Richard Del Rosario

Sebastian Aybar

Elaboration

To the topic:

Programming Exercises

Topic of the homework:

"Burger House – Ordering System"

Written elaboration

Lecturer Ralf-Oliver Mevius

Relating to the acquisition of Academic

In the examination for

Examination Regulations

Of the Department 2: Computer Science and Engineering, Computer Sciences and Engineering

The University of Applied Sciences Frankfurt am Main - University of Applied Sciences.

For the degree Computer Science

Of 10. July 2003

Project Team

Group 1 - Thursday (4PM – 19:15)

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Evaluation Form

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Frankfurt, 16.12.2021

Evaluation

Grade (Note)

_____ _____

Place, Date Signature/lecturer(s)

Evaluation Form

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Inhaltsverzeichnis

Introduction: Burger House Ordering System

Description:

The project we want to realize consists of an application which is used by a burger restaurant to manage the ordering service for their customers.
As the project is designed and implemented for our client, the client determines what the final program is supposed to be able to do, which functionalities it consists of and
how the design should look like.
For that, we created a fundamental framework which will be revisited and refined over
a certain period.

Scenario:

The customers of the burger house should be able to place their entire order
by using Tablets inside the restaurant where our software is implemented.
They can choose between different Standard Burgers where they can add Toppings like extra Cheese, extra Patty etc.
Beside the assembled Burgers they have the opportunity to create an individual Burger.
Additional to burgers the customer can choose between different drinks and side dishes.
Every table in the restaurant is equipped with one tablet where the employee can assign a table number after the guests took their seats.

Goal:

We want to make sure that the process of our software is able to map everything which is usually done by stuff to take an order.
We also want to make sure that we are as efficient as possible with our time and resources but also ensure high quality standard throughout the project.

Requirements Traceability Matrix

To start our project, we wanted to define our requirements traceability matrix.

A requirements traceability matrix (RTM) is a tool that helps identify and maintain the status of the project's requirements and deliverables.
It does so by establishing a thread for each component.
It also manages the overall project requirements.

We used it because on one hand it helps to verify if all the client requirements are met and on the other hand it is an excellent tool to identify and track the business requirements throughout the project life cycle.

ID	Author	Date	Source	Functional Requ.	Status	Short Description	Long Description	Dependencies	Additional Comments
01	Team	16.12.2021		functional	open	Set Table. Employee can set the Table Number.	After the customer take a seat on a table the employee welcomes the customer and types in the table number on a tablet which will be provided for the customer. After the table number is set it will be saved and displayed in the Customer Main Menu. The table number is the reference for the Employee to know where to bring the food.	Employee	none
02	Team	16.12.2021		functional	open	Order Drinks. The Customer can order between different kind of drinks	In the Customer Menu is a Button “Drinks” which leads to the “Drinks” interface. There the customer can choose between different soft drinks, alcoholics and Smoothies and he can increase the amount of each item. Additionally he gets an overall list of drinks displayed where he can delete entries and place the drinks order to the order list in the customer main menu.	Table is set.	none
03	Team	16.12.2021		functional	open	Order Side Dishes. The Customer can order between different kind of side dishes	In the Customer Menu is a Button “Side Dishes” which leads to the “Side Dishes” interface. There the customer can choose between different Fries, Coleslaw and Dips and he can increase the amount of each item. Additionally he gets an overall list of side dishes displayed where he can delete entries and place the side dishes order to the order list in the customer main menu.	Table is set	none
04	Team	16.12.2021		functional	open	Order Standard Burger. The Customer can order between different kind of Burgers	In the Customer Menu is a Button “Standard Burger” which leads to the “Burger” interface. There the customer can choose between different prebuild Burgers and he can increase the amount of each entry. Additionally he gets an overall list of drinks displayed where he can delete entries and place the drinks order to the order list in the customer main menu.	Table is set	none

ID	Author	Date	Source	Functional Requ.	Status	Short Description	Long Description	Dependencies	Additional Comments
05	Team	16.12.2021		functional	open	Create individual burger. The customer can create a Burger of different components.	In the Customer Menu is a Button “Individual Burger” which leads to the “Individual Burger” interface. There the customer can choose between different components for his burger and add them to the individual burger order list where he can increase the quantity of items and delete them.	Table is set	none
06	Team	16.12.2021		functional	open	Release table. The employee releases the table after the guests have paid and left the restaurant..	In the Customer Menu is a Button which leads to an interface with a numpad displayed where the employee has to enter a pin. If the pin is right he arrives at the “Set Table” interface again where the whole process starts from beginning.	Employee (right pin)	none
07	Team	16.12.2021		functional	open	Place order.	The customer can place the order and he will get displayed that his order is triggered. All the lists in the program set to null and the customer isn’t able to make any changes in his order after that.	Items are selected Table is set.	none
07	Team	16.12.2021		functional	open	Delete entry. The customer can delete in his order lists.	The customer can delete entries in the list of his drinks, side dishes, standard- and individual burger and the overall order list in the customer menu. He can also delete single components while he is creating an individual burger.	Items are selected. Table is set.	none

Snow Cards

#1: Set Table Number

Requirement Type:	fuctional
For Whom?	Employee
User Satisfaction:	high
User Dissatisfaction:	medium

Description:

The Employee assign a table to the Customer.

#3: Select Side dish

Requirement Type:	fuctional
For Whom?	Customer
User Satisfaction:	high
User Dissatisfaction:	medium

Description:

Giving the Customer the possibility to choose from a list of Side Dish.

#4: Select Standard Burger

Requirement Type:	fuctional
For Whom?	Customer
User Satisfaction:	high
User Dissatisfaction:	medium

Description:

Giving the Customer the possibility to choose from a pre-set of standard burger.

#6: Release Table

Requirement Type:	fuctional
For Whom?	Employee
User Satisfaction:	high
User Dissatisfaction:	medium

Description:

The Employee can release a Table after entering a Pin.

\

#7: Place Complete Order

Requirement Type: fuctional

For Whom? Customer

User Satisfaction: high

User Dissatisfaction: medium

Description:

Customer can place the complete order to generate an invoice.

#8: Delete from complete Order

Requirement Type: fuctional

For Whom? Customer

User Satisfaction: high

User Dissatisfaction: medium

Description:

Customer can delete an Item from complete Order list.

Use Case Forms

Use Case Form „Set Table“

Use Case Name:	**Set Table**
Primary Actor:	Employee
Further Actors:	none
Stakeholders and their Interests:	Burger House: want to get organization that the employee knows which table is getting which order increase probability of success
Preconditions:	-Customer taking seats and employee comes to table
Postconditions:	- entering customer main menu where customer can create an order
Basic Course (Main Success Scenario):	1. Customer taking seats 2. Employee brings tablet 3. Employee enters table number 4. Entering customer main menu 5. Hand over of table to customer
Alternative Course:	6. System determines, that table already exists 7. System determines when table number is 0
Frequency of Use:	High Usage: Every single table has to be set before customers get trigger orders.
Priority:	High Priority

Use Case Form “Order Drinks”

Use Case Name:	**Order Drinks**
Primary Actor:	Customer
Further Actors:	Employee
Stakeholders and their Interests	Burger House: wants to give the opportunity to the customer that he can order different kind of drinks.
Preconditions:	- Customer taking seats and employee comes to table - Table number is set - customer selected “Drinks” in main menu
Postconditions:	- customer is adding other components of his menu - placing order
Basic Course (Main Success Scenario)	1. Select “Drinks” in “Customer Main Menu” 2. Mark checkboxes or increase quantity 3. Add selection to order list
Alternative Course:	4. System determines when quantity of an single item is <= 0
Frequency of Use:	High Usage: selecting drinks is one of the main intentions of the customer´s order
Priority:	High Priority

Use Case Form “Order Side Dishes”

Use Case Name:	**Order Side Dishes**
Primary Actor:	Customer
Further Actors:	Employee
Stakeholders and their Interests	Burger House: wants to give the opportunity to the customer that he can order different kind of side dishes.
Preconditions:	- Table number is set - customer selected “Side Dishes” in main menu
Postconditions:	- customer is adding other components of his menu - placing order
Basic Course (Main Success Scenario)	1. Select “Side Dishes” in “Customer Main Menu” 2. Mark checkboxes or increase quantity 3. Add selection to order list
Alternative Course:	4. System determines when quantity of a single item is <= 0
Frequency of Use:	High Usage: selecting side dishes is one of the main intentions of the customer´s order
Priority:	High Priority

Use Case Form “Order Standard Burger”

Use Case Name:	**Order Standard Burger**
Primary Actor:	Customer
Further Actors:	Employee
Stakeholders and their Interests	Burger House: wants to give the opportunity to the customer that he can order different kind of burger.
Preconditions:	- Table number is set - customer selected “Standard Burger” in main menu
Postconditions:	- customer is adding other components of his menu - placing order
Basic Course (Main Success Scenario)	1. Select “Standard Burger” in “Customer Main Menu” 2. Mark checkboxes or increase quantity 3. Add selection to order list in “Customer Main Menu”
Alternative Course:	4. System determines when quantity of a single item is <= 0
Frequency of Use:	High Usage: selecting burgers is one of the main intentions of the customer´s order
Priority:	High Priority

Use Case Form “Individual Burger”

Use Case Name:	**Order Individual Burger**
Primary Actor:	Customer
Further Actors:	Employee
Stakeholders and their Interests	Burger House: wants to give the opportunity to the customer that he can create an individual burger of his choice. Also, it is an opportunity for people with allergies or intolerances to create something of their choice.
Preconditions:	- Table number is set - customer selected “Individual Burger” in main menu
Postconditions:	- customer is adding other components of his menu - placing order
Basic Course (Main Success Scenario)	1. Select “Individual Burger” in “Customer Main Menu” 2. Select ingredients and add them to burger 3. Add list of individual burger to order list in “Customer Main Menu”
Alternative Course:	4. System determines when quantity of items is to high
Frequency of Use:	High Usage: creating an individual burger is a special feature which should be popular in customer orders.
Priority:	High Priority

Use Case Form “Release Table”

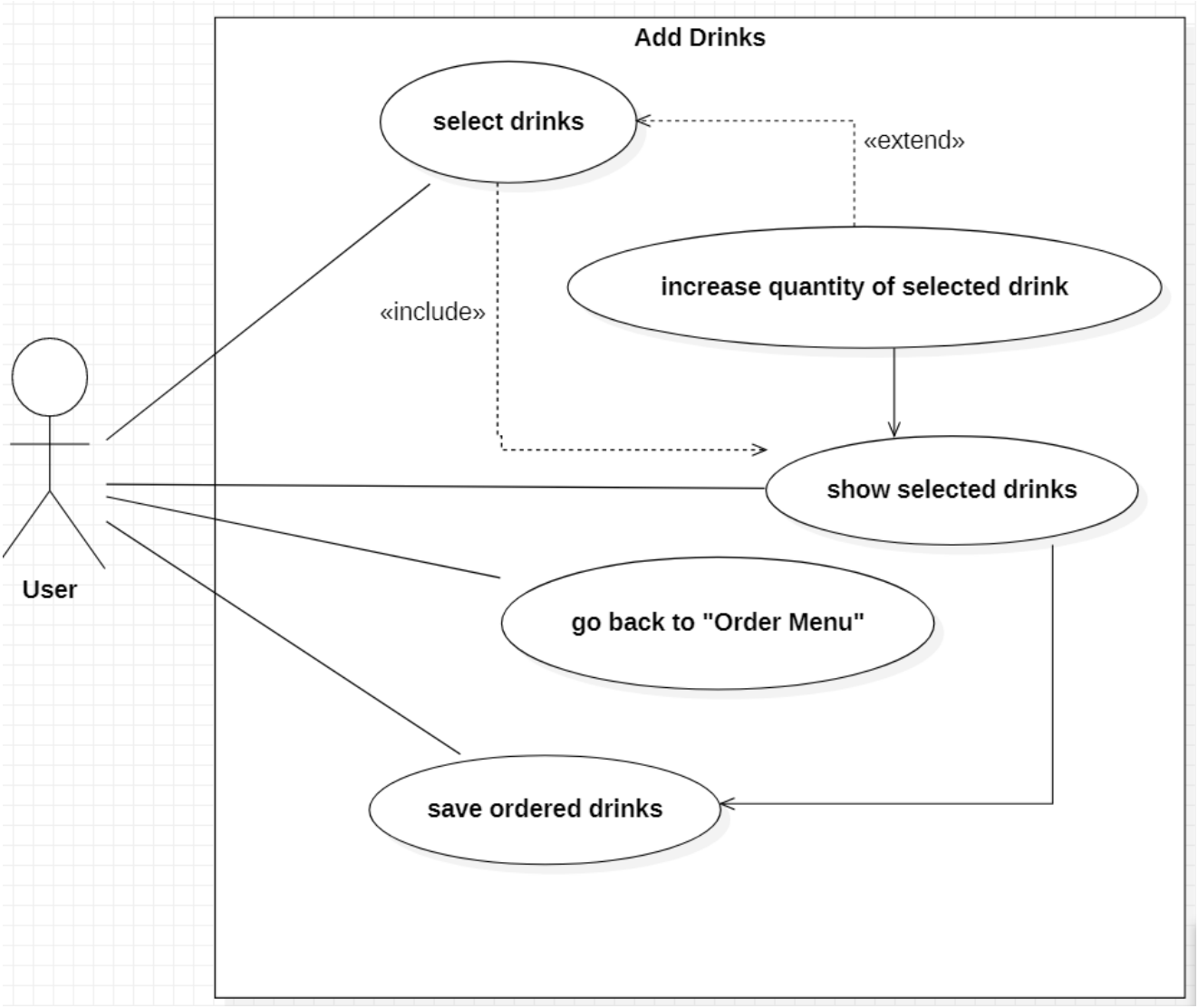
Use Case Name:	**Release Table**
Primary Actor:	Employee
Further Actors:	none
Stakeholders and their Interests	Burger House: for maintenance and calculations and also for organization through the ordering process
Preconditions:	- Table number is set - The bill is paid if order is placed
Postconditions:	- set a new table
Basic Course (Main Success Scenario)	1. After table is free of customers the employee calls “release table” from “Customers Main Menu” 2. New window with numpad where customer enters pin 3. Table is released 4. New table number is set
Alternative Course:	5. System determines pin is wrong
Frequency of Use:	High Usage: Every time the customer of a table is changing the table must be released
Priority:	High Priority

Use Case Form “Place Order”

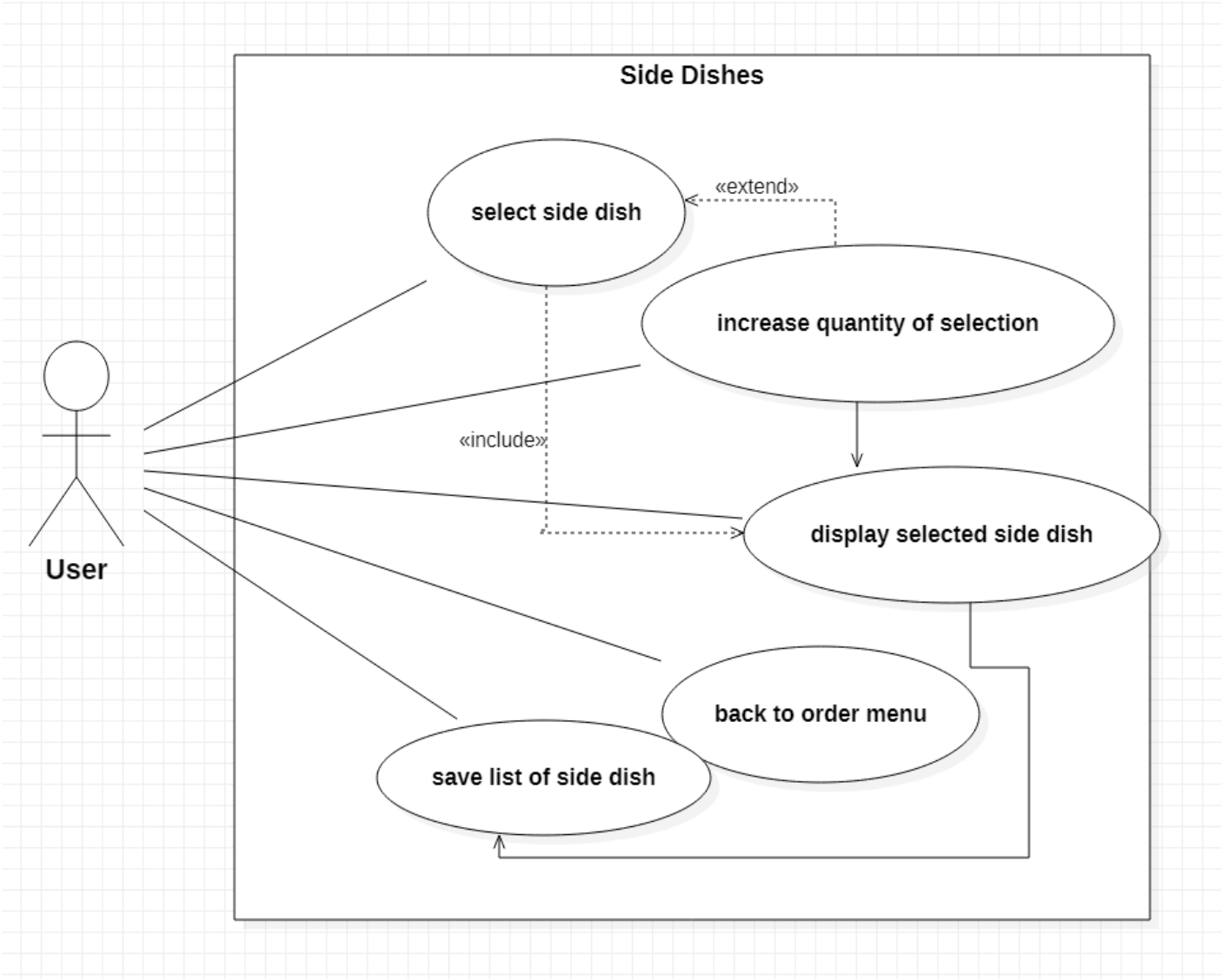
Use Case Name:	**Place Order**
Primary Actor:	Customer
Further Actors:	Employee
Stakeholders and their Interests	Burger House: wants to deliver orders with Software and Databases to keep process free of errors or complications.
Preconditions:	- Table number is set - At least one item is selected
Postconditions:	- order confirmed - release table
Basic Course (Main Success Scenario)	1. select a menu (at least one item) 2. Place order 3. Message Dialog with customer to confirm order is placed
Alternative Course:	4. System determines no item selected 5. Customer made wrong order
Frequency of Use:	High Usage: mandatory to place an order
Priority:	High Priority

Use Case Diagrams

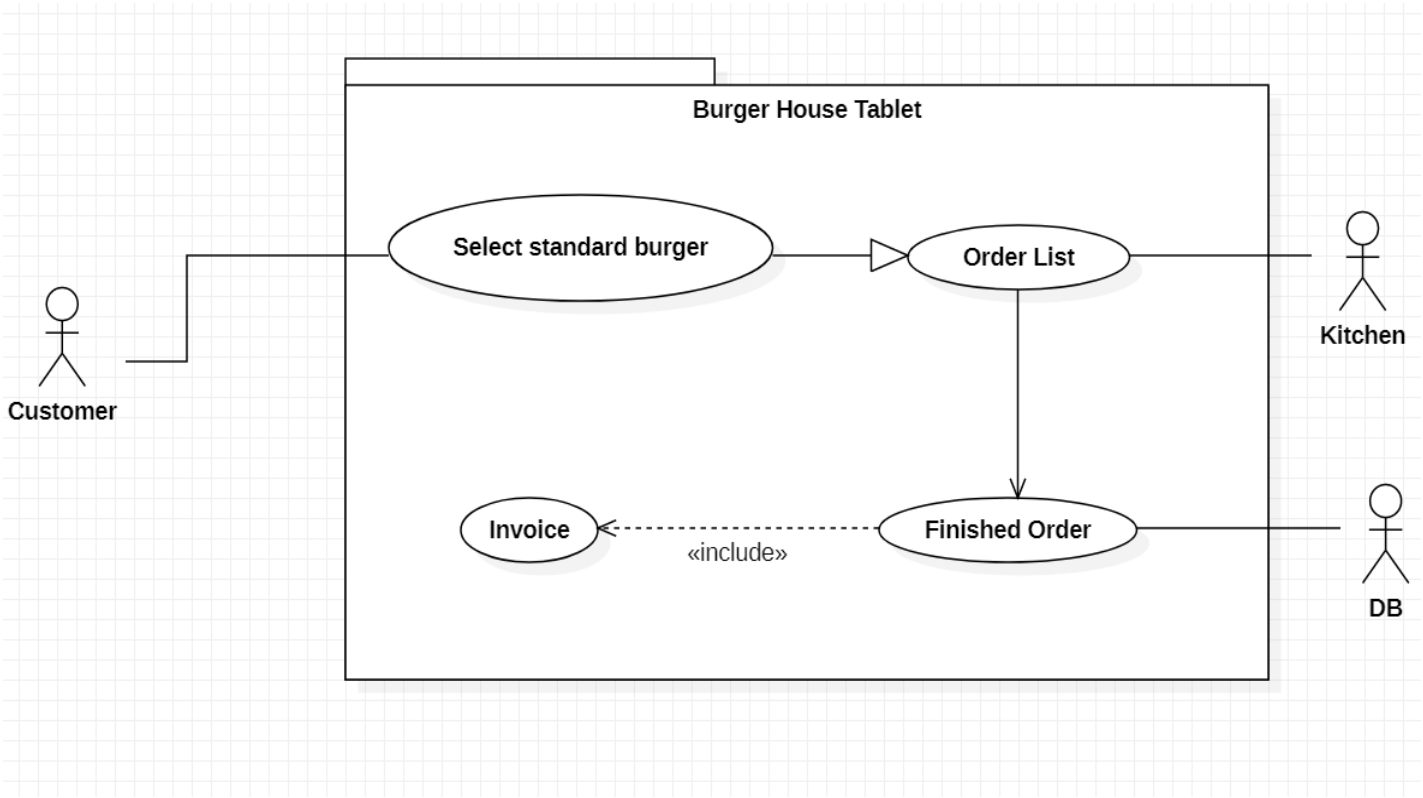
Use Case Diagram „Order Drinks“



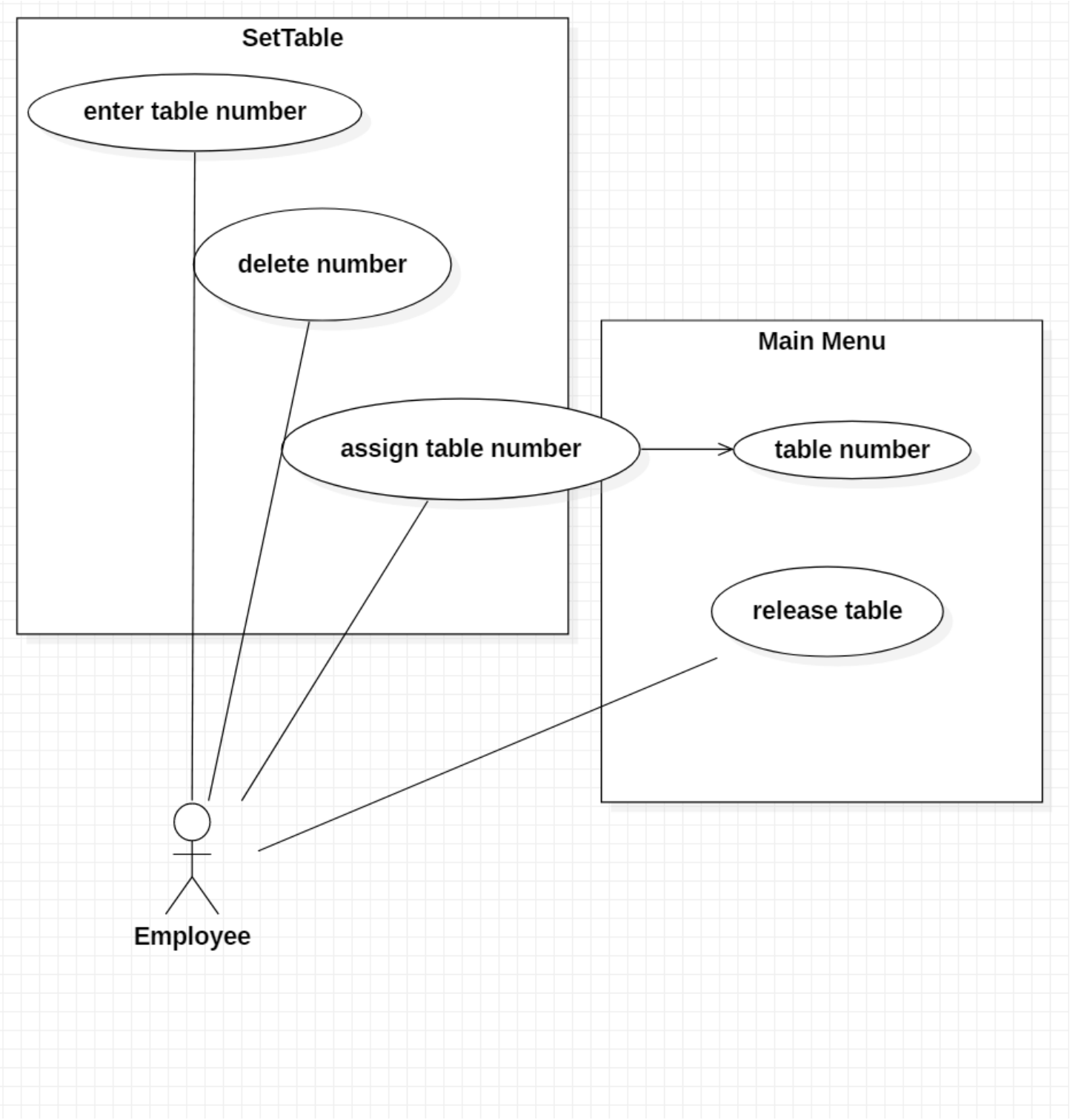
Use Case Diagram “Order Side Dishes”



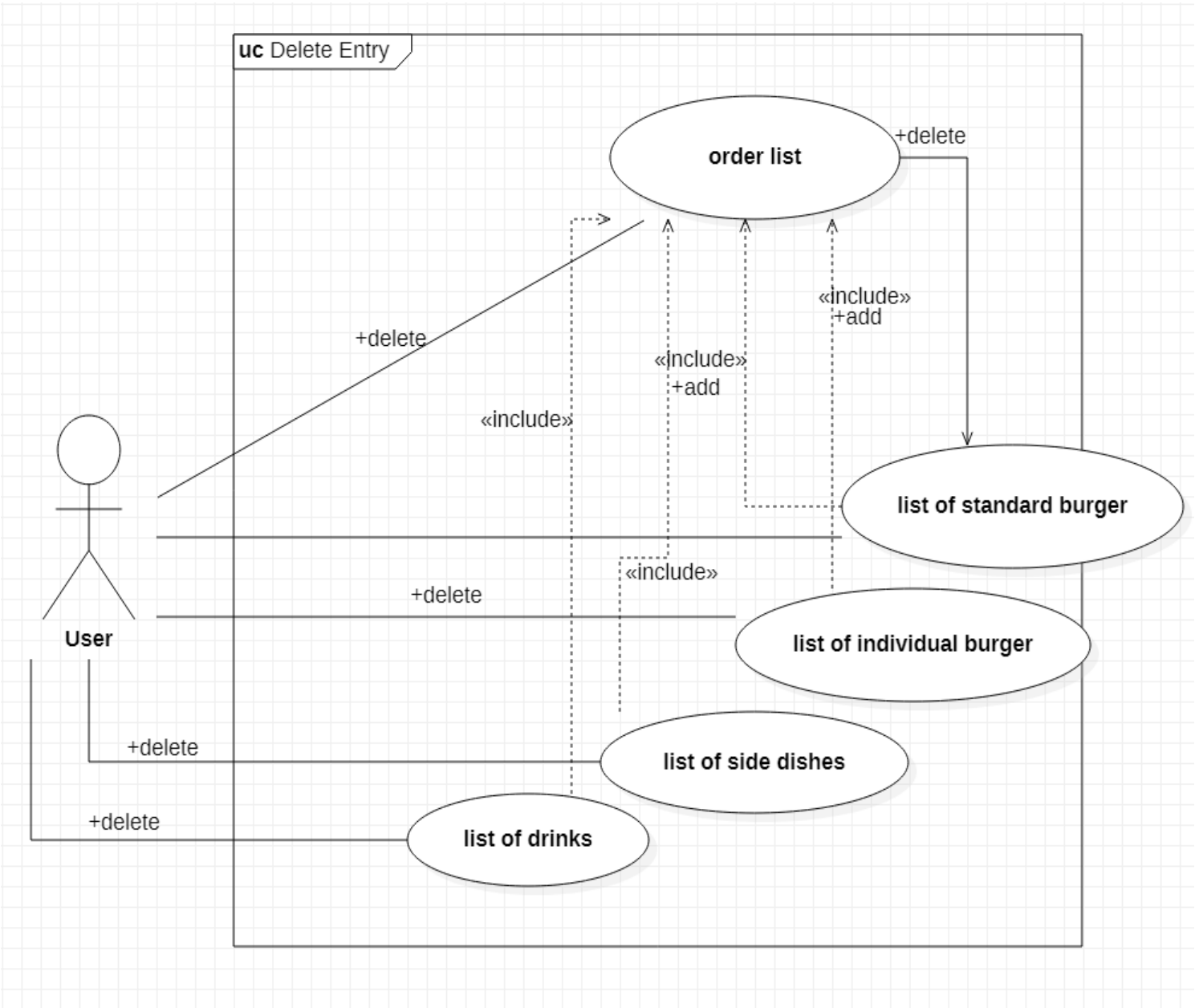
Use Case Diagram “Order Standard Burger”



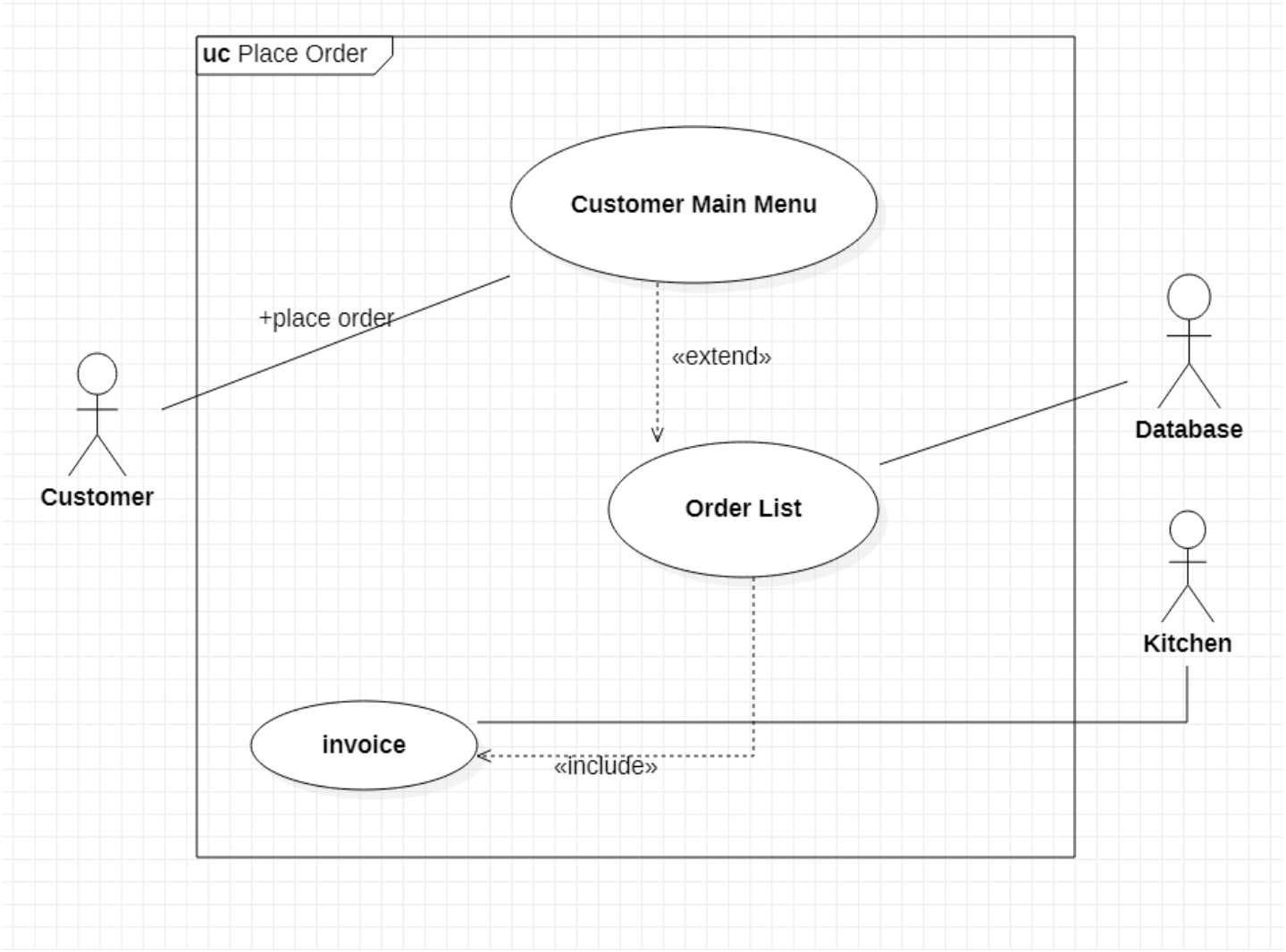
Use Case Diagram “Set Table”



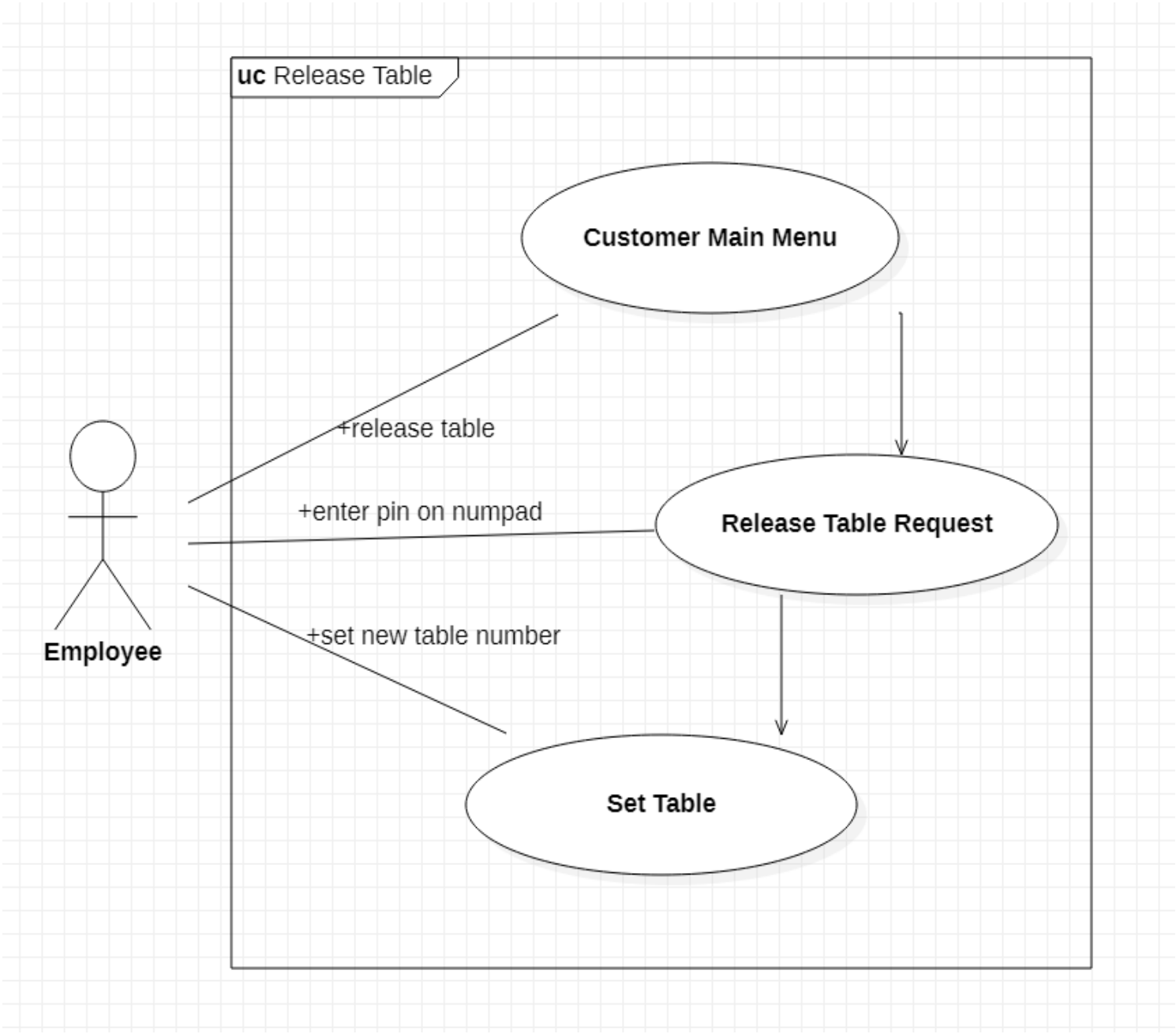
Use Case Diagram “Delete Entry”



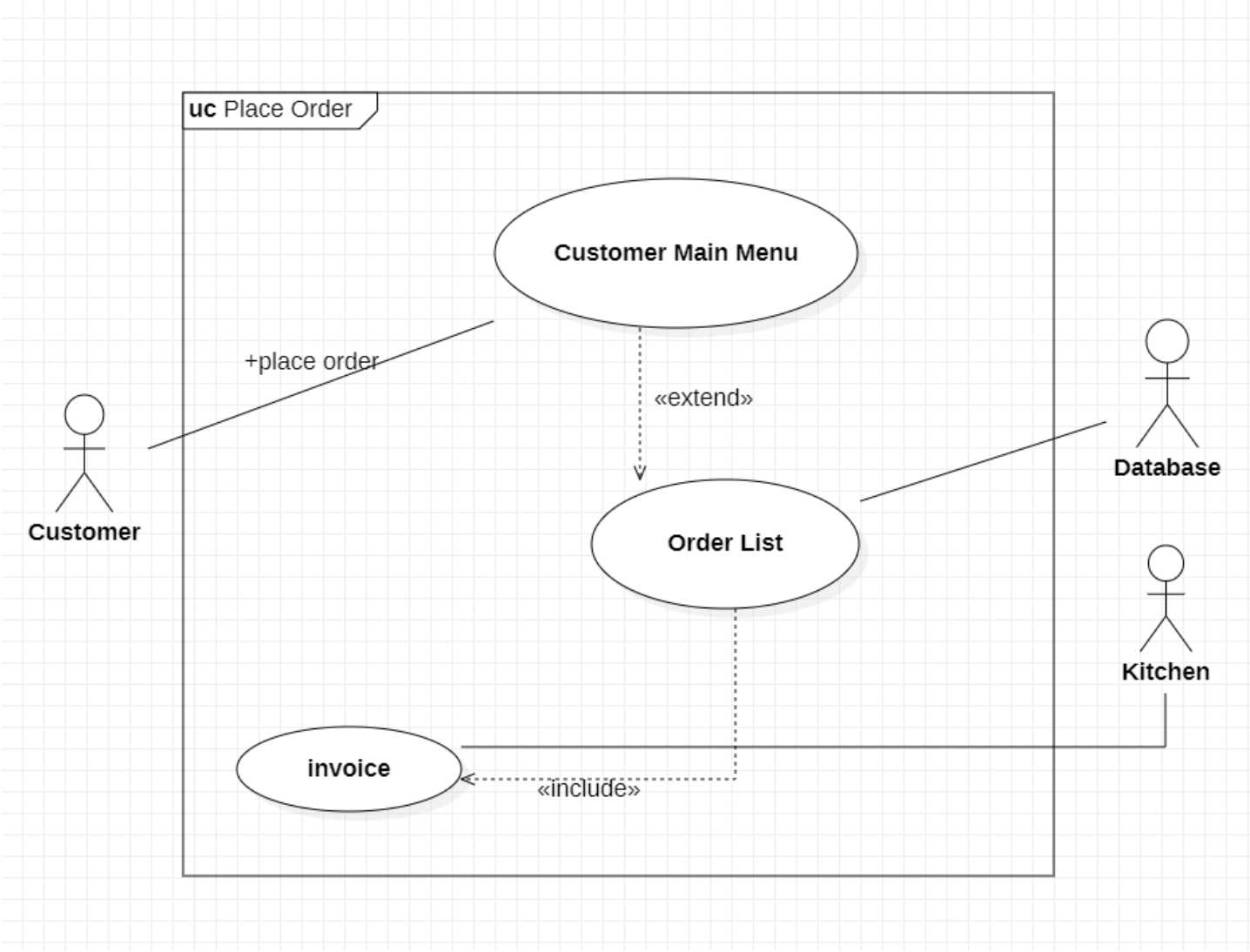
Use Case Diagram ”Place Order”



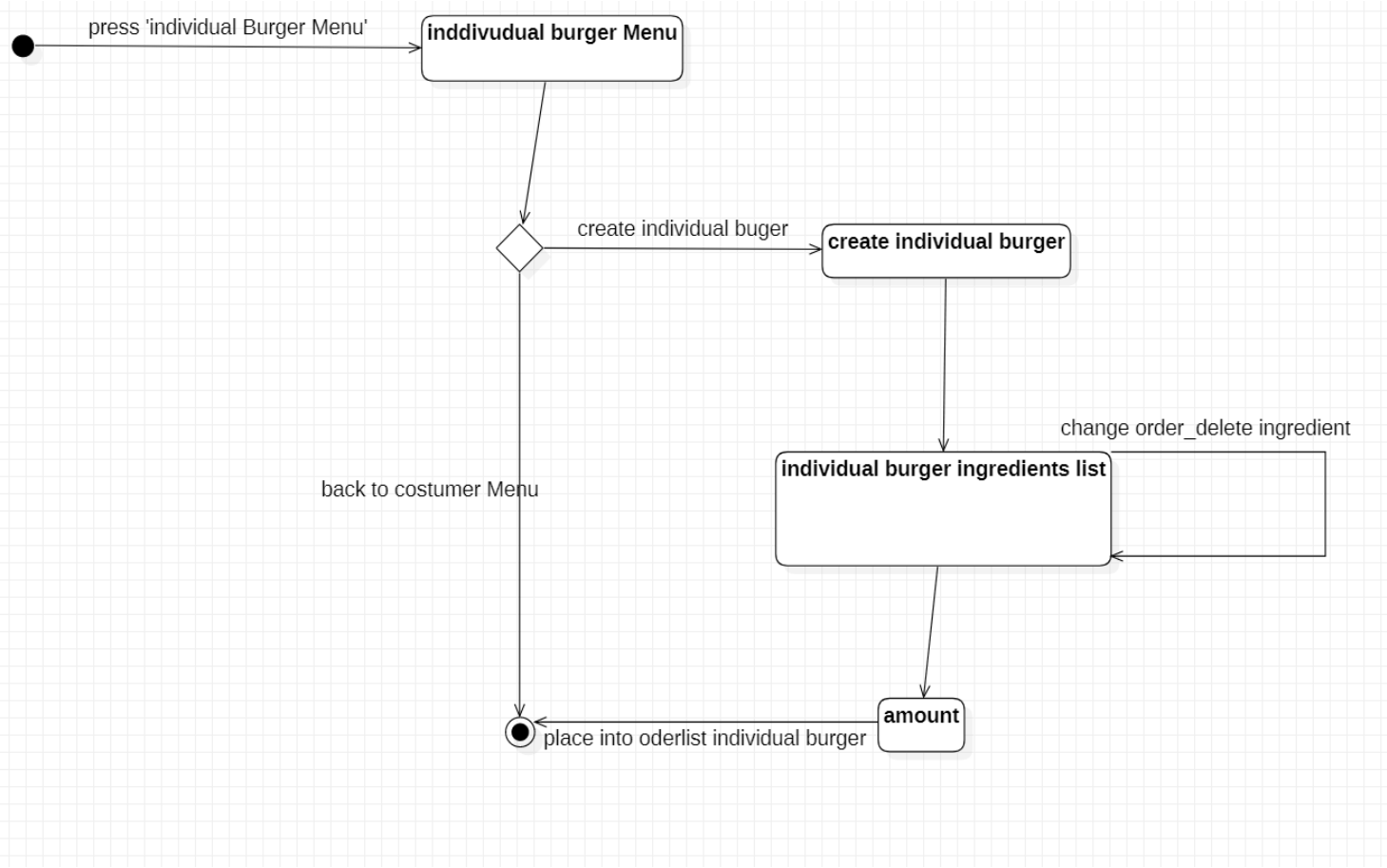
Use Case Diagram “Release Table”



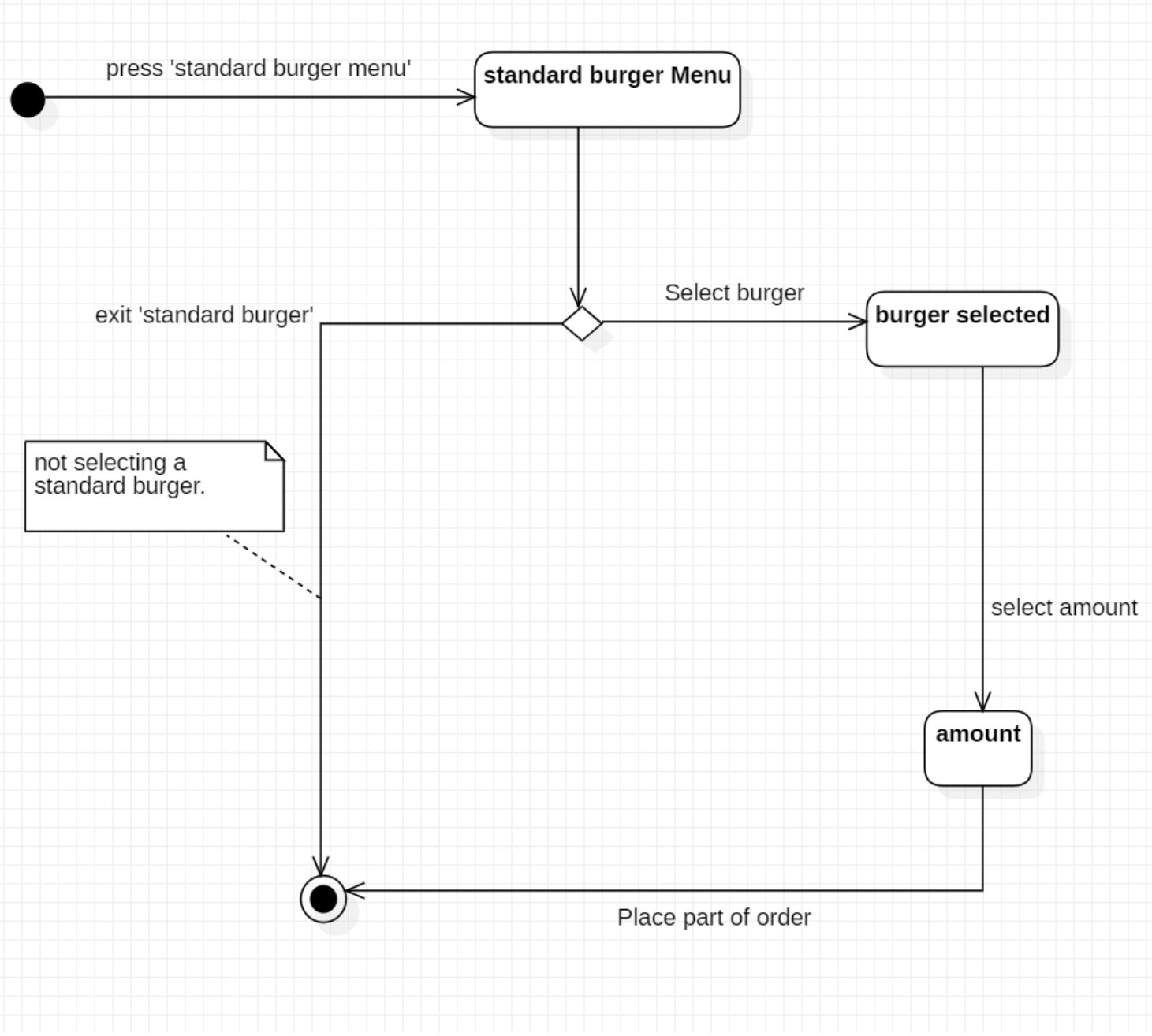
Use Case Diagram “Place Order”



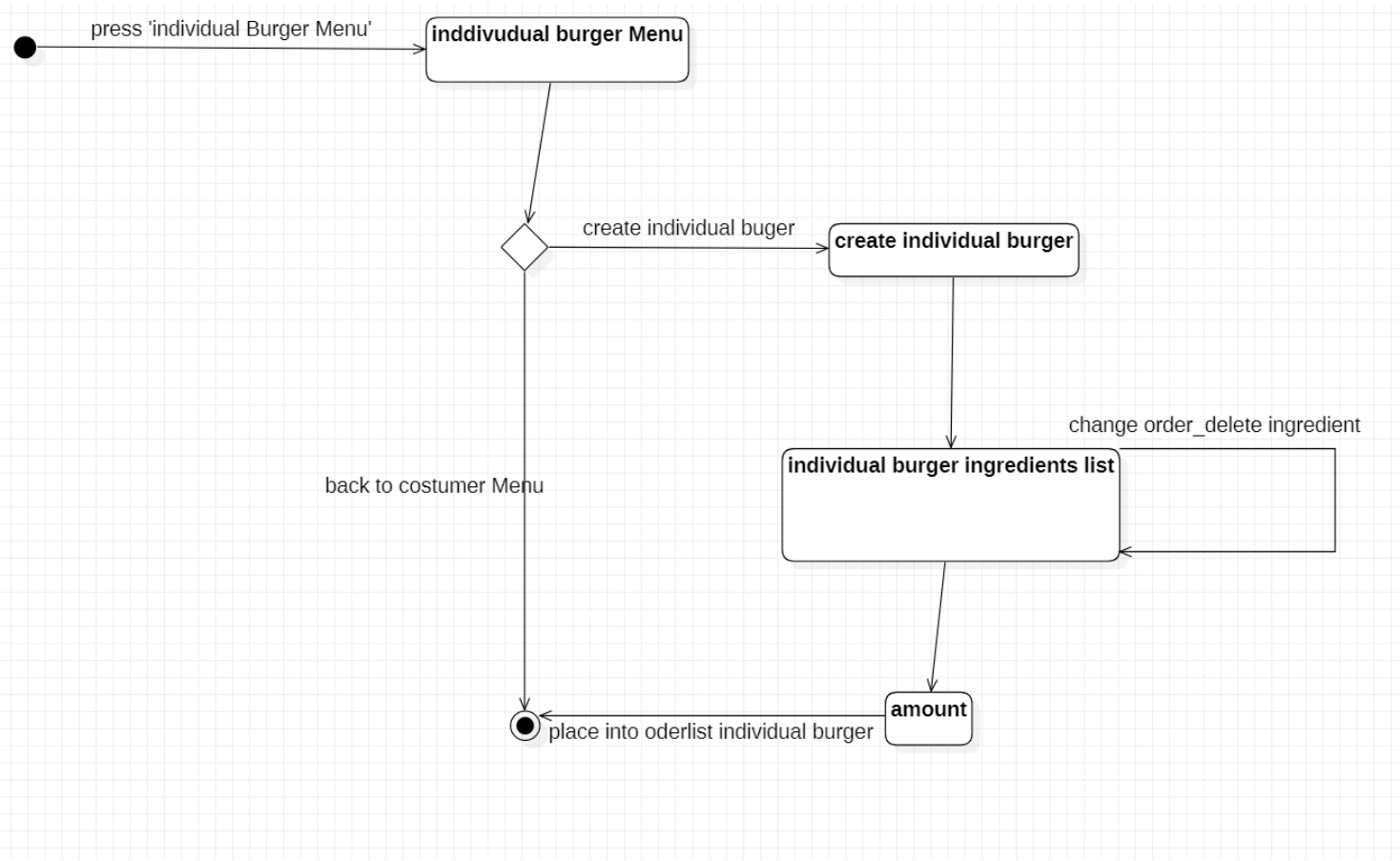
Use Case Diagrama “Individual Burger”



Activity Diagram “Order Standard Burger”

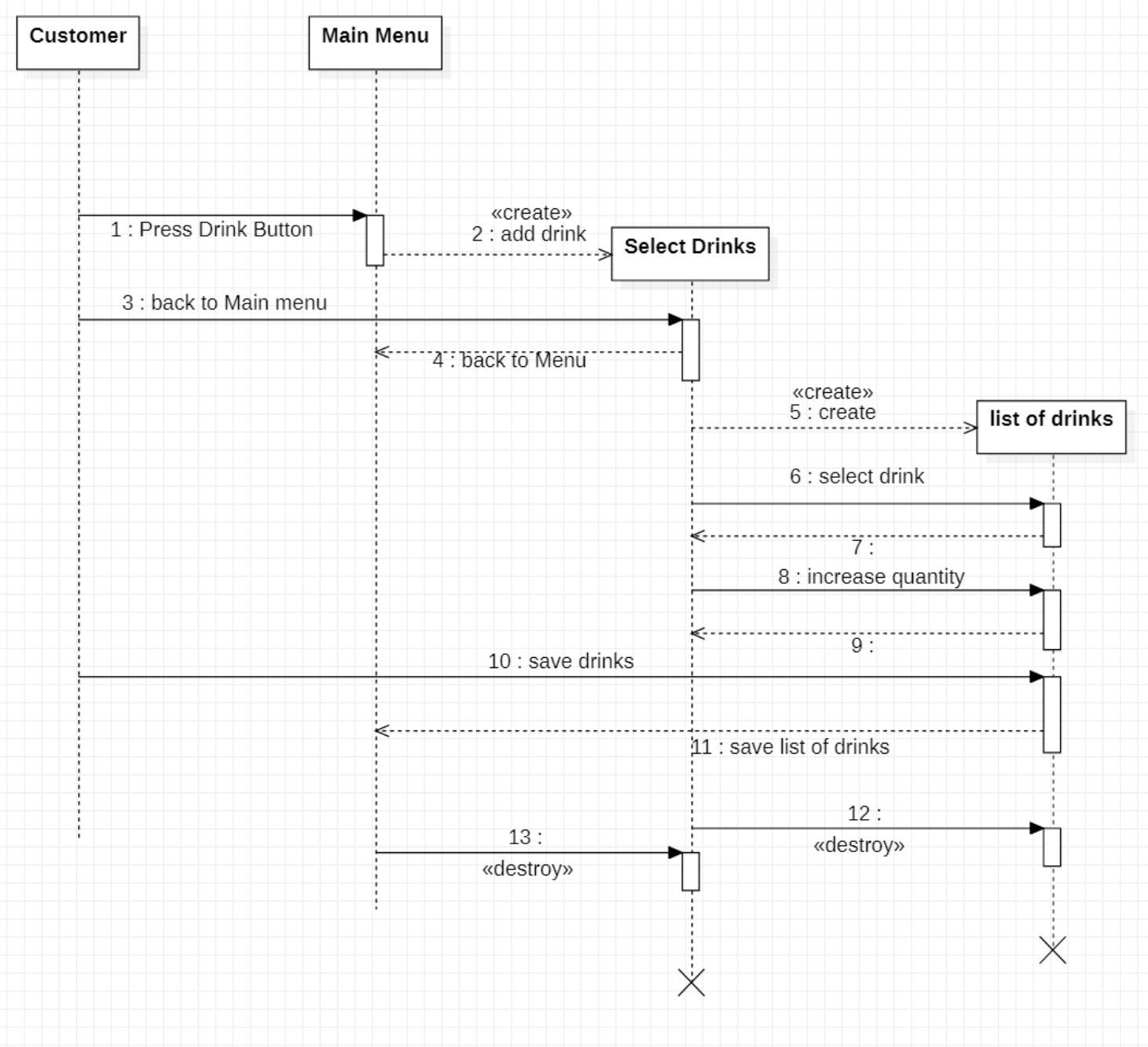


Activity Diagram “Individual Burger”

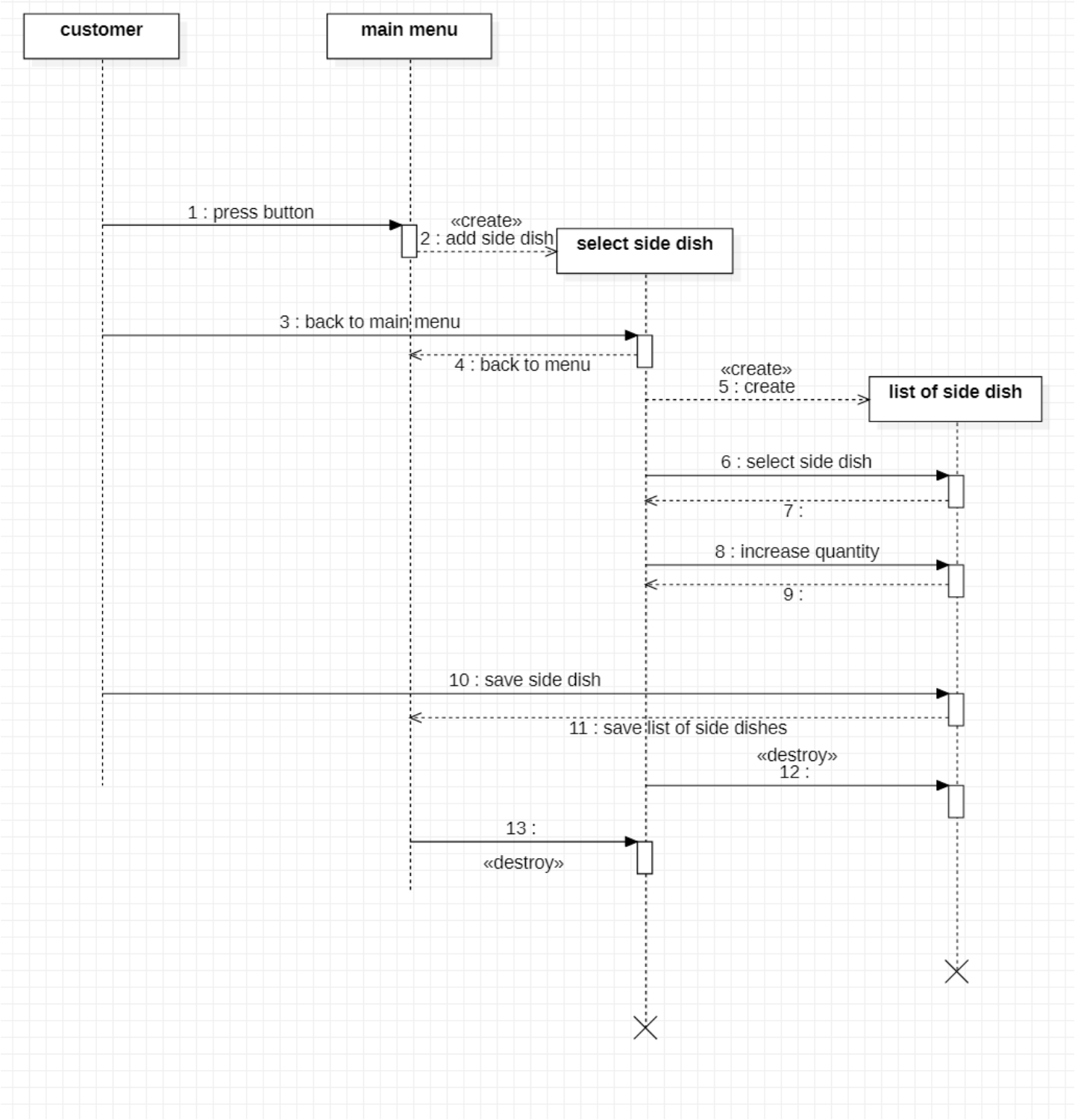


Sequence Diagrams

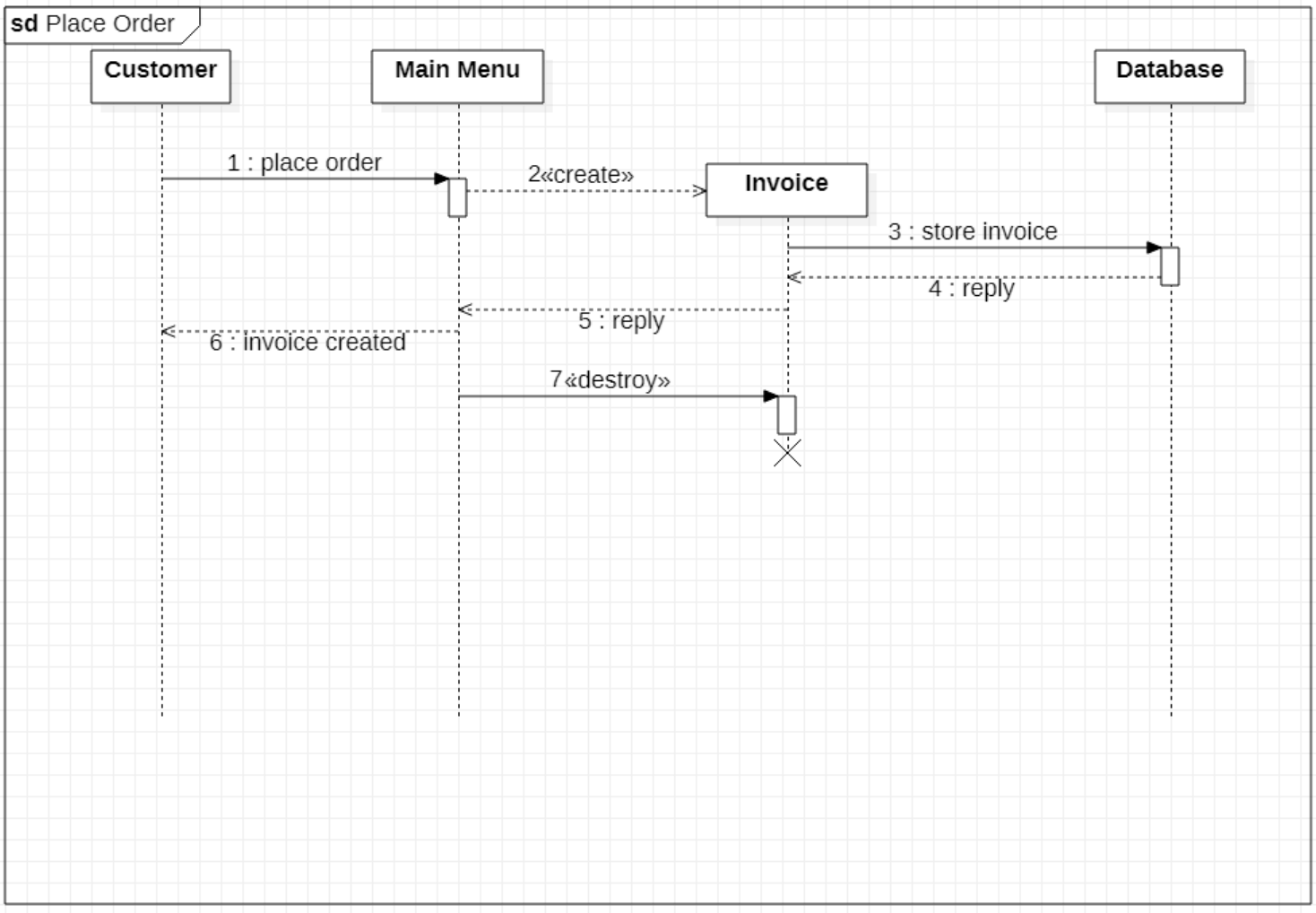
Sequence Diagram “Order Drinks”



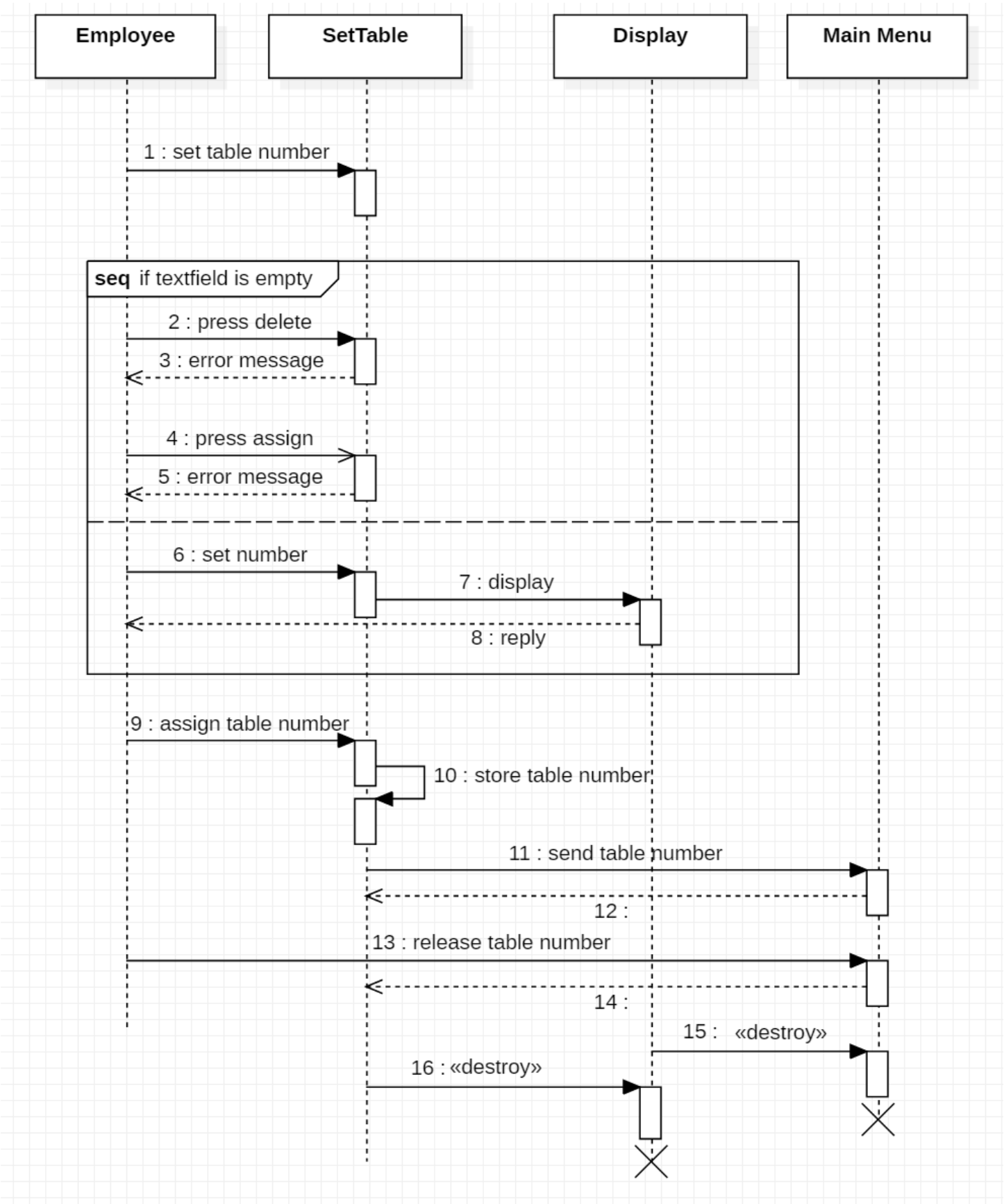
Sequence Diagram “Order Side Dishes”



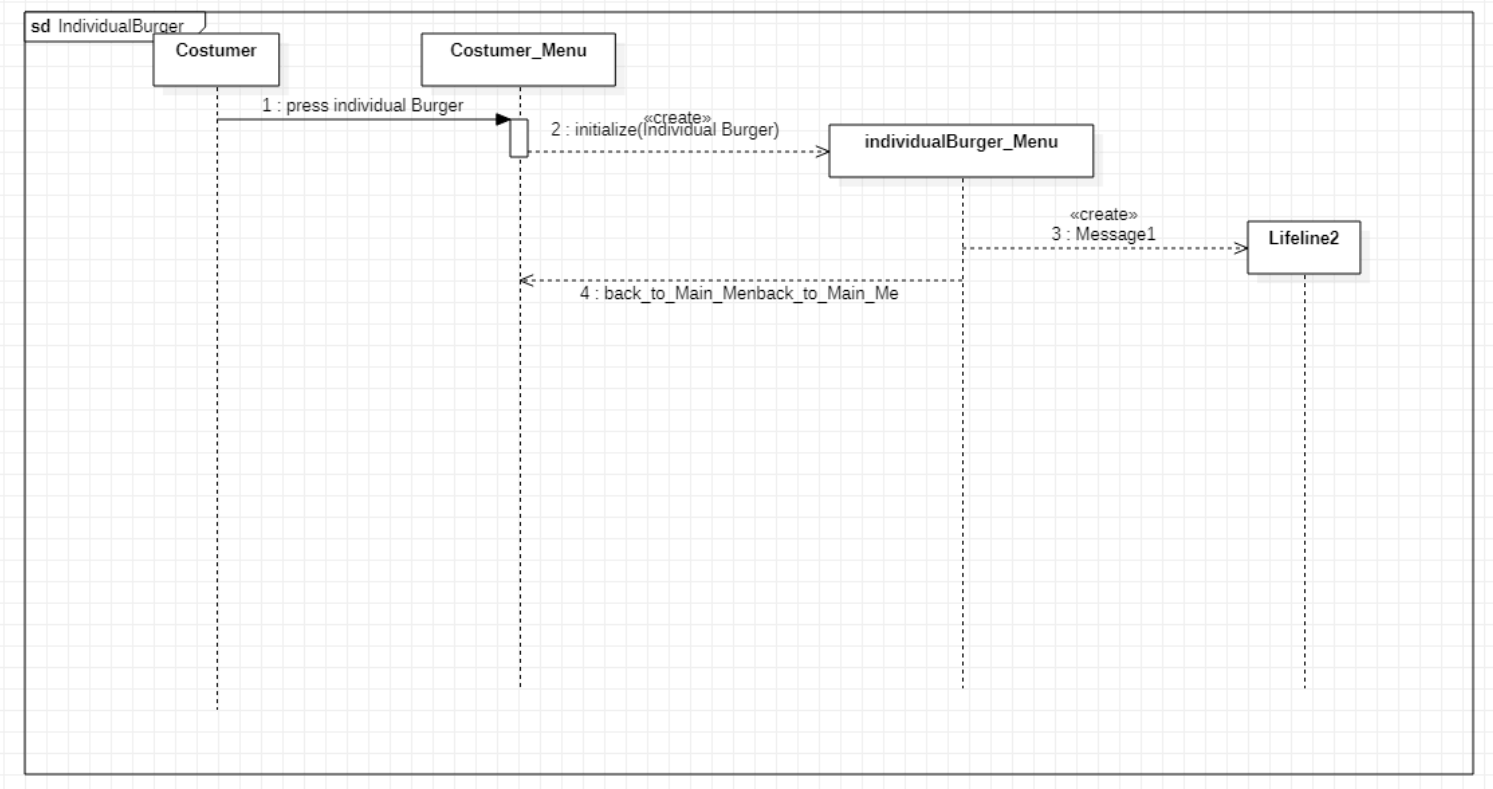
Sequence Diagram „Place Order“



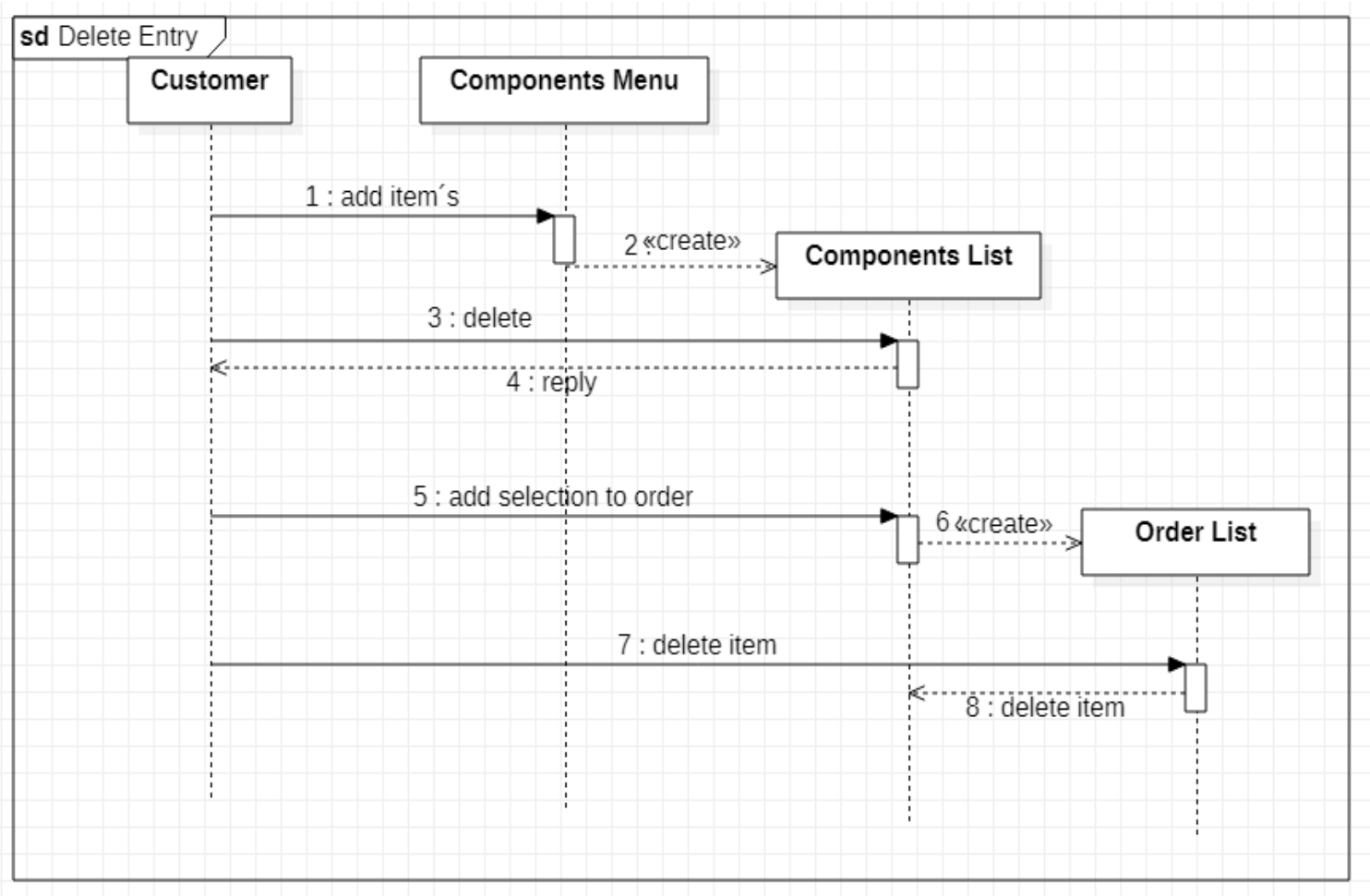
Sequence Diagram “Set Table”



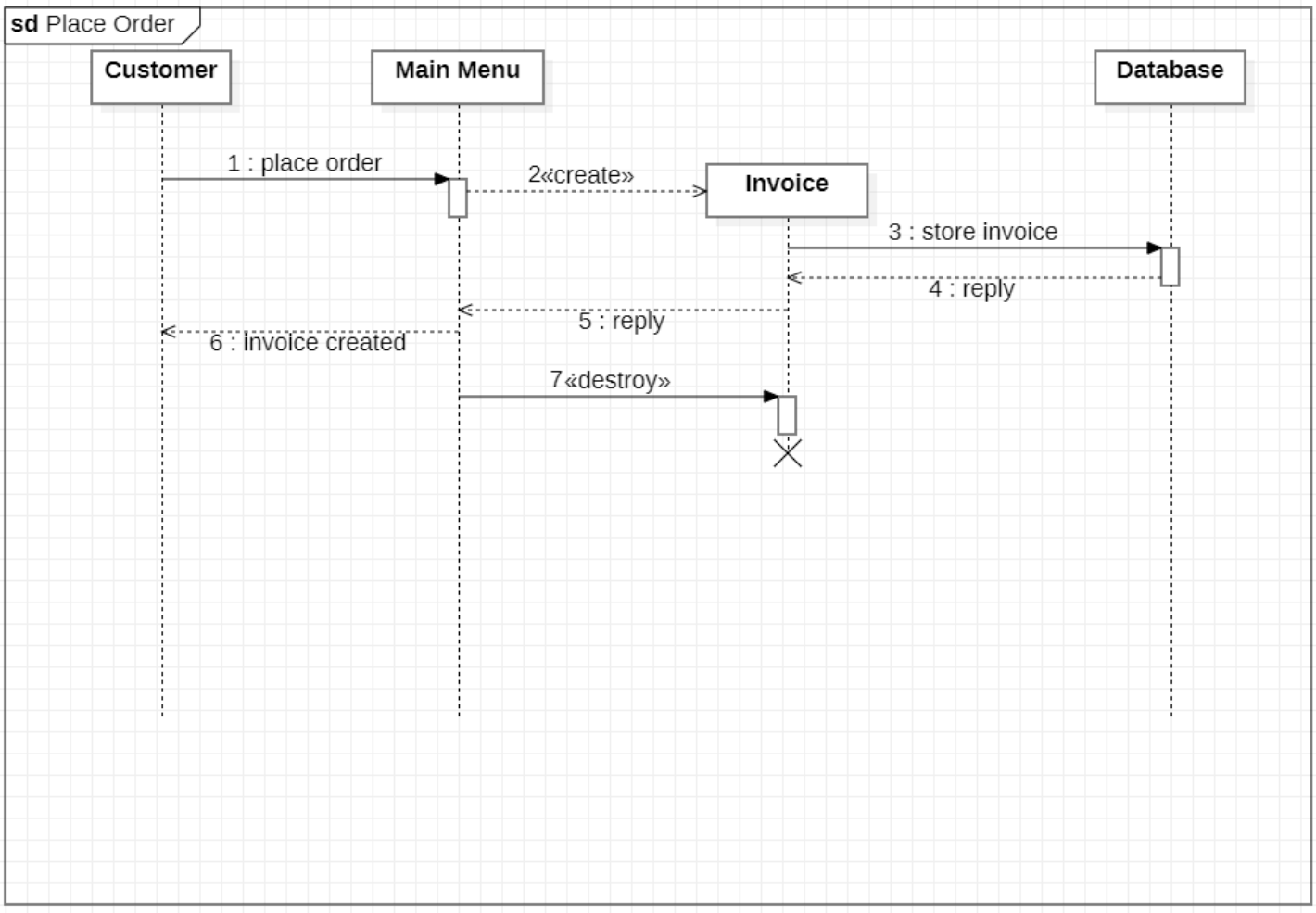
Sequence Diagram “Individual Burger”



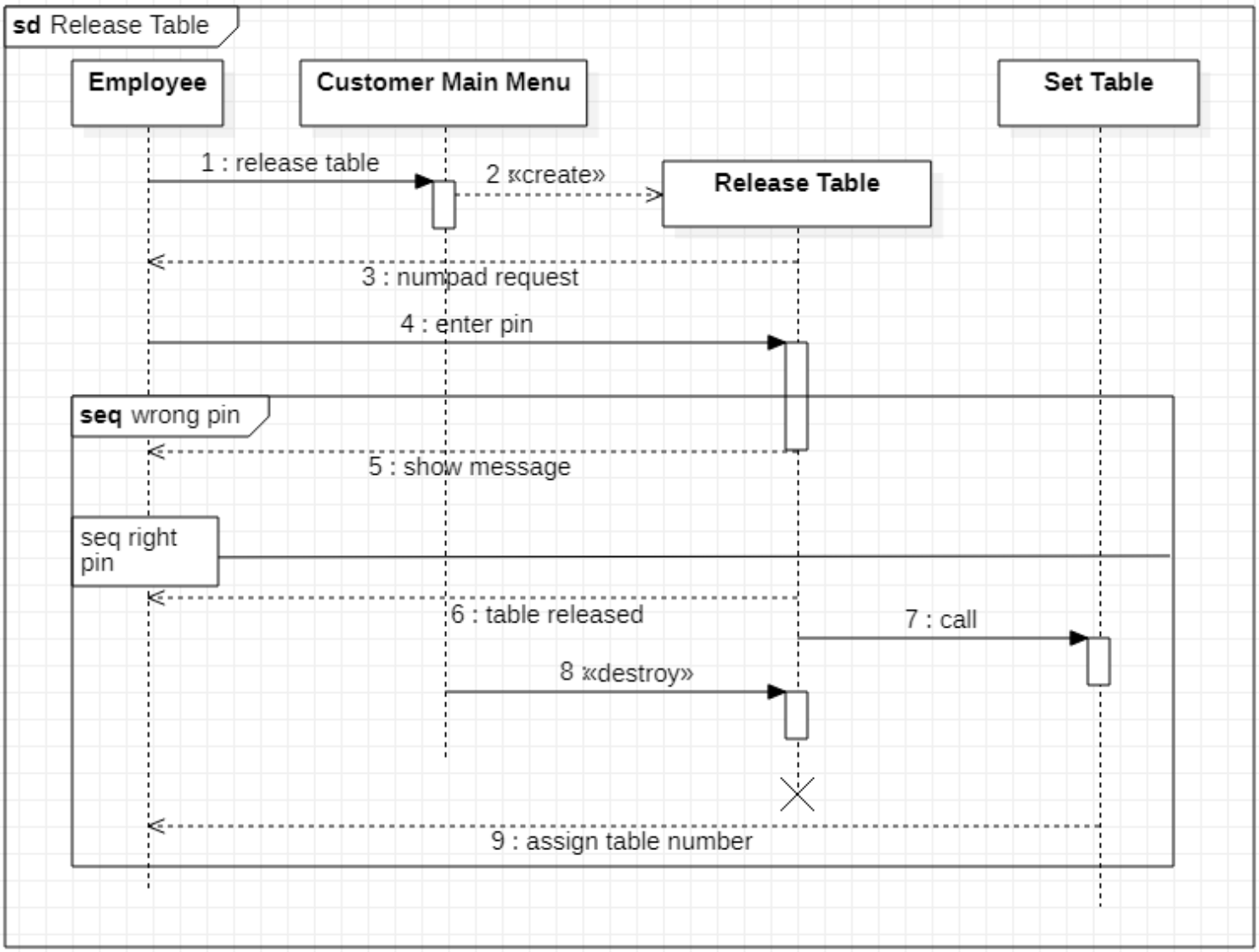
Sequence Diagram “Delete Entry”



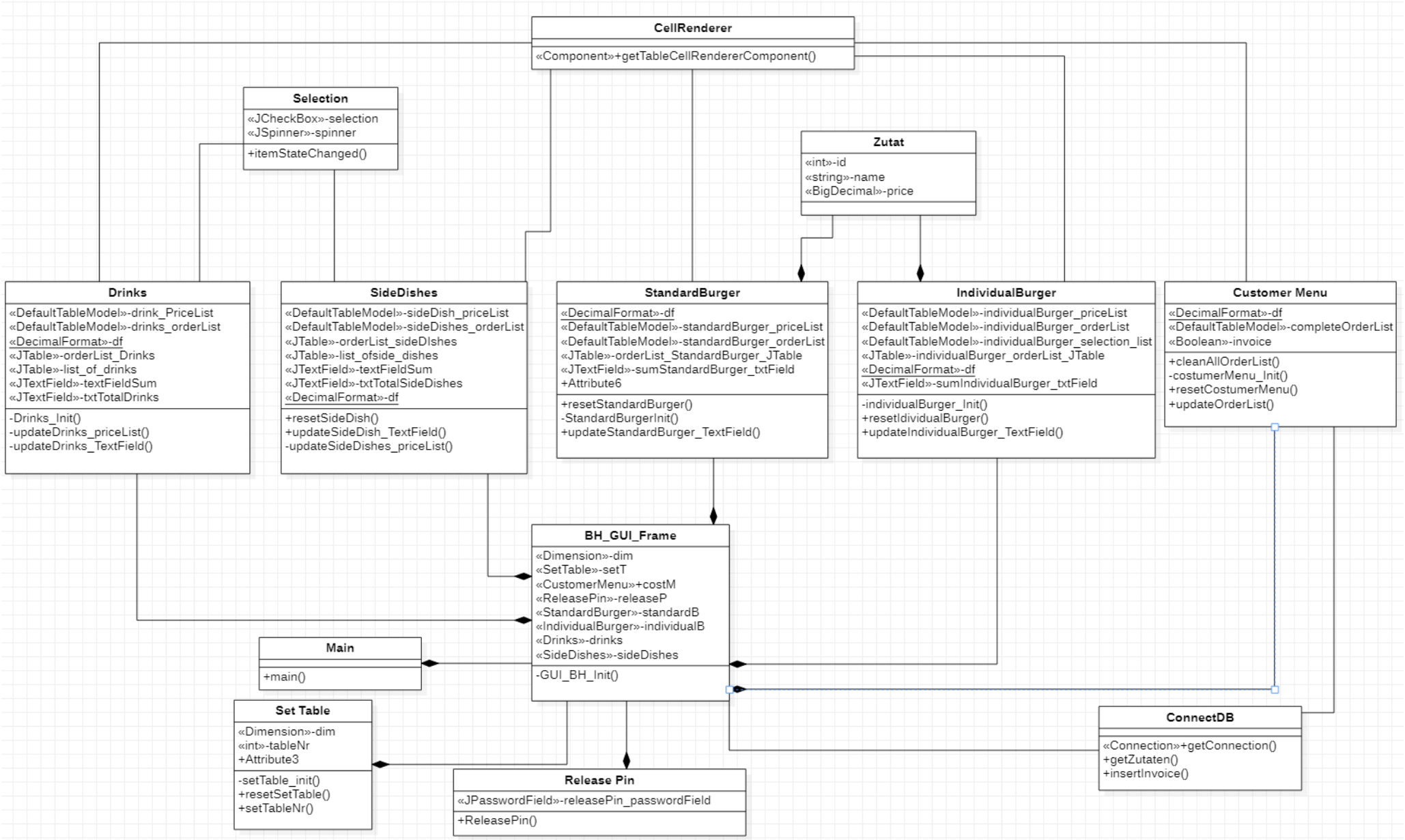
Sequence Diagram “Place Order”



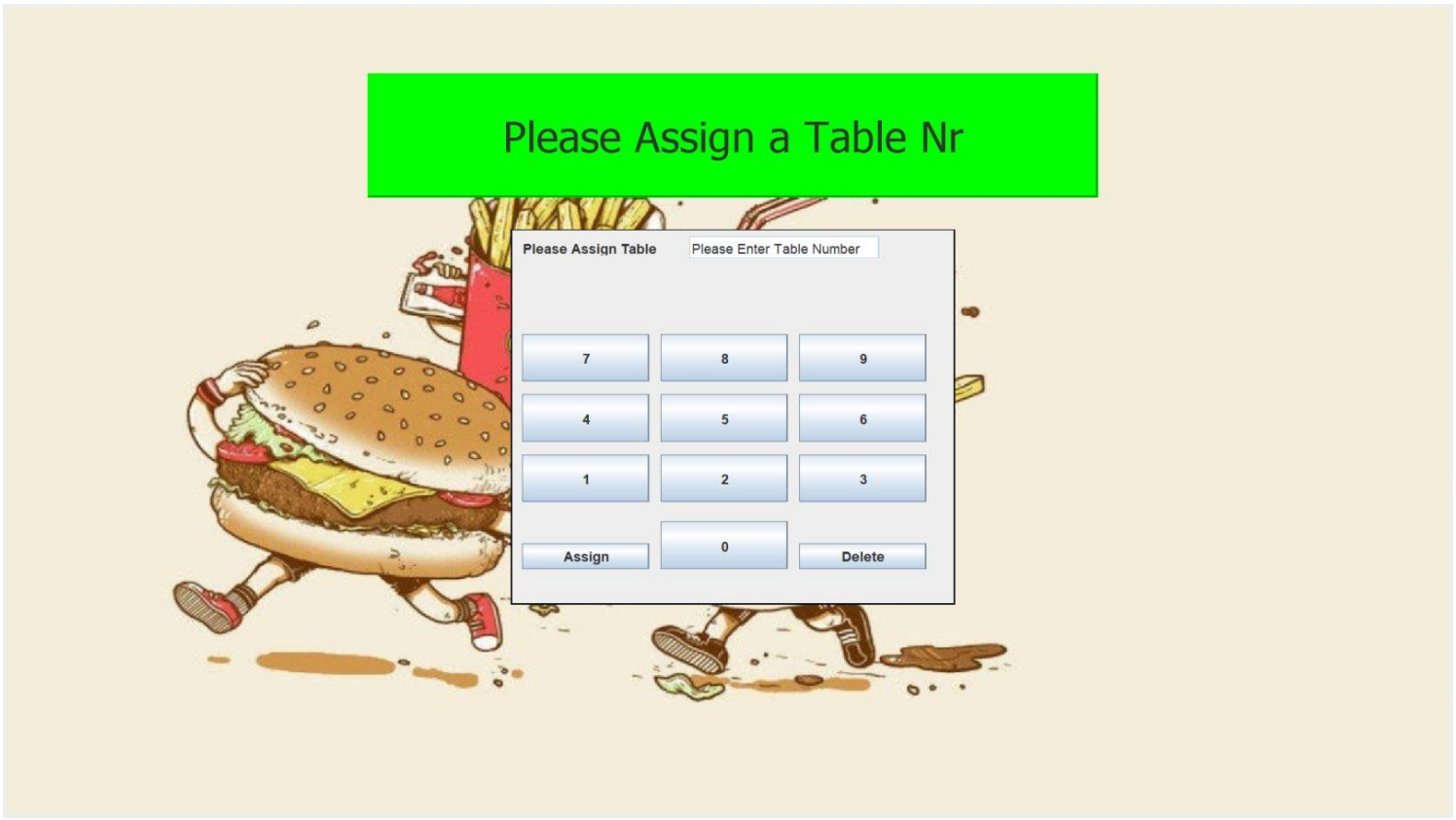
Sequence Diagram “Release Table”

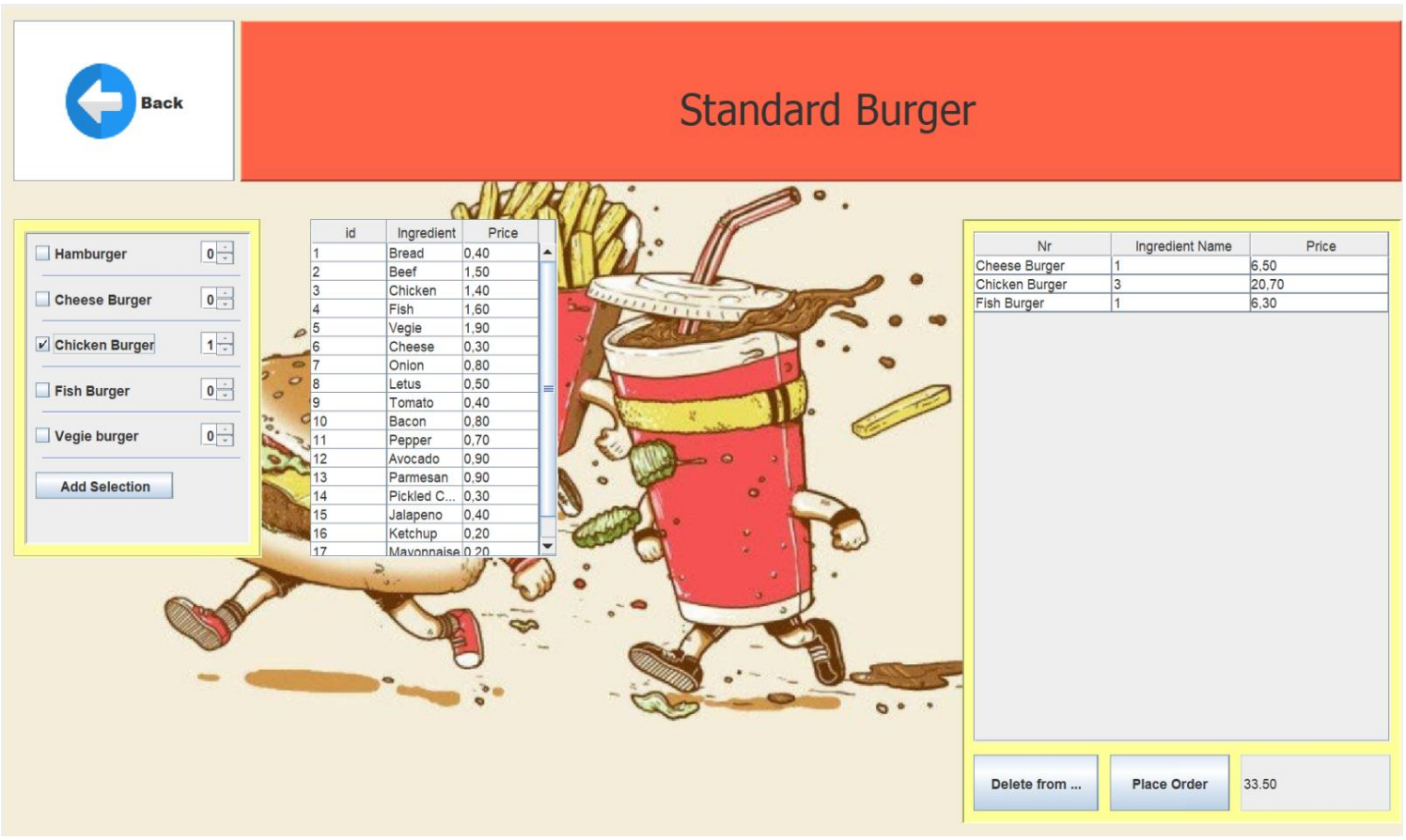


UML Class Diagram



”Burger House” finished Software Program

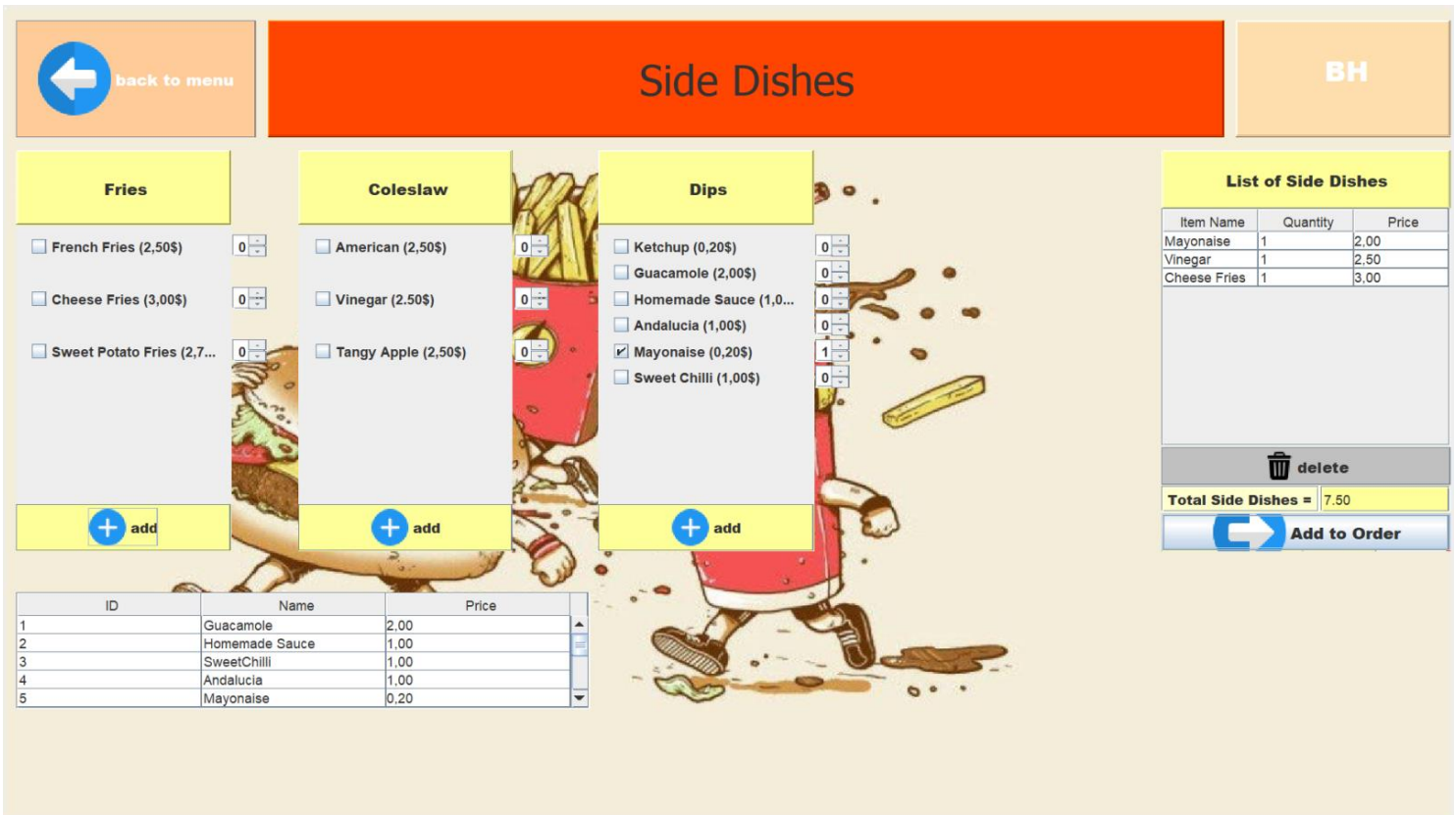


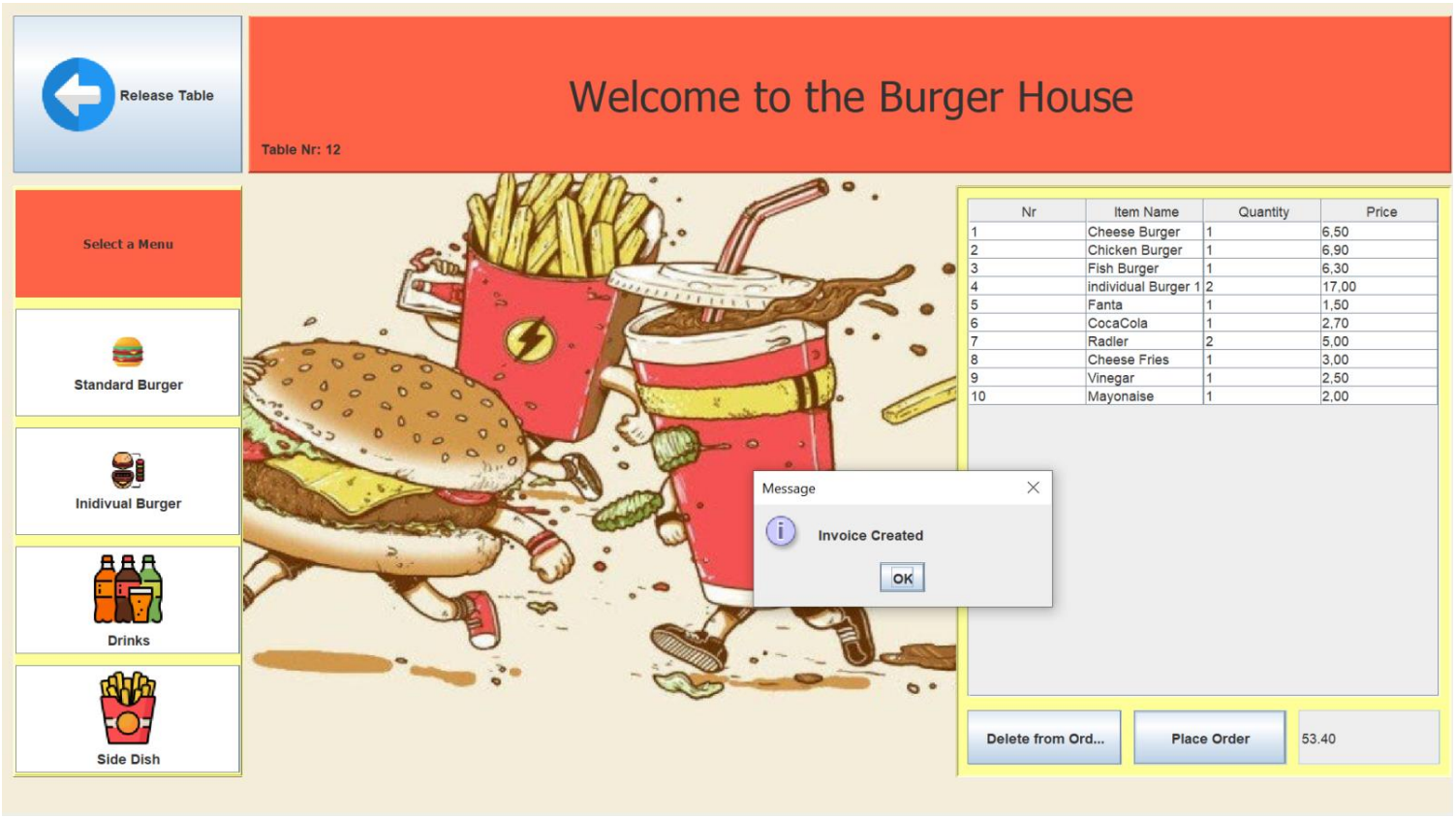


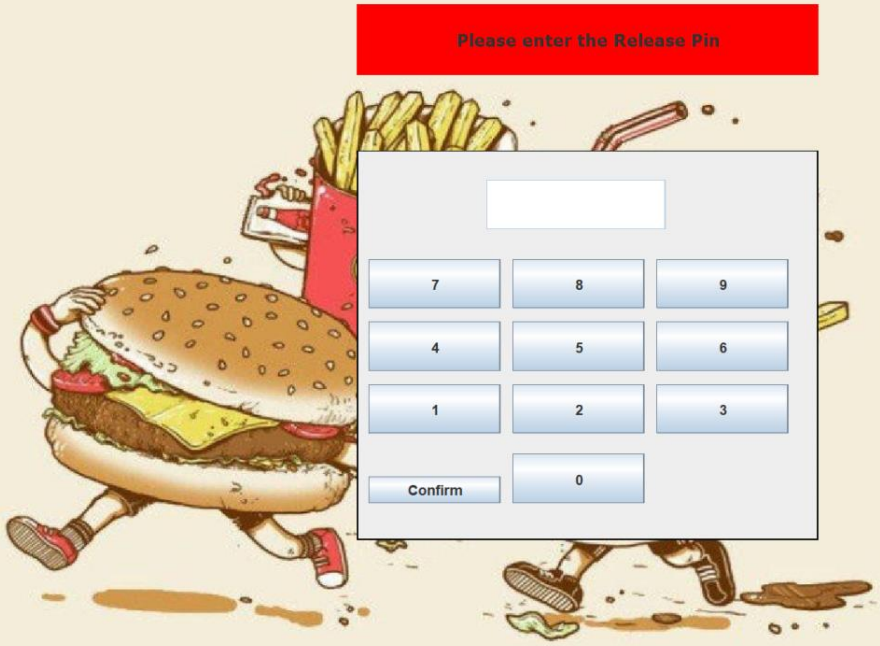

Back
Individual Burger
Ingredient Price List
id
Ingredient
Price
1 Bread 0,40
2 Beef 1,50
3 Chicken 1,40
4 Fish 1,60
5 Vegie 1,90
6 Cheese 0,30
7 Onion 0,80
8 Letus 0,50
9 Tomato 0,40
10 Bacon 0,80
11 Pepper 0,70
12 Avocado 0,90
Add ingredient
Ingredient Price List
Item Name
Price
Add to Order
0
Up
Delete
Down
Item Name
Quantity
Price
individual Burger 1
2
17,00
Delete from O...
Place Order
17.00


back to menu
Drinks
BH
Softdrinks
CocaCola (1,50$)
Fanta (2,50$)
Sprite (1,50$)
CocaColaLight (1,50$)
Lemonade (1,70$)
Ice Tea (1,50$)
Apple Spritzer (1,70$)
Bionade (1,70$)
Soda (1,20$)
add
Alcoholics
Heiniken (2,50$)
Becks (2,50$)
Radler (2.50$)
Wine 0,75 (4,00$)
Wine 0,25 (2,40$)
add
Smoothies
Nutella Donut (6,50$)
Strawberry Banana (5,...
Snickers (5,00$)
Oreo (5,00$)
Coconut Kiss (5,00$)
Tropical Punch (5,00$)
add
List of Drinks
Item Name
Quantity
Price
Fanta
1
1,50
CocaCola
1
2,70
Radler
2
5,00
delete
Total Drinks =
9.20
Add to Order
ID
Name
Price
1 Coca Cola 1.5
2 Fanta 1.5
3 Sprite 1.5
4 Coca Cola Light 1.5
5 Homemade Lemonade 2.7


Release Table
Welcome to the Burger House
Table Nr: 12
Select a Menu
Standard Burger
Inidivual Burger
Drinks
Side Dish
Nr
Item Name
Quantity
Price
1 Cheese Burger 1 6,50
2 Chicken Burger 1 6,90
3 Fish Burger 1 6,30
4 individual Burger 1 2 17,00
5 Fanta 1 1,50
6 CocaCola 1 2,70
7 Radler 2 5,00
8 Cheese Fries 1 3,00
9 Vinegar 1 2,50
10 Mayonaise 1 2,00
Delete from Ord...
Place Order
53.40


back to menu
Side Dishes
BH
Fries
French Fries (2,50$)
Cheese Fries (3,00$)
Sweet Potato Fries (2,7...
add
Coleslaw
American (2,50$)
Vinegar (2.50$)
Tangy Apple (2,50$)
add
Dips
Ketchup (0,20$)
Guacamole (2,00$)
Homemade Sauce (1,0...
Andalucia (1,00$)
Mayonaise (0,20$)
Sweet Chilli (1,00$)
add
List of Side Dishes
Item Name
Quantity
Price
Mayonaise 1 2,00
Vinegar 1 2,50
Cheese Fries 1 3,00
delete
Total Side Dishes = 7.50
Add to Order
ID
Name
Price
1 Guacamole 2,00
2 Homemade Sauce 1,00
3 SweetChilli 1,00
4 Andalucia 1,00
5 Mayonaise 0,20


Release Table
Welcome to the Burger House
Table Nr: 12
Select a Menu
Standard Burger
Inidivual Burger
Drinks
Side Dish
Nr
Item Name
Quantity
Price
1 Cheese Burger 1 6,50
2 Chicken Burger 1 6,90
3 Fish Burger 1 6,30
4 individual Burger 1 2 17,00
5 Fanta 1 1,50
6 CocaCola 1 2,70
7 Radler 2 5,00
8 Cheese Fries 1 3,00
9 Vinegar 1 2,50
10 Mayonaise 1 2,00
Message
Invoice Created
OK
Delete from Ord...
Place Order
53.40


Please enter the Release Pin
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Sources

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https://1freewallpapers.com/fast-food-cola-french-fries-burger-art/de

https://www.flaticon.com/free-icon/fried-potatoes_1046786?term=fries&page=1&position=4&page=1&position=4&related_id=1046786#

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AFFIDAVIT

We, Sebastian Aybar, Richard Del Rosario, hereby declare, in lieu of an oath, that the present work titled "Burger House – Ordering System" was written independently and without outside assistance or any support materials other than those specified in the source disclosure. The parts of the work, inspired by or containing the meaning and / or wording of outside material, in any case, are marked by the disclosure of the sources. The work has not yet been published or submitted in any form as an examination. The registration at the examination office Frankfurt University of Applied Sciences for this examination has been completed.

Frankfurt am Main,

Student's signatures:

_____