HO CHI MINH UNIVERSITY OF TECHNOLOGY
FALCUTY OF COMPUTER SCIENCE AND ENGINERRING

Software Engineering

Assignment 1

Task 1

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Name	Contributions
Võ Phạm Hoài Nam	Describe Kitchen, Restaurant functional requirements and Draw Customer, POS in use-case diagram of the whole system in Task 1.2
Trần Đức Nam	Describe Customer, Clerk, POS terminal functional requirements and Draw Clerk, Kitchen in use-case diagram of the whole system in Task 1.2
Huỳnh Kim Hưng	Describe non-functional requirements in Task 1.2 and Describe view dishes use-case in Task 1.3
Võ Trần Minh Đạt	Determine Context, Stakeholders, Task to be Done in Task 1.1
Nguyễn Quý Hải	Determine Scope in Task 1.1 and Describe Confirm order, Place order use-case in Task 1.3

Task 1.1.

1. Context. Placeholders. Tasks. Scope

1.1. Context

Dishsy is the newest solution to the social distancing crisis for restaurants in the pandemic days. The user will be equipped with a tablet or may use his/her phone to order, pay the bills, and so much more, ensuring the utmost safety throughout the whole dining experience. The application will provide booking, ordering, and paying functions with user-friendly UI and highly performance to make sure to satisfy any foodaholic in the world.

1.2. Stakeholder

As we know Stakeholders are defined as: Individuals and organizations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or successful project completion. Basing on this definition, we easily has ability to realize that our restaurant online system has mainly three stakeholders:

- Customers: Those who order food from the restaurant through the online ordering system (web app).
- Restaurant owners: The owners of the online restaurant system or the restaurant itself.
- Restaurant Clerks: Who has mainly log in the system to manage and control it.
- Kitchen: Who receive the order which was checked by the clerk, then execute that order.

1.3. Task to be done

- Increase business intelligence.
- Reduce wasted effort and opportunity to scale to a large business.
- Support take-away options.

1.4. Scope

The software/system provides the following facilities to the customers:

- Customers are provided with up to date information on the products available.
- Provides information about the products in categories.
- Customers can give feedback about the restaurant through the system.

The objective of this software is to provide easy assistance to both the customer as well as the merchant with proper database and information. And furthermore, In the future, the system should be able to be used in multiple restaurants.

Task 1.2.

2. Functional Requirements of online restaurant system

2.1. Customer

- The customer can approach or engage to the restaurant menu by scanning the table QR code or the website address via their mobile devices.
- After approaching the web app, the customers shall be able to view the categorized menu from the website.
- The display menu also shows the tags such as “best-seller”, “special combo”, “Big discount combo” to the customer when they login to web app.
- The customer shall be able to dismiss the recommended or best seller food tags.
- The customer shall be able to search for the food as he/she wish in the search engine.
- When the customer select some kind of dishes such as Hamburger, Beefsteak, they can also have ability to select the quantity and type in any special adjustments to the dish (example: extra vegetable).
- Whenever the customer make a selection or adjustment on their cart, the total price (include taxes if this meal has) will corresponding change.
- When re-check the cart, customer can delete some dishes that they think is not necessary.
- After satisfy with the chosen dishes, the customer can place an order if he/she want.
- After the orders, which are viewed and confirmed by the restaurant clerk, are successfully, the customer can move to the check-out step. There will be various payment methods for customer to freely choose from (cash, digital wallet, credit card).
- When the check-out step is complete, the customer are engaged to request an invoice .
- When the customer order is successfully confirmed by the system, the customer can check the progress of their dishes.
- Even the customer has an progressing order, they are completely engaged to make another orders whenever they wish.
- Customer can give personal feedbacks to the dishes after as soon as they receive and try the taste of them.

2.2. Clerk

- A clerk are able to log into the system with specific role which is distribute by the restaurant manager (or the owner of Foody).
- A clerk can log out the system.
- At the end of the ordering section, the clerk are responsible for confirming the order for the POS to process and kitchen to begin cooking.
- The clerk can access to the feedback box to view and send the reply for the corresponding feedback.
- The clerk also can have ability to manage the customer order which can lead to two cases:
    - **Case 1**: The order is valid then the clerk will confirm and notice the customer that the order is successful.
    - **Case 2**: The order is not valid then the clerk can cancel the order and notice the customer that which problems in your order.

2.3. POS terminal

- The data of the dishes (quantity, ingredients) on the system should be update manually and daily.
- It will process the confirmed orders of the clerk and check in its database the availability of the ingredients in the ordered dishes and will notify the clerk if the quantity of any ingredients for the dishes fall below a certain threshold.
- If the customer request to print invoice for the order, the POS can satisfy this requirement.
- For every transactions is made, it should be stored in the database.
- POS supports for several payment method, such as: credit card, digital wallet.

2.4. Kitchen (or chefs)

- After the order is successfully double-checked by both clerk and POS, it will pass to the kitchen in which all the ingredients are prepared for cooking. The kitchen updates ingredient quantity.
- Next, the kitchen will cook the food as requested from the customer. Then when everything is completed, the kitchen request a pick up from the clerk so as to the packaging process begins.

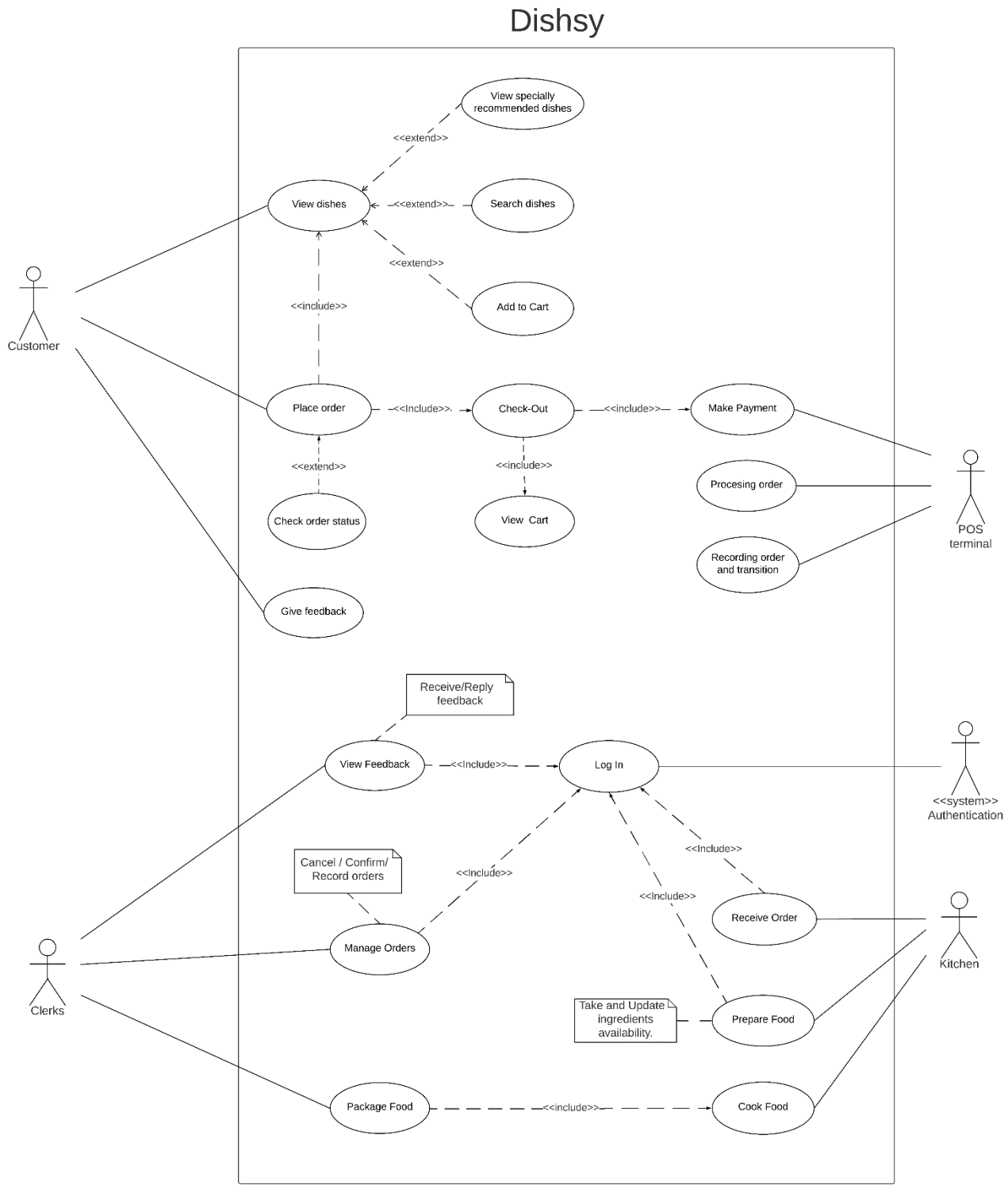
2.5. Restaurant manager

The manager (or sometimes is owner) of the online system restaurant has ability to access in most of system functions such as view and send feedback, query transactions record… etc. Additionally, the manager also can limit the access scope of each type of accounts in the system.

3. Nonfunctional Requirements of online restaurant system

Availability	The user should be aware that your restaurant application and can be able to use directly from restaurant website or by scan the QR code without download requirement to the device.
Screen Adaption	When the user use different type of mobile device, tablet device or normal computer, so the system or application should render it's layout to different screen sizes. Along with automatic of Font size and image rendering.
Scalability	The system should be extendable to use in multiple restaurants in the future. In the other words, when the user data (caches, stored data etc) increases, the app should be capable of handling them without delay by optimising the way storage is done and accessed.
Performance	When any customer send the request, the request should take no more than 3s to send the response to customers.
Use-ability	User should be able to understand the flow of App easily. In the other words, users should able to use App without any guideline or help from expert.
Capacity	To make sure that there are not any mistakes happen on the transactions over the first year, the current transactions is about 300 orders per day.
Maintenance	Maintenance of the system will be conducted weekly. In detailed, the system will be conducted during off-peak hours.
Security	Access will be controlled with usernames and passwords which is accessed only by the system authentication. In the other hand, Database should be reasonably secured to prevent leak or loss of confidential information such as credit card details from customers.

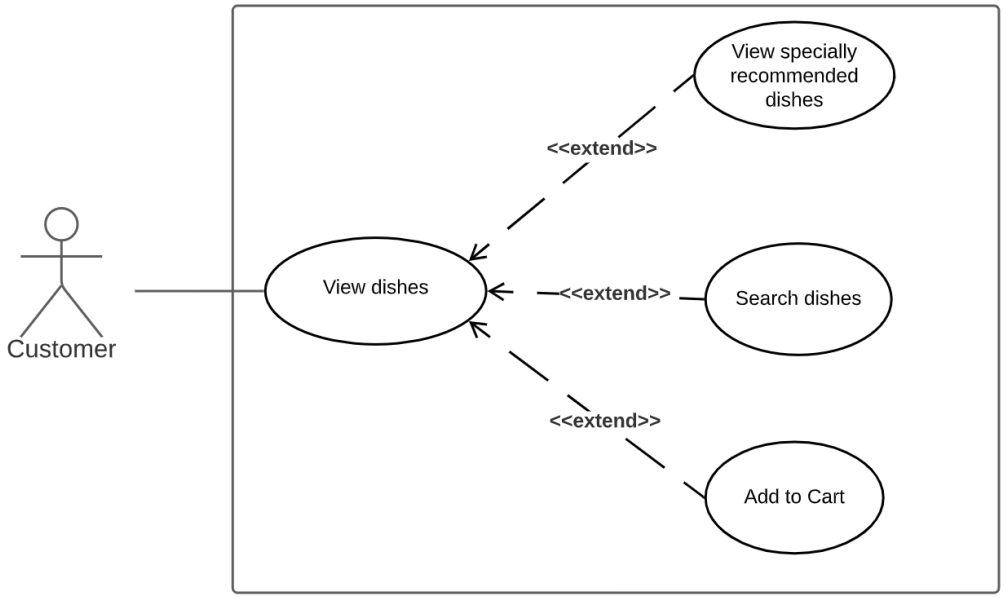
4. Use-case Diagram for the whole system



Task 1.3.

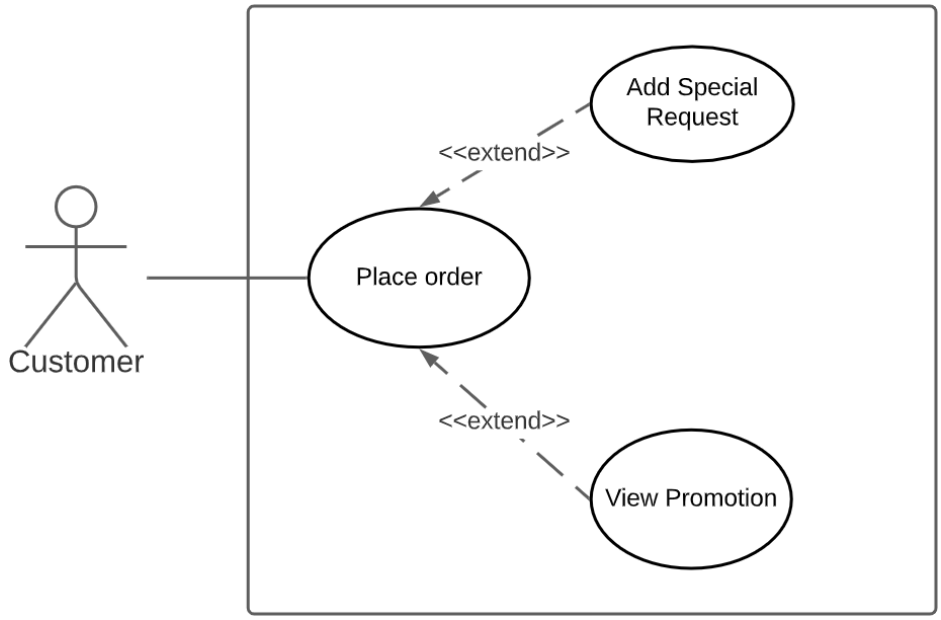
5. Food ordering feature

5.1 View dishes use-case



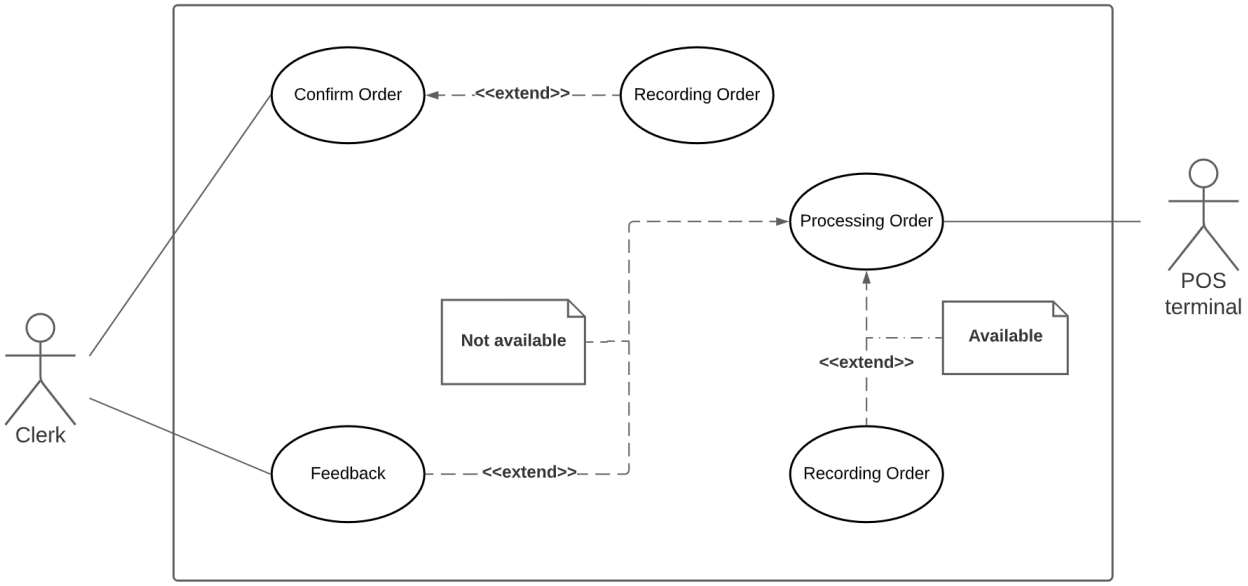
Use case name:	View dishes
Actor:	Customer
Description:	Customer can skim the menu, choose dishes and add them to the cart.
Pre-condition:	1. The device must have an Internet connection.
Normal Flow	1. The customer scan QR code placed on the their table. 2. The system displays the menu, which is sorted by categories (food type, price,…) 3. Customer can view recommended dishes. 4. Customer can search for the dishes. 5. Customer can click on the dish to choose it, specify the quantity or any special adjustments on it. 6. When Customer choose “Add to cart”, the selected dish is added to cart. 7. The the total price is displayed and updated after every selection.
Alternative Flow	No
Exceptions:	No

5.2 Place order use-case



Use case name:	Place Order
Actor:	Customer
Description:	Customer can place order, add special request and view promotions.
Pre-condition:	1. The Customer has finished view dishes and choose to place the order.
Normal Flow	1. The system displays the cart made by Customer to review again. 2. The Customer can view promotion. 3. The Customer can add special requests. 4. The Customer click “Place order” button to confirm the order and place it. 5. End the use case.
Alternative Flow	No
Exceptions:	Exception 1: At step 4. 1a. If the Customer cancel the order, (1) The system navigates the Customer to the home screen. (2) End the use case.

5.3 Confirm order use-case



Use case name:	Confirm order
Actor:	Clerk and POS terminal
Description:	Clerk confirm customer's order and POS is processing order.
Pre-condition:	1. The Customer has placed an order.
Normal Flow	1. The POS check the availability of the ordered dishes. 2. After a confirmation of POS about the availability of ordered dishes, the order is recorded by POS. 3. Clerk confirms the customer's order and can record it. 4. End the use case.
Alternative Flow	No
Exceptions:	Exception 1: At step 2. 1a. If the order is not available, (1) The system displays error message. (2) The Clerk will feedback to the customer. (3) The system navigates the customer to the select meals screen. (4) End the use case.