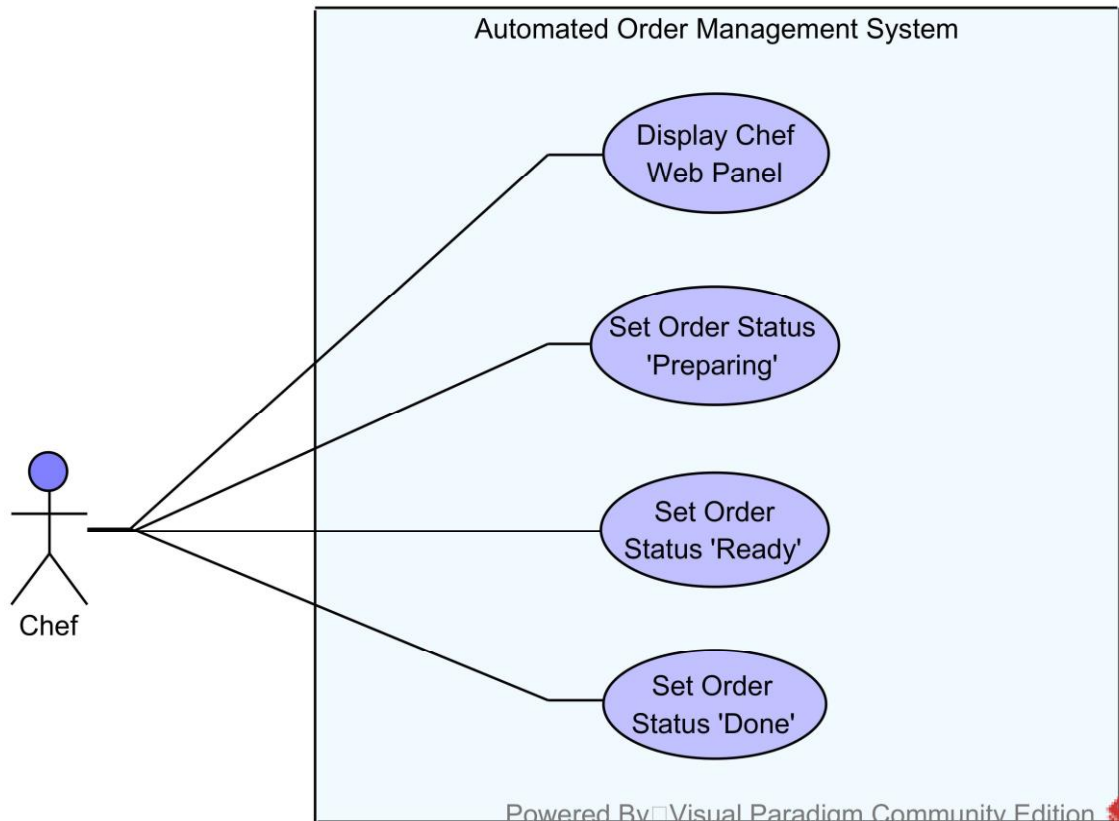
Use Case Diagrams:



uc [Use-Case Models - Waiter & Costumer]



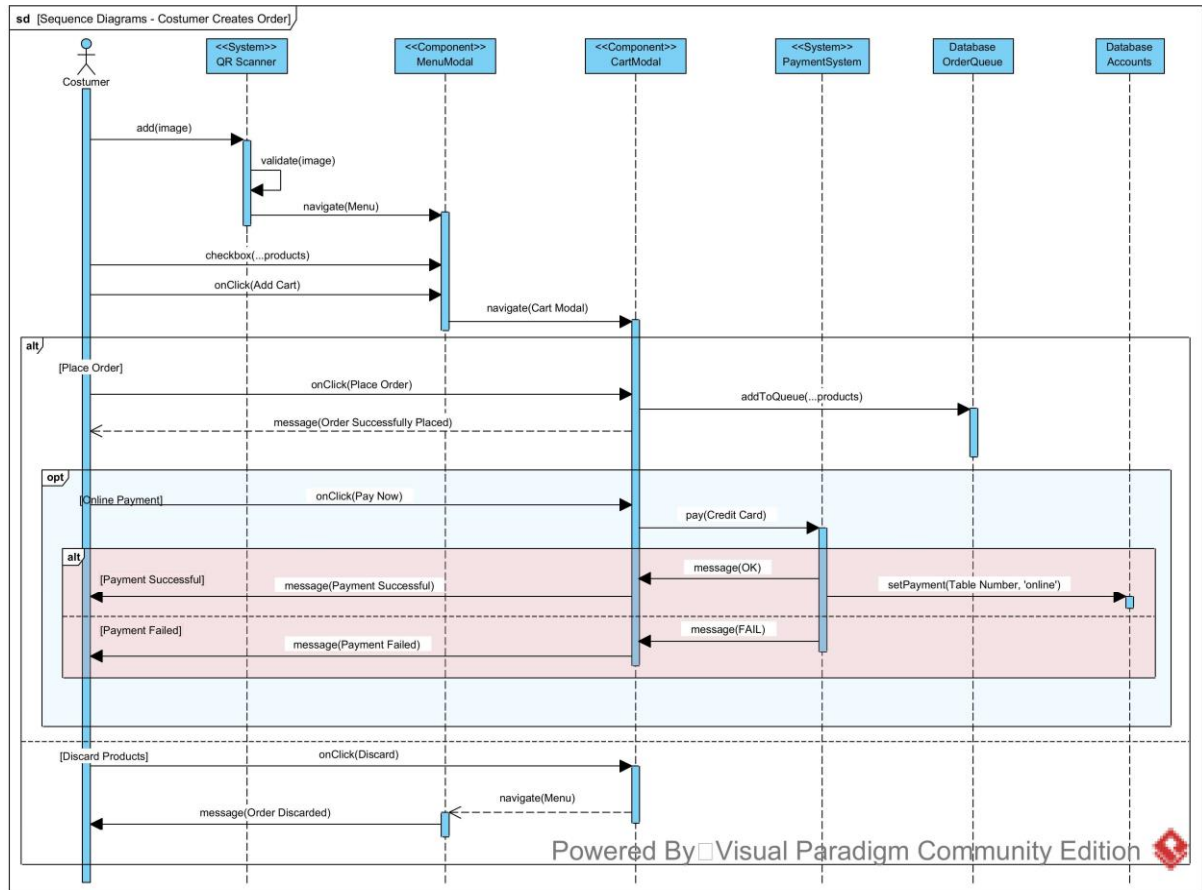
uc [Use-Case Models - Chef]

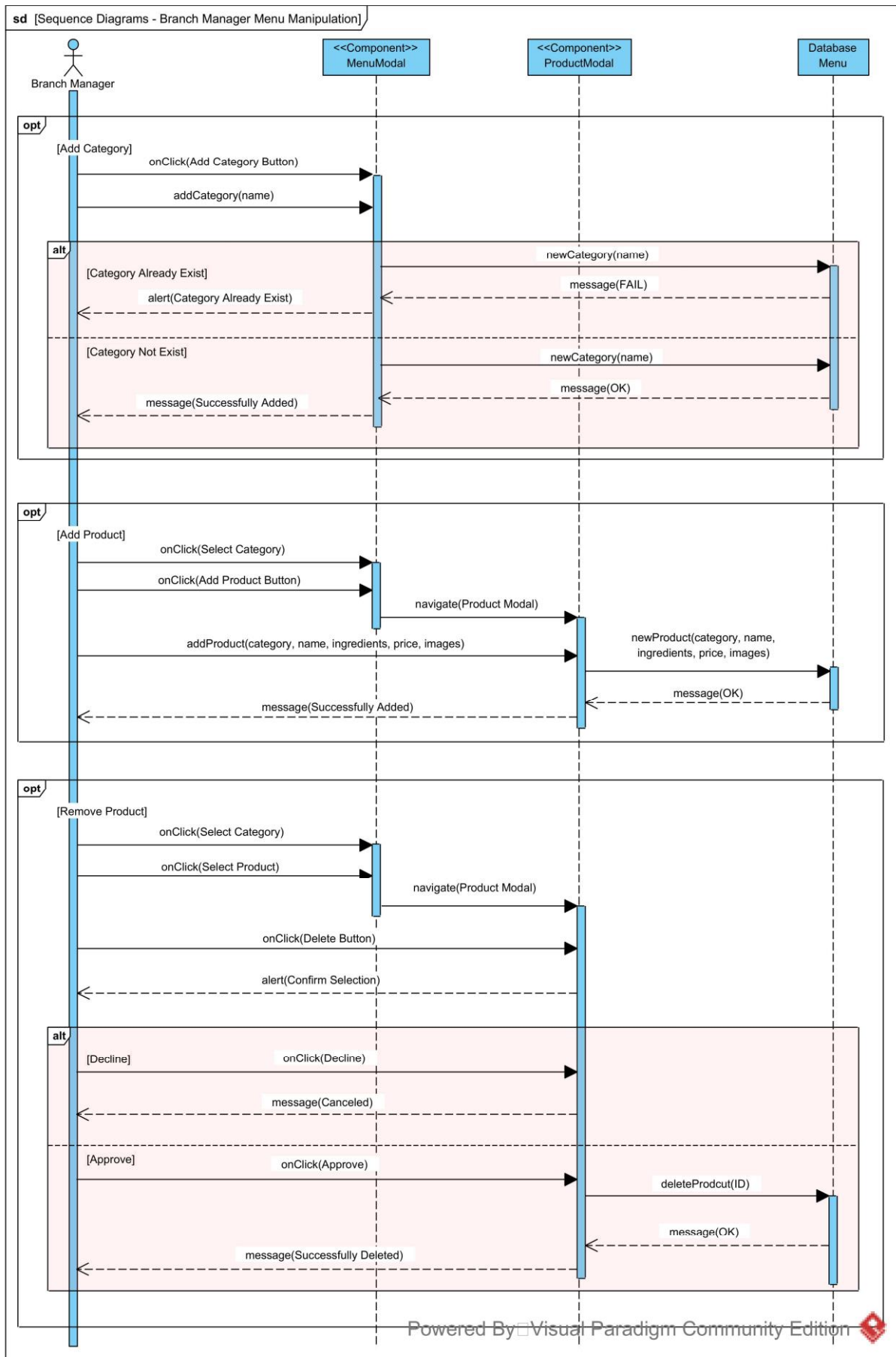


d. Sequence Diagrams

In process diagrams, several use cases are combined.

Operand OPT is used for 'Option' and ALT is 'Alternative' that is proposition of UML standards.





e. Class Diagrams

Composition and Extend operands are used for Class diagram.

