

『Silence』

Coffee Maker System

Software Modeling and Analysis

Team Project #3

OSP 2140 - Design Phase

Team 4

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OSP 2140 Design(1st cycle)

Phase 2141. Define Real Use Cases

1. Add Employee

Use Case	1. Add Employee
Actor	None or Manager
Purpose	add new employee
Overview	
Type	Primary and Essential
Cross Reference	System Function: R1.1.1 Use Case : -
Pre-Requisite	N/A
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) request add employees information 2. (S) check employees information 3. (S) give id number to employee 4. (S) add employees information to Database
Alternative Courses of Event	N/A
Exceptional Courses of Event	Line 1: If invalid employee information is entered, indicate an error.

2. Delete Employee

Use Case	2. Delete Employee
Actor	None or Manager
Purpose	Delete employee
Overview	
Type	Primary and Essential
Cross Reference	System Function: R1.1.2 Use Case : -
Pre-Requisite	Employee should be exists in the system.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) fire Employee. 2. (A) delete employee's id 3. (S) delete employees information to Database
Alternative Courses of Event	N/A
Exceptional Courses of Event	Line 1: If invalid employee information is entered, indicate an error.

3. Employee Modification

Use Case	3. Employee Modification
Actor	None or Manager
Purpose	Change Employee's information
Overview	
Type	Primary and Essential
Cross Reference	System Function: R1.1.3 Use Case : -
Pre-Requisite	Employee should be exists in the system.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) need change to employee's information. 2. (A) insert employee's changed information. 3. (S) change employees information to Database
Alternative Courses of Event	N/A
Exceptional Courses of Event	Line 1: If invalid employee information is entered, indicate an error.

4. Recipe Add

Use Case	4. Recipe Add
Actor	Manager
Purpose	Adding the recipe into the recipe list
Overview	If manager want to add the new recipe, system should be provide add recipe menu into coffee maker.
Type	Primary and Essential
Cross Reference	System Functional : R1.2.1 Use Case : -
Pre-Requisites	N/A
Typical Courses of Events	(A) : Actor, (S) : System 1. (A) A manager requests add recipe. 2. (S) Check the existence recipe and show the lists. 3. (A) Input the recipe data. 4. (S) Check if corresponding recipe exists. 5. (S) Add recipe date to list.
Alternative Courses of Events	N/A
Exceptional Courses of Events	Line 1: If invalid recipe information is entered, indicate an error.

5. Recipe Delete

Use Case	5. Recipe Delete
Actor	Manager
Purpose	Delete the recipe into the recipe lists.
Overview	If manager want to delete recipe, systems should be check recipe list and delete the recipe.
Type	Primary and Essential
Cross Reference	System Function : R1.2.2 Use Case : -
Pre-Requisites	Recipe should be exists in the list.
Typical Courses of Events	(A) : Actor, (S) : System 1. (A) A manager Inputs a recipe title. 2. (S) Check if a corresponding recipe in the list. 3. (S) Delete the recipe in the list.
Alternative Courses of Events	N/A
Exceptional Courses of Events	Line 1: If invalid recipe information is entered, indicate an error.

6. Recipe Modification

Use Case	6. Recipe Modification
Actor	Manager
Purpose	Modify the recipe into the recipe list.
Overview	If manager want to modify the recipe, system should be check recipe list and provide recipe modifying menu.
Type	Primary and Essential
Cross Reference	System Function : R1.2.3 Use Case : -
Pre-Requisites	Recipe should ne exists in the list.
Typical Courses of Events	(A) : Actor, (S) : System 1. (A) A manager Inputs a recipe title. 2. (S) Check if a corresponding recipe in the list. 3. (S) Show the recipe data and provide modify menu. 4. (A) Input the change recipe. 5. (S) Save the modified recipe.
Alternative Courses of Events	N/A
Exceptional Courses of Events	Line 1: If invalid recipe information is entered, indicate an error.

7. Add Table

Use Case	7. Add Table
Actor	Manager
Purpose	Add Table in Store.
Overview	
Type	Primary and Essential
Cross Reference	System Function: R1.3.1
Pre-Requisite	
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) bought a big table 2. (A) insert new table's information. 3. (S) checked new table's info 4. (S) give table-id to new table 5. (S) add new table's information to Database
Alternative Courses of Event	N/A
Exceptional Courses of Event	Line 1: If invalid table information is entered, indicate an error.

8. Delete Table

Use Case	8. Delete Table
Actor	Manager
Purpose	Delete Table in Store.
Overview	
Type	Primary and Essential
Cross Reference	System Function: R1.3.2
Pre-Requisite	Table should be exists in the list.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) sell or ban a table 2. (A) type table-id 3. (S) checked table-id 4. (S) delete table's information to Database
Alternative Courses of Event	N/A
Exceptional Courses of Event	Line 1: If invalid table information is entered, indicate an error.

9. Table Modification

Use Case	9. Table Modification
Actor	Manager
Purpose	Change Table information
Overview	
Type	Primary and Essential
Cross Reference	System Function: R1.3.3
Pre-Requisite	Table should be exists in the list.
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) change table information 2. (A) insert changed table's information. 3. (S) checked table's id 4. (S) change table's information to Database
Alternative Courses of Event	N/A
Exceptional Courses of Event	Line 1: If invalid table information is entered, indicate an error.

10. Order Coffee

Use Case	10. Order Coffee
Actors	Customer
Purpose	Order Customer's coffee
Overview	
Type	Primary and Essential
Cross Reference	System Function: R2.1
Pre-Requisite	
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) <i>SelectCoffeeManu</i> on display 2. (S) iPad send to <i>Store</i> class for <i>tableID</i> , <i>employeeID</i> , <i>recipeID</i> 3. (S) <i>Store</i> class is <i>checkrecipe</i> and decide to fault or continue 4. (S) <i>Store</i> class creates to <i>orderList</i> and set oder data(<i>orderID</i> , <i>tableID</i> , <i>orderTime</i> , <i>priorityOrder</i> , <i>employeeID</i> , <i>recipeList</i> , <i>payment</i>). 5. (S) <i>Store</i> class save order to database and send to signal to <i>iPAD</i> , and send to order to <i>CoffeeMaker</i> .
Alternative Courses of Event	N/A
Exceptional Courses of Event	N/A

11. Sequence Order List

Use Case	11. Sequence Order List
Actors	System
Purpose	Sequence an order list
Overview	
Type	Primary and Essential
Cross Reference	System Function: R2.2
Pre-Requisite	Already should save an order list
Typical Courses of Event	(S) : System 1. (S) Created a new <i>orderList</i> , order class has <i>priorityOrder</i> . 2. (S) This value is <i>static int</i> , so <i>order</i> class self increase this value to through static function.
Alternative Courses of Event	N/A
Exceptional Courses of Event	N/A

12. Voice Recognition

Use Case	12. Voice Recognition
Actors	Customer
Purpose	Perform voice recognition function
Overview	
Type	Primary and Essential
Cross Reference	System Function: R2.3
Pre-Requisite	N/A
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) Request voice recognition. 2. (S) Ready to recognition, and then show display. 3. (A) Speak message to iPad. 4. (S) Execute voice recognition and print message.
Alternative Courses of Event	N/A
Exceptional Courses of Event	N/A

13. Voice Conversation

Use Case	13. Voice Conversation
Actors	Employee
Purpose	Play saved voice for customer
Overview	
Type	Primary and Essential
Cross Reference	System Function: R2.4
Pre-Requisite	System should have basic voice conversation
Typical Courses of Event	(A) : Actor, (S) : System 1. (A) Request voice conversation. 2. (S) Ready to conversation, and then show message display. 3. (A) Selected message to iPad. 4. (S) Execute voice conversation and speak message.
Alternative Courses of Event	N/A
Exceptional Courses of Event	N/A

14. Make Coffee

Use Case	14. Make Coffee
Actor	None
Purpose	Make coffee
Overview	
Type	Primary and Essential
Cross Reference	System Function: R3.1
Pre-Requisite	Order list should be exists in the list.
Typical Courses of Event	(S) : System (C) : Coffee maker 1. (S) <i>Store</i> class send message to <i>CoffeeMaker</i> to make coffee. 2. (S) <i>Store</i> class set <i>order.coursPercent</i> to 30%. 3. (S) If <i>CoffeMaker</i> is jammed by making coffee, <i>Store</i> class send message to <i>iPAD</i> to system error. 4. (C) <i>CoffeeMaker</i> send message that finished job to <i>Store</i> class. 5. (S) If <i>CoffeeMaker</i> is finished job, <i>Store</i> class is setting <i>order.coursPercent</i> to 70%. 6. (S) <i>Store</i> class send message to <i>iPAD</i> to notice finished making coffee.
Alternative Courses of Event	N/A
Exceptional Courses of Event	N/A

15. Call Employee(of system)

Use Case	15. Call Employee(of system)
Actor	Employee
Purpose	Call employee for bring to complete coffee
Overview	
Type	Primary and Essential
Cross Reference	System Function: R3.2
Pre-Requisite	Should finish making coffee
Typical Courses of Event	(A) : Actor (S) : System 1. (S) If finished making coffee, increase <i>courseCount</i> in the Order. 2. (S) Send message to controller. 3. (S) Call employee after received message 4. (A) received coffee and press receive coffee button in iPad.
Alternative Courses of Event	N/A
Exceptional Courses of Event	N/A

16. Manager Call(of system)

Use Case	16. Manager Call(of system)
Actor	None
Purpose	Call a manager.
Overview	If lack of coffee elements and delayed response of employee, system should be call manager.
Type	Primary and Essential
Cross Reference	System Function : R3.3 Use Case : -
Pre-Requisites	N/A
Typical Courses of Events	(A) : Actor, (S) : System 1. (S) Check if lack of coffee elements. (S) Check if delayed response of employee. 2. (S) Sending to signal to manager.
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A

17. Order Inquiry.

Use Case	17. Order Inquiry
Actor	Manager
Purpose	Inquire the whole order list each employee.
Overview	Manager should be check employee order state so that order to employee for ordering another work.
Type	Primary and Essential
Cross Reference	System Function : R4.1 Use Case : -
Pre-Requisites	N/A
Typical Courses of Events	(A) : Actor, (S) : System (D) : Database 1. (A) A manager request showing employee's order list. 2. (S) Request order list to (D). 3. (D) Find order list. 4. (S) Display order list..
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A

18. Employee Call(of manager)

Use Case	18. Employee Call(of manager)
Actor	Manager
Purpose	Call an employee of manager.
Overview	A manager should be calling an employee for ordering another work.
Type	Primary and Essential
Cross Reference	System Function : R4.2 Use Case : -
Pre-Requisites	N/A
Typical Courses of Events	(A) : Actor, (S) : System 1. (A) A manager inputs employee's <i>id</i> . 2. (S) Check if corresponding employee's <i>id</i> . 3. (S) Call an employee.
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A

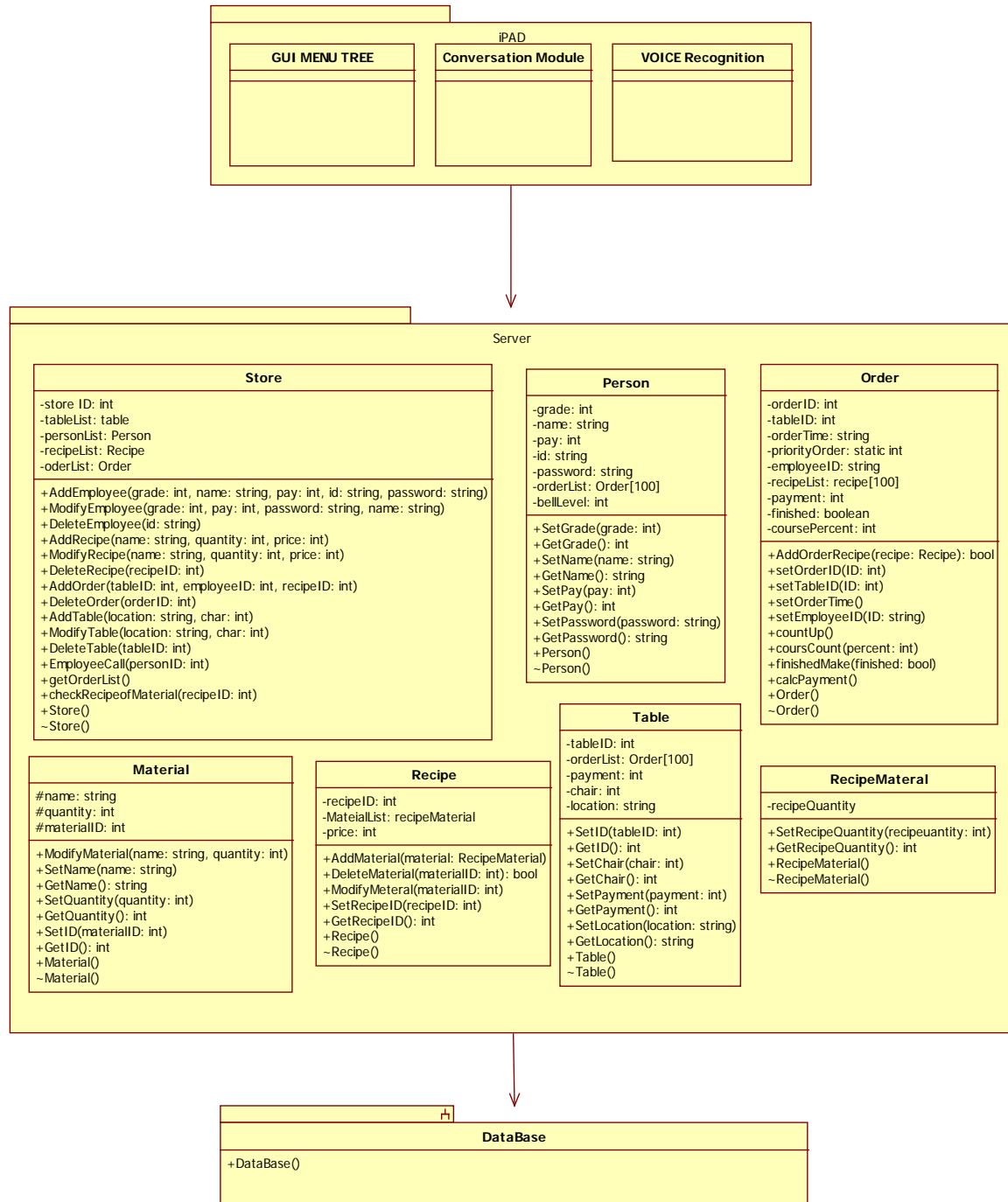
19. Save Order List

Use Case	19. Save Order List
Actor	None.
Purpose	Save order list for each table of charge.
Overview	System should be save the order list each table so that provide price of each table
Type	Primary and Essential
Cross Reference	System Function : R2.1, R6.1 Use Case : "Coffee Order"
Pre-Requisites	Should order menu for each table already.
Typical Courses of Events	(A) : Actor, (S) : System 1. (S) Check order of table. 2. (S) <i>orderList</i> save in the store
Alternative Courses of Events	N/A
Exceptional Courses of Events	N/A

Phase 2142. Define Reports, UI, and Storyboards

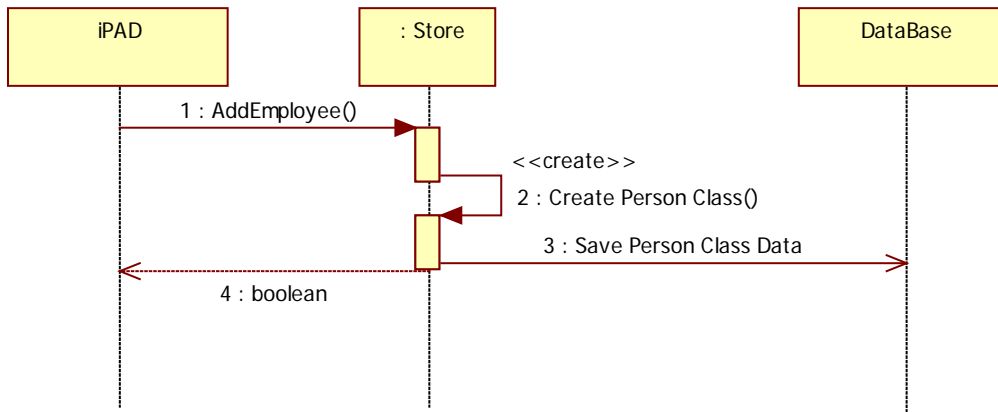
- This phase is skips in this cycle.

Phase 2143. Refine System Architecture

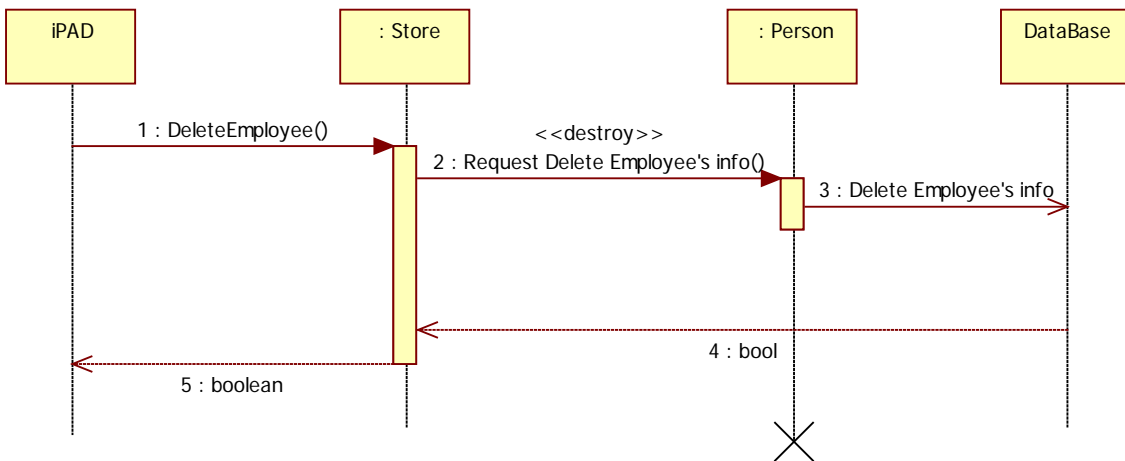


Phase 2144. Define Interaction Diagrams

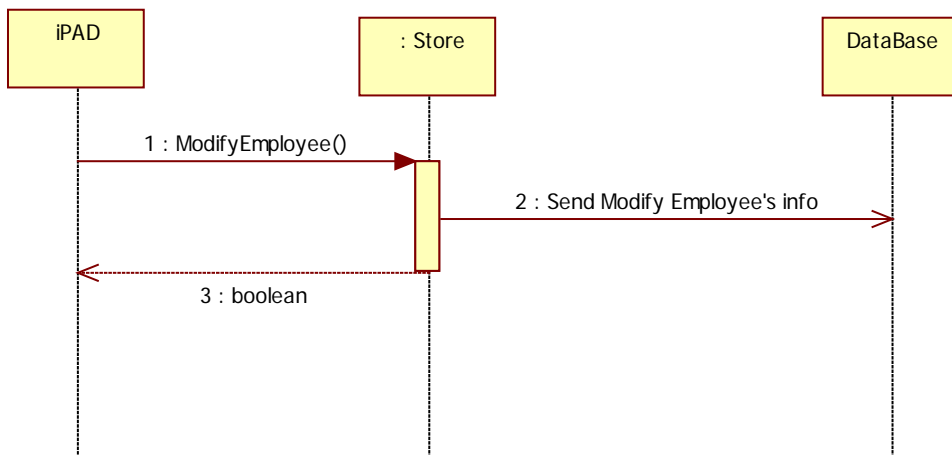
1. Add Employee



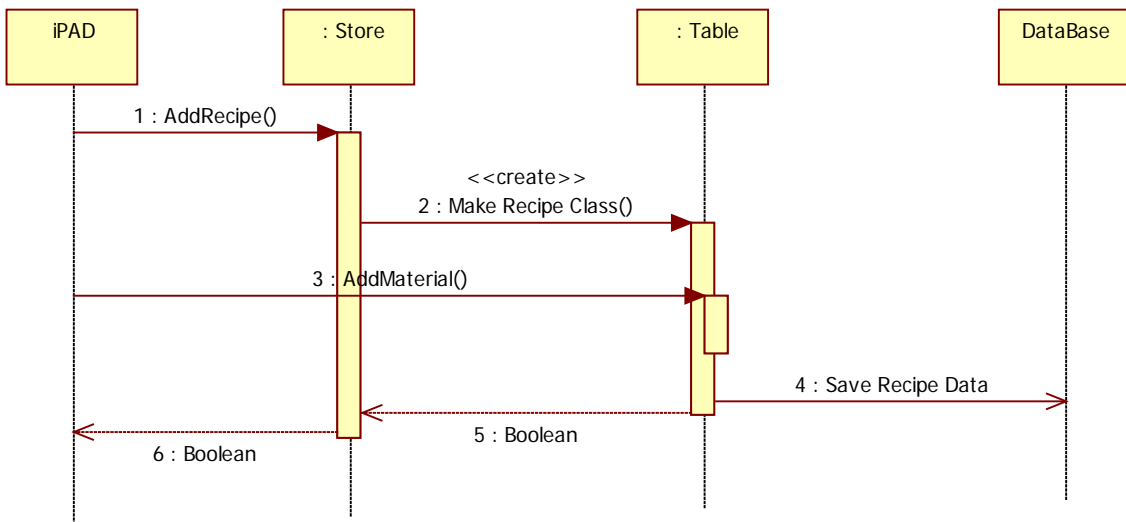
2. Delete Employee



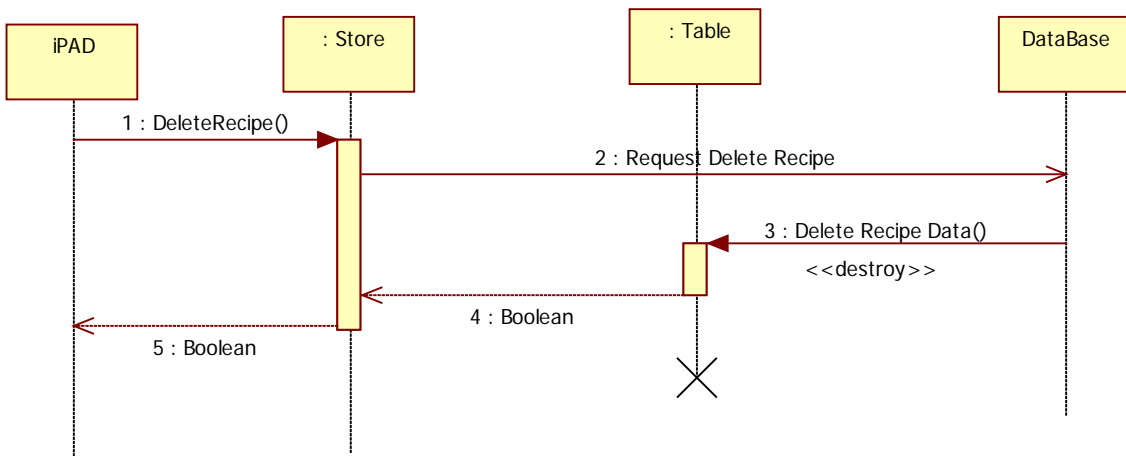
3. Modify Employee



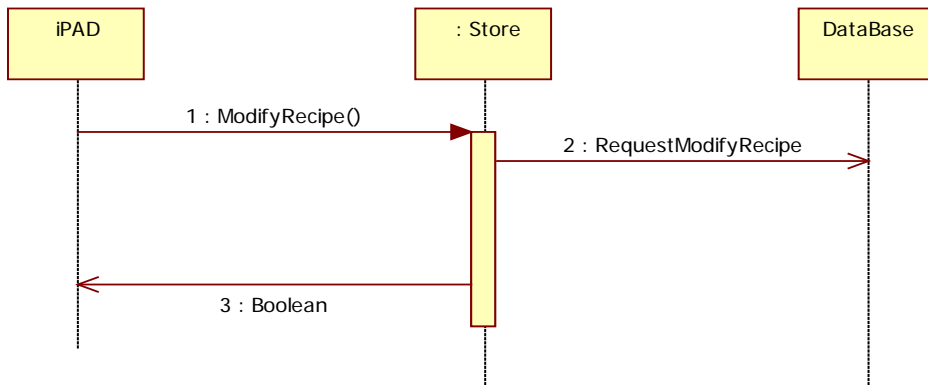
4. Add Recipe



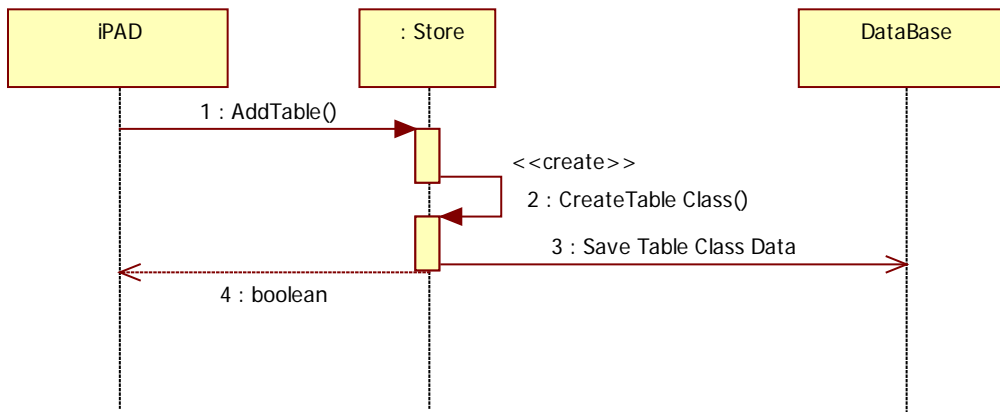
5. Delete Recipe



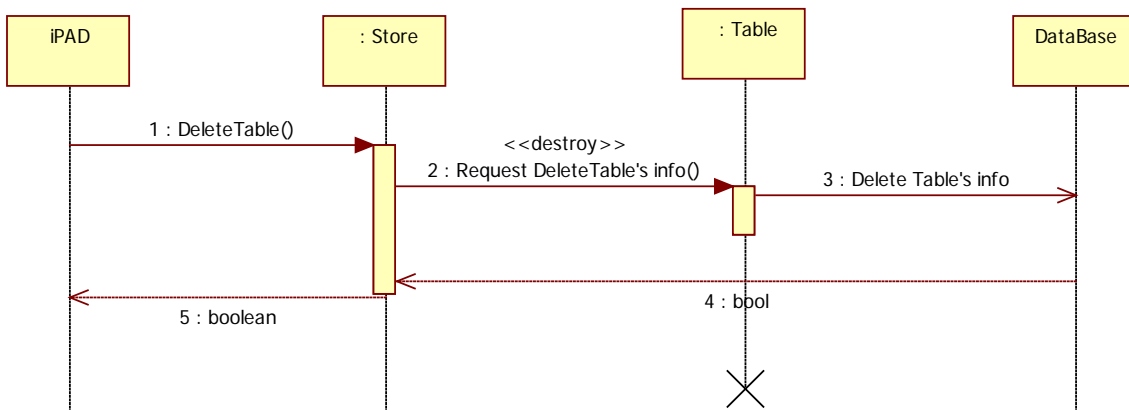
6. Modify Recipe



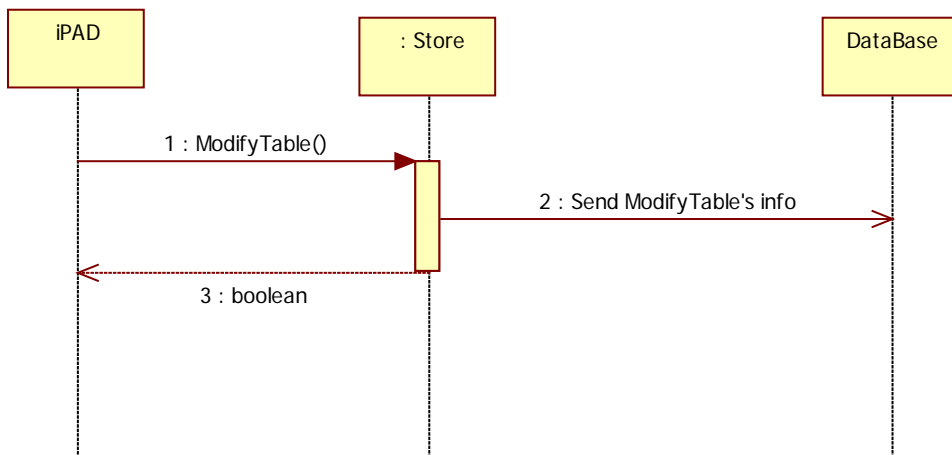
7. Add Table



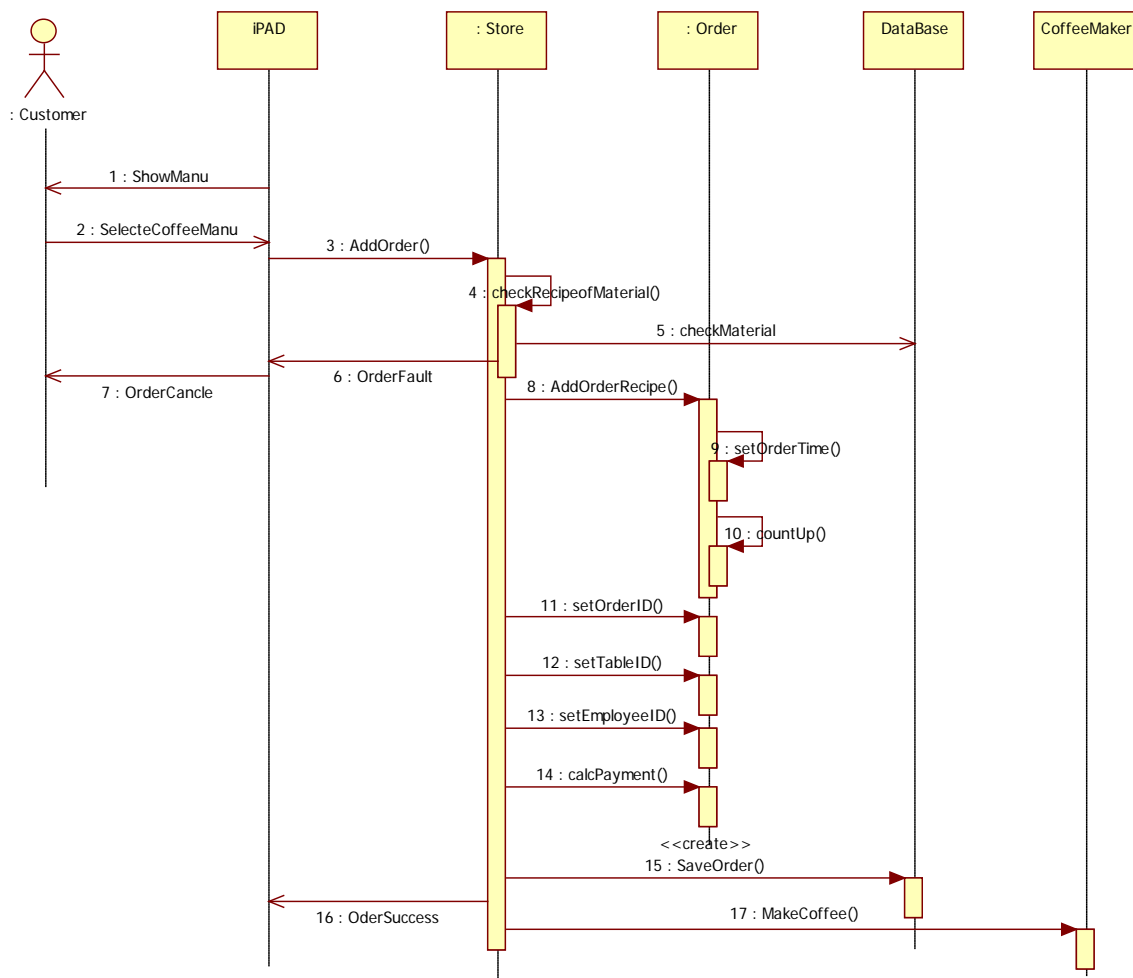
8. Delete Table



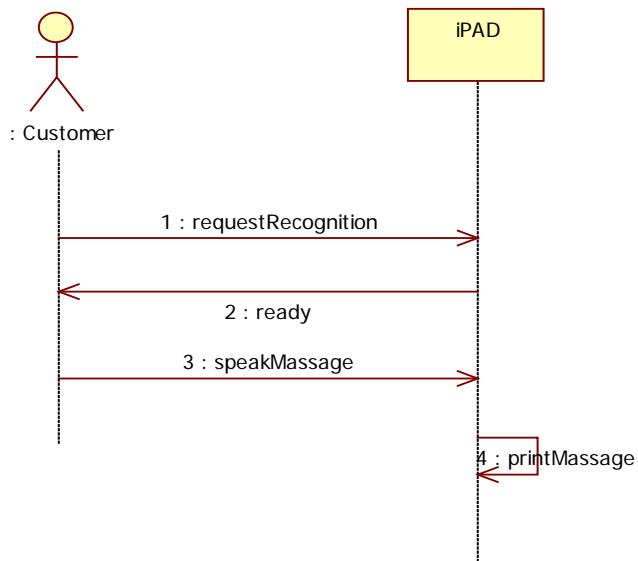
9. Modify Table



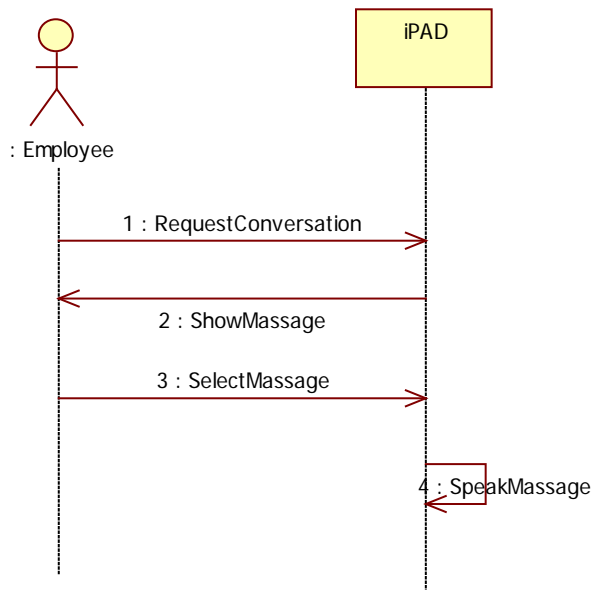
10. Order Coffee & 11. Sequence Order List & 19. Save Order List



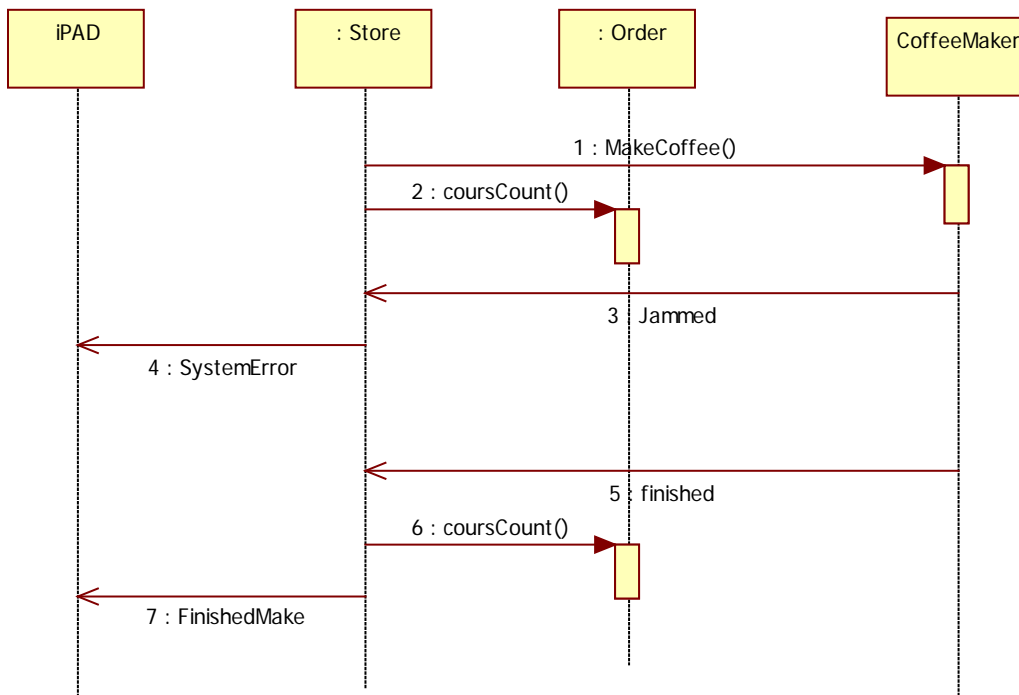
12. Voice Recognition



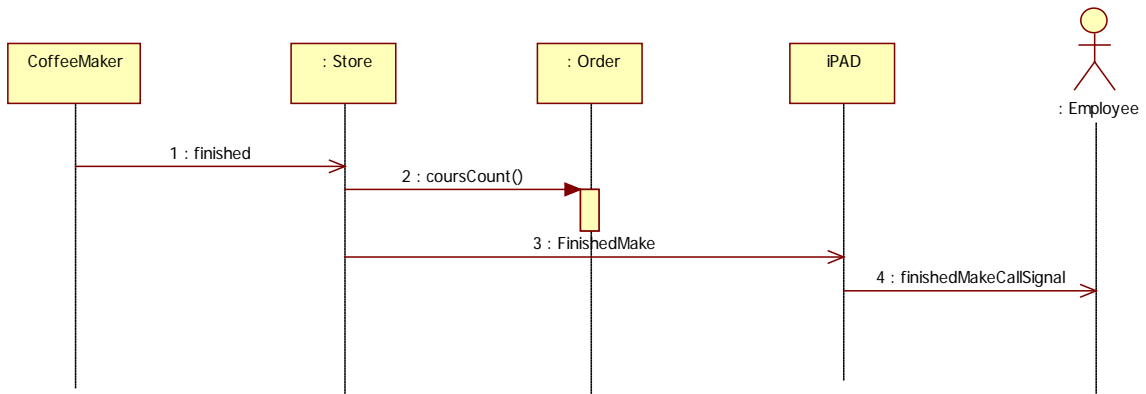
13. Voice Conversation



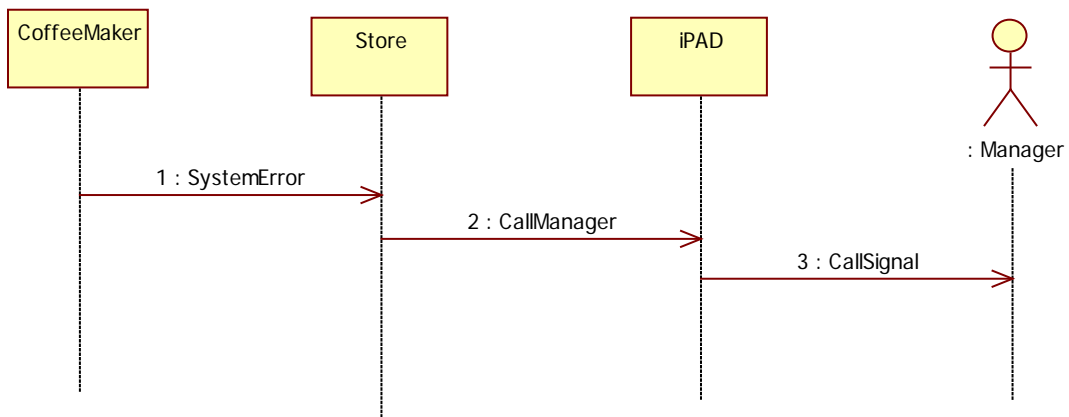
14. Make Coffee



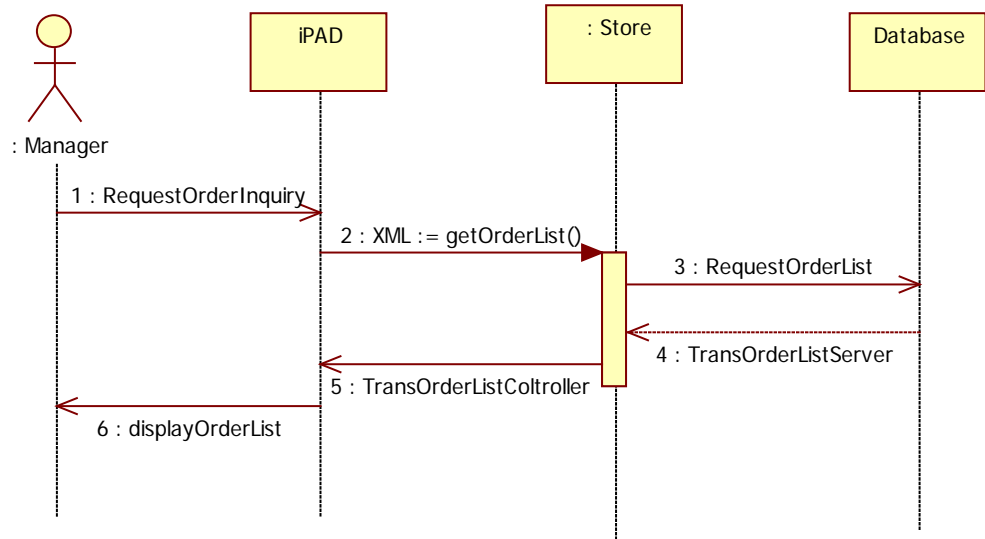
15. Call Employee(of system)



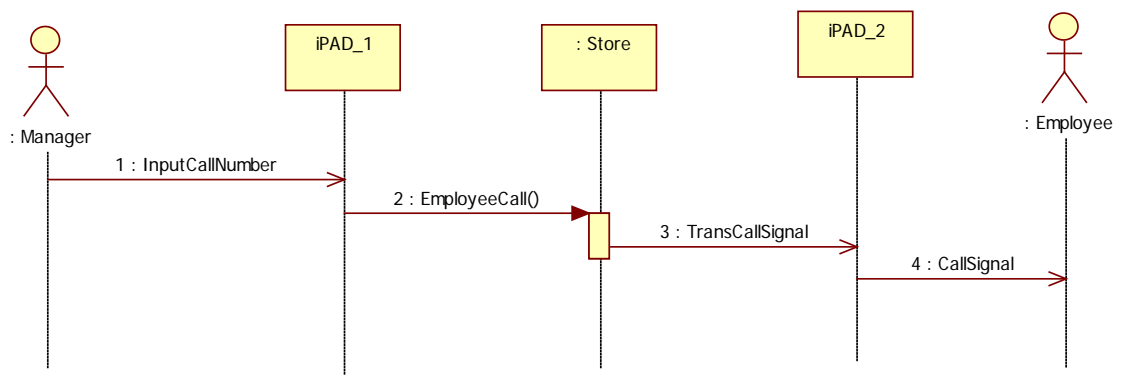
16. Manager Call(of system)

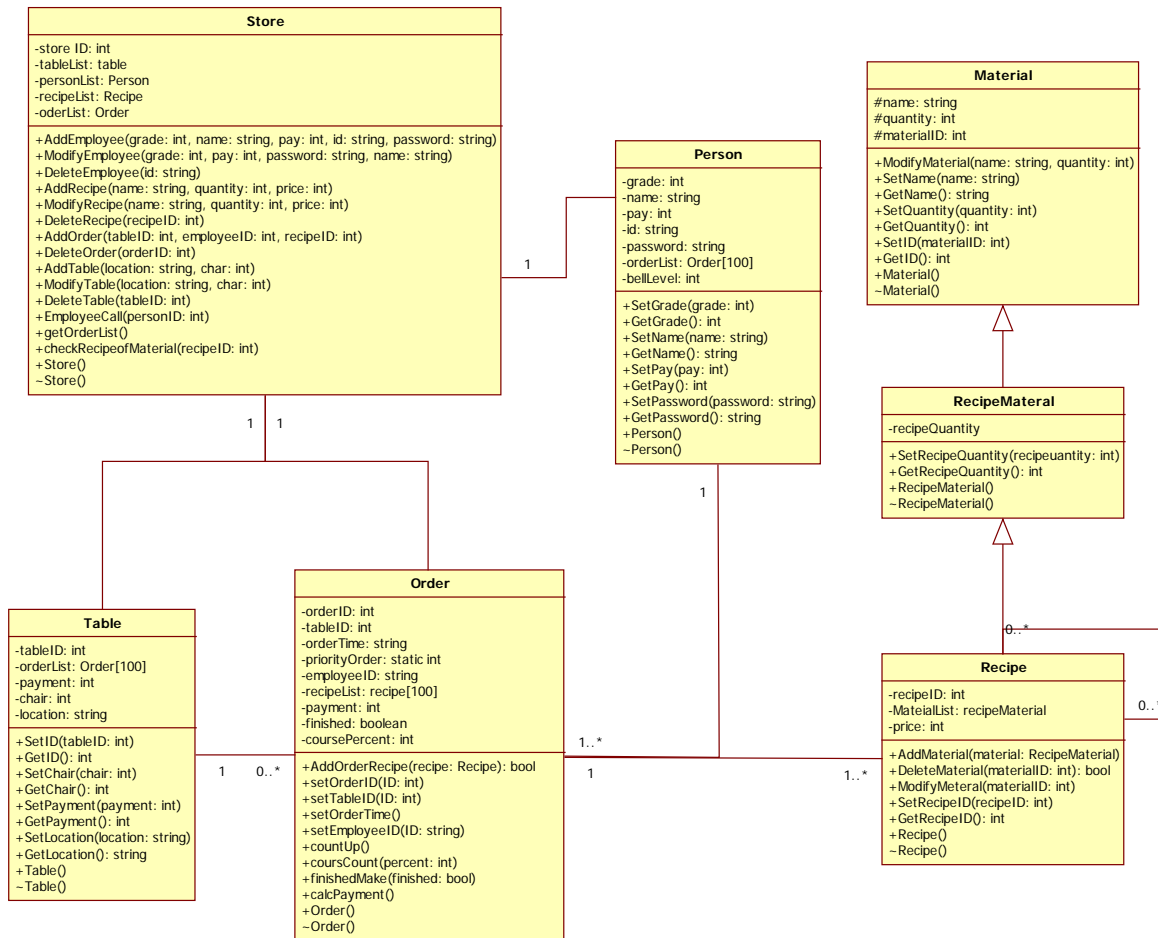


17. Order Inquiry



18. Employee Call(of manager)





Phase 2146. Define Database Schema

```

CREATE TABLE person (
    personID int NOT NULL auto_increment,
    name varchar(60) NOT NULL,
    pay int NOT NULL default '40',
    id varchar(60) NOT NULL,
    PRIMARY KEY (personID),
)

CREATE TABLE Order (
    orderID int NOT NULL auto_increment,
    tableID int NOT NULL,
    employeeID int NOT NULL,
    orderTimer timestamp CURRENT_TIMESTAMP,

```

```

    priorityOrder int NOT NULL DEFAULT '10',
    payment int NOT NULL, DEFAULT '0',
    finished bool NOT NULL DEFAULT 'FALSE',
    coursePercent int NOT NULL DEFAULT '0',
    PRIMARY KEY (orderID),
)
CREATE TABLE RecipeMaterial (
    materialID int NOT NULL auto_increment,
    name varchar(60) NOT NULL,
    quantity int NOT NULL DEFAULT '0',
    recipeQuantity int NOT NULL DEFAULT '0',
    price int NOT NULL DEFAULT '0',
    recipeType varchar(60) NOT NULL DEFAULT 'material',
    PRIMARY KEY (materialID),
)
CREATE TABLE Order_RecipeMaterial{
    Order_RecipeID int NOT NULL,
    RecipeMaterialID int NOT NULL,
    count int NOT NULL DEFAULT '1',
}
CREATE TABLE Store_Table{
    tableID int NOT NULL auto_increment,
    chair int NOT NULL DEFAULT '1',
    location varchar(60) NOT NULL,
    PRIMARY KEY (tableID),
}
CREATE TABLE Recipe_Compibation_Material{
    Recipe_Compination_MaterialID int NOT NULL auto_increment,
    Main_RecipeMaterialID int NOT NULL,
    RecipeMaterialID int NOT NULL,
    recipeQuantity int NOT NULL DEFAULT '0',
}

```