



Food delivery System



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Table of Contents

Abstract:	3
Introduction	3
Problem Definition	3
The plurality of services that customer needs	3
Availability of shops	4
Diet Service availability	4
Transportation issues	4
Solution	4
Approach	5
Application Diagrams	5
Use-case diagram.....	5
Activity diagram.....	6
Sequence diagram	7
Class diagram	8
ER diagram	9
Schema	10
Application GUI	10
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References	18

Food Delivery System

Abstract:

Saudi Arabia's online food ordering and delivery market were valued at USD 511.21 Million in 2020 which is forecast to grow at a 10.5% CAGR during 2021 – 2026. Even after the challenge of the pandemic in 2020, the market showed consistent growth. Digitization and the emergence of advanced online services are expected to drive Saudi Arabia's online food ordering and delivery market in the next five years. The new age generation-Z leads a hectic life and the convenience of saving time is a major factor in the growing popularity of the online food ordering and delivery market in Saudi Arabia. [1]

Introduction

Food delivery is a service in which a restaurant, store, or independent food-delivery company delivers food to a customer. An order is typically made either through a restaurant or grocer's website or mobile app or through a food ordering company. The delivered items can include entrees, sides, drinks, desserts, or grocery items and are typically delivered in boxes or bags. The delivery person will normally drive a car, but in bigger cities where homes and restaurants are closer together, they may use bikes or motorized scooters. [2]

Problem Definition

App Deliveries are growing more than ever due to the pandemic. For instance, the increase of food delivery app usage in North America skyrocketed by 122% in 2020 compared to 2019. The increase in users leads to the emergence of new problems and complaints.[3] some of them are:

The plurality of services that customer needs

Smartphones users are always looking for applications that provide services like delivery from restaurants, groceries, pharmacies, or anywhere else. So, we combine these services in only one application. So, the users will replace many apps with only one, and it will provide a variety of services to them.

Availability of shops

The lack of shops is a big problem, because if someone wants a specific shop and it's not near the customer or it's not available in the city, this may lead to a customer not reaching the wanted shop or receive a specific service.

We will solve this problem in our application by providing many popular shops and services, even if a shop or service is not available, the application will give you a chance to contact the delivery representative to provide the wanted shop or service.

Diet Service availability

Many customers order excessive amount of food that is more than they need and which they aren't aware about, or there're customers which are concerned of their diet, they want to eat lower than a specific number of calories.

Our app will provide a diet service which when activated and entered a limit for calories from settings, it will sum the number of calories of the meals in cart and tells the user if it's above the limit or not.

Transportation issues

In a city that have a lot of traffic jams becomes a priority issue, a lot of people don't have a car, and don't know when the bus or train will come or where is it right now, what about if you want to reach the location as fast as possible? with long waiting in traffic jams, car transportation will become expensive since delivery captain will take less people in a day.

Here were our application comes in, you can request a shared small car if you are alone and want to reduce the cost, a family van if you have a family to get a ride, the closest car for you if you are in hurry, a luxury car if you want to go to business meeting, and check the bus and train rotation to book a stop to save the public bus and train time for not having to stop at every stop station and making sure that you'll get to your location on time.

Solution

Here is where our application comes in, you can request a shared small car if you are alone and want to reduce the cost, a family van if you have a family to get a ride, the closest car for you if you are in a hurry, a luxury car if you want to go to a business meeting, and check the bus and train rotation to book a stop to save the public bus and train time for not having to stop at every stop station and making sure that you'll get to your location on time.

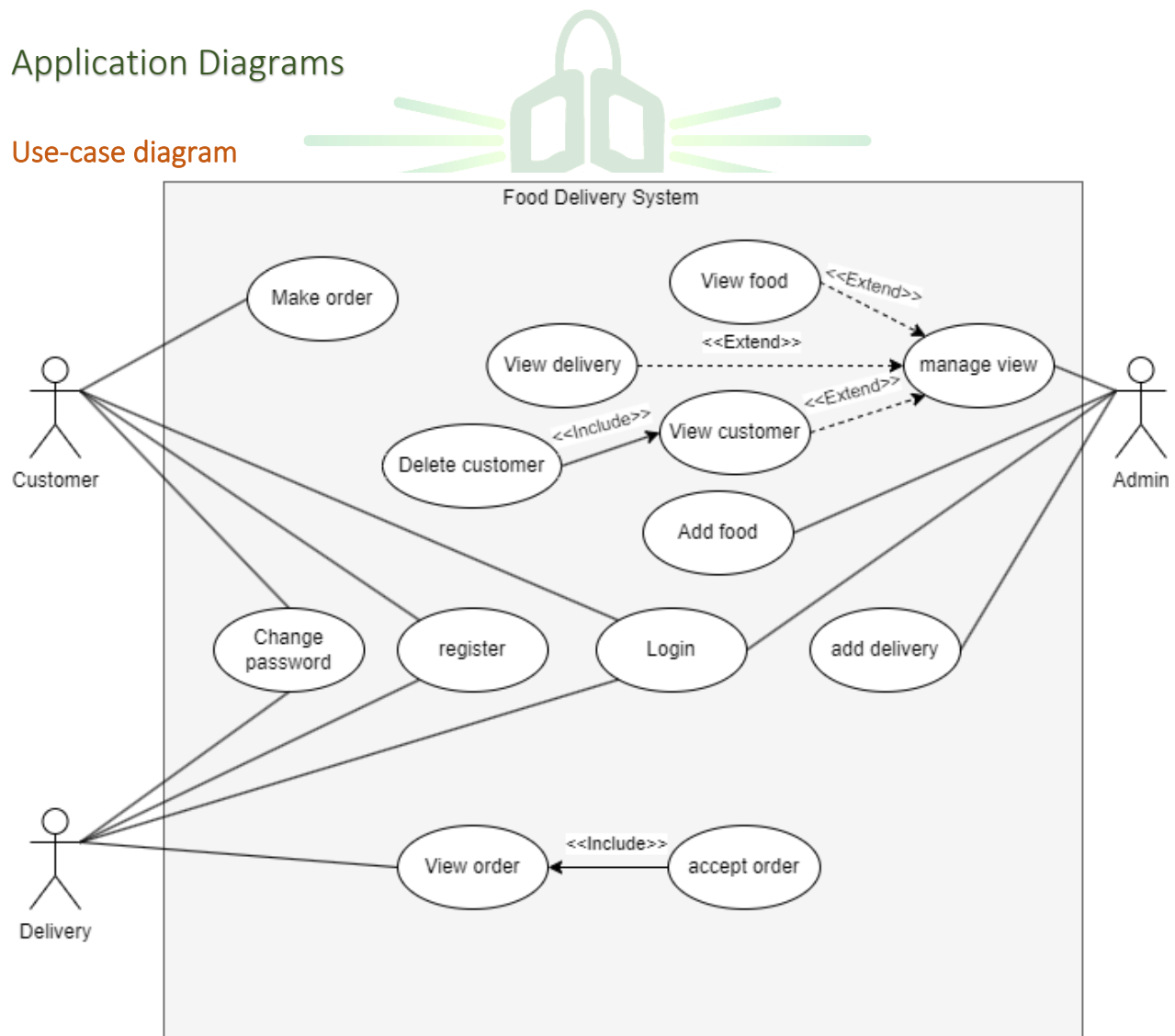
Approach

We have decided to use RAD Methodology because:

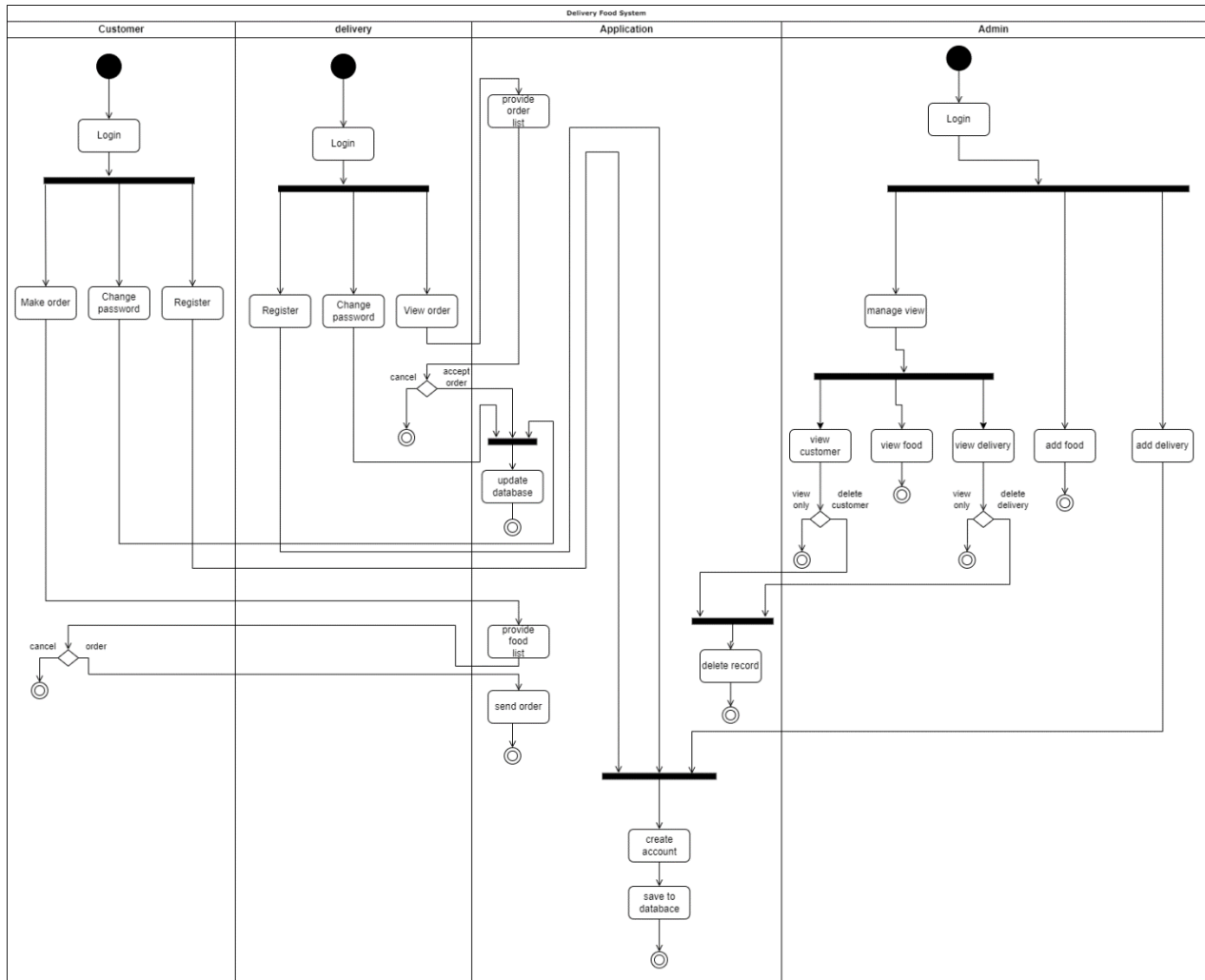
- The use of prototyping, it will be useful for us because of the feedback.
- We can write the software much faster because we'll spend less time in planning.
- We can change the requirements way easier & faster.
- This methodology decreases the time of design and implementation.

Application Diagrams

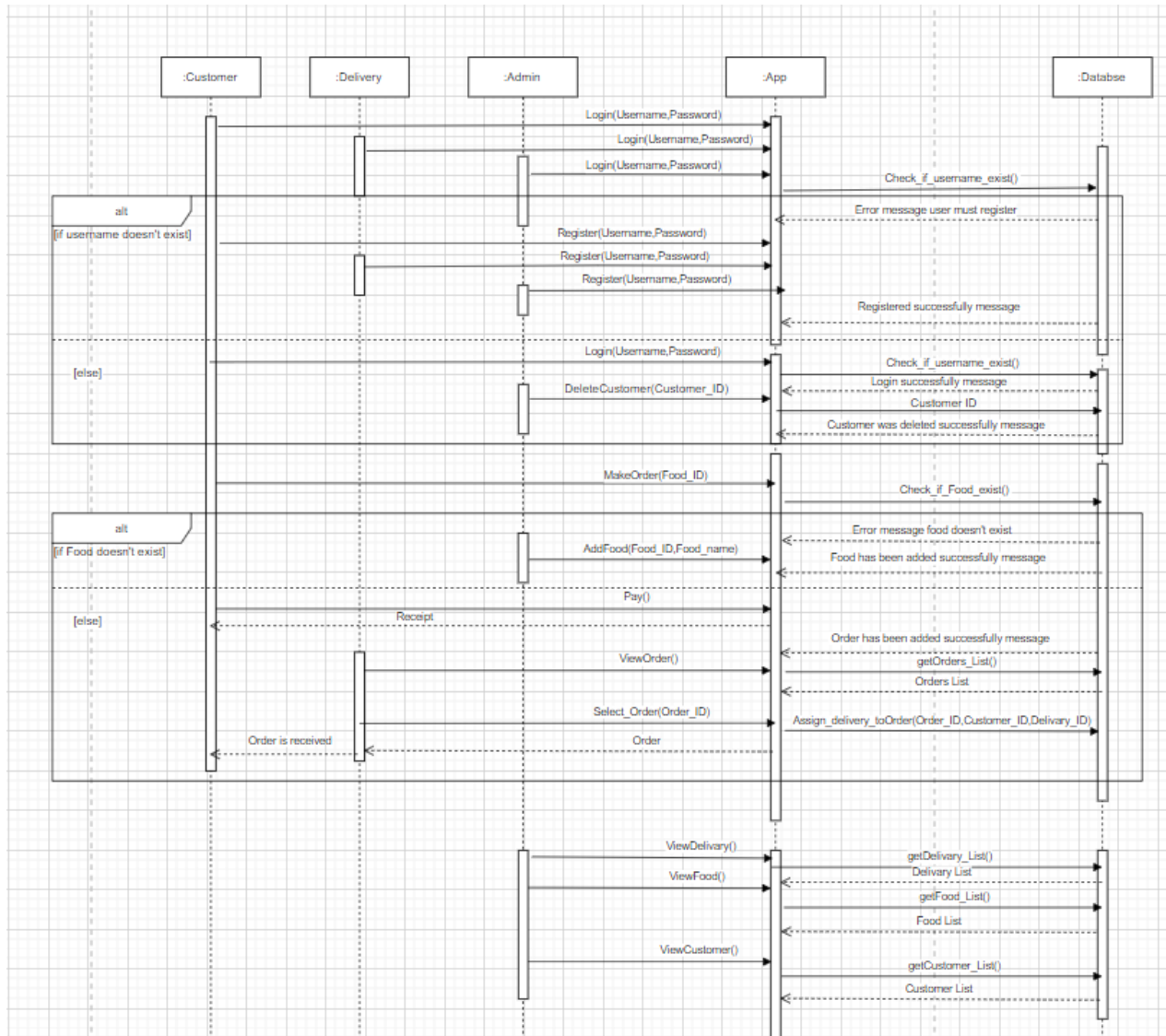
Use-case diagram



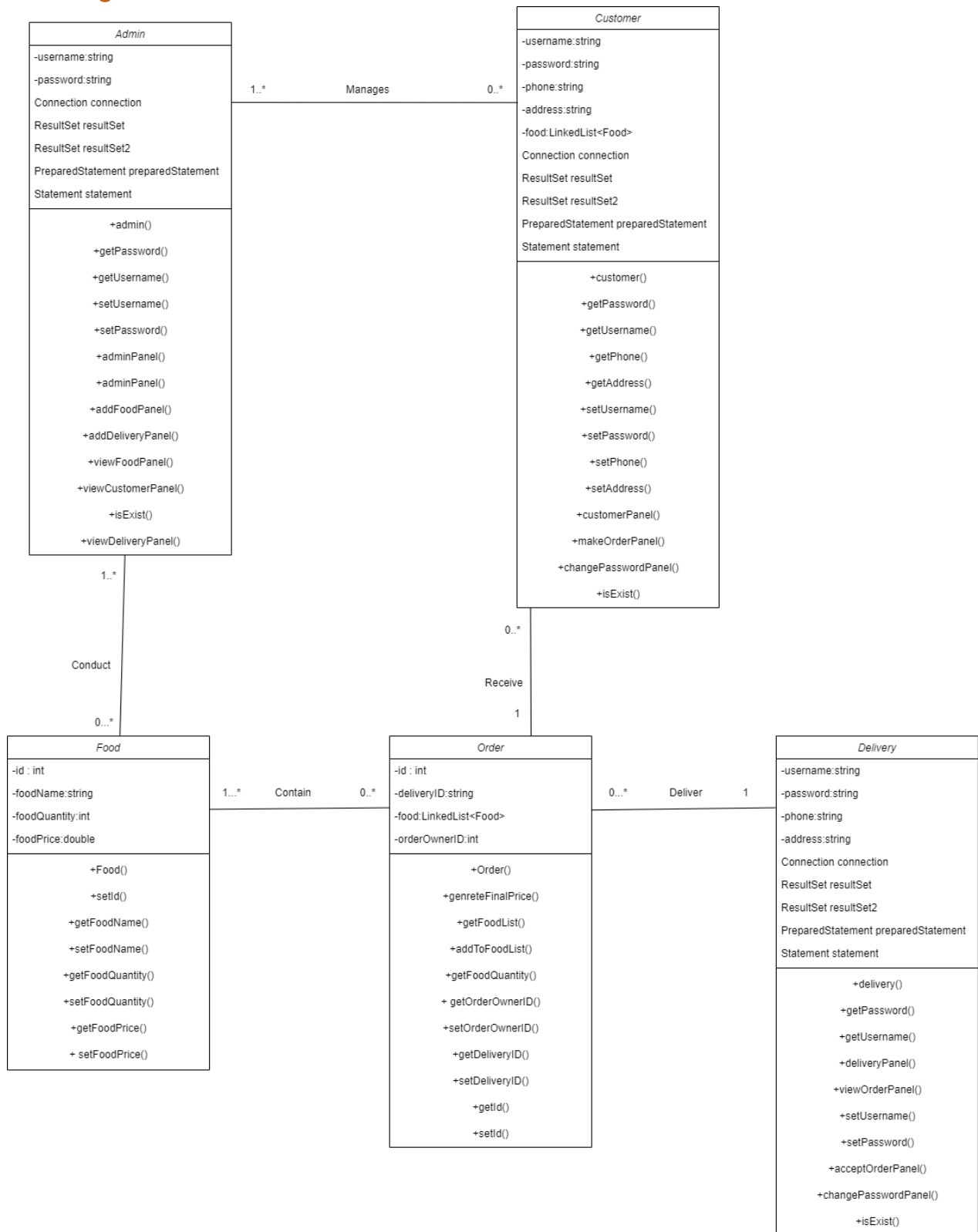
Activity diagram



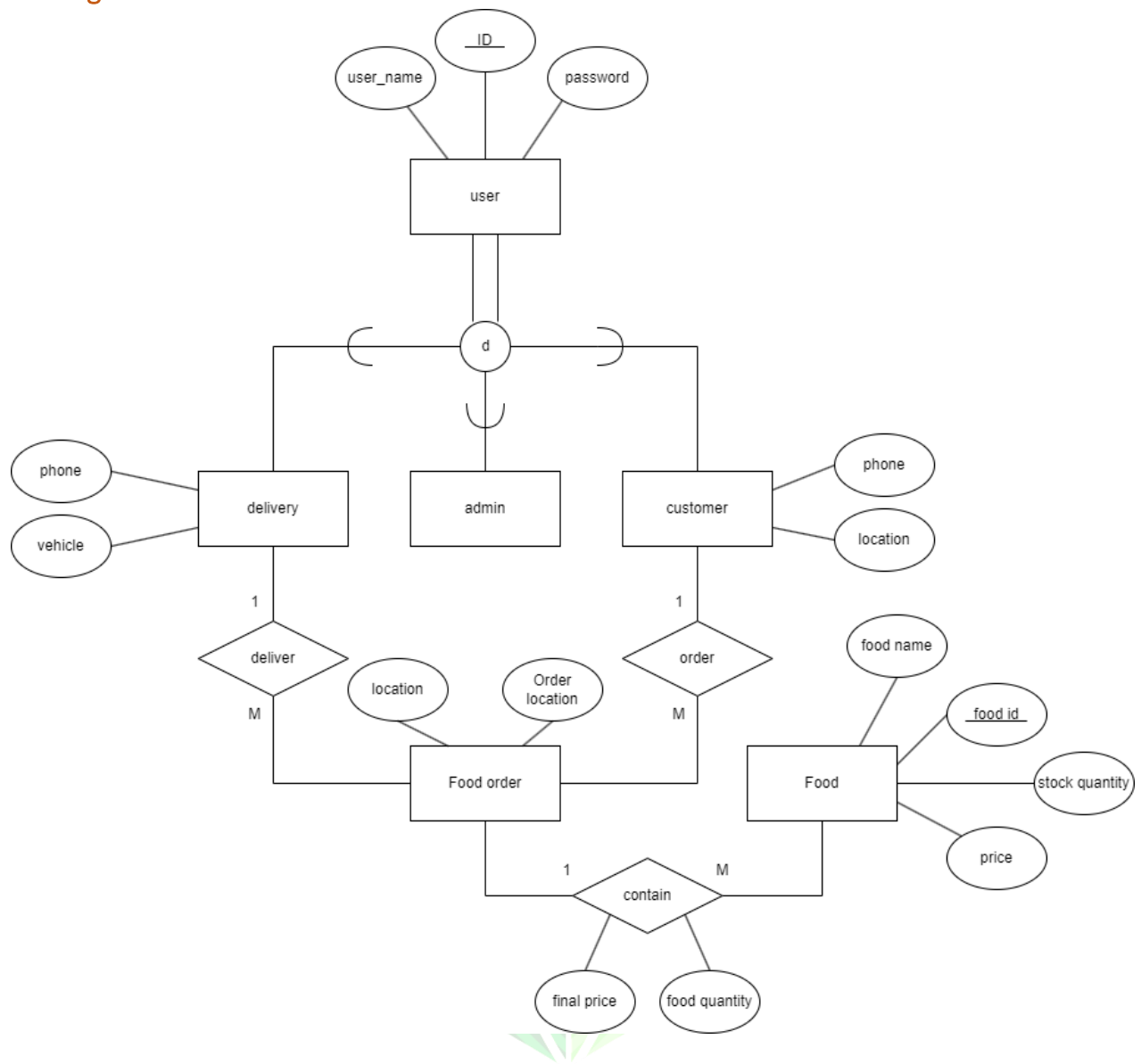
Sequence diagram



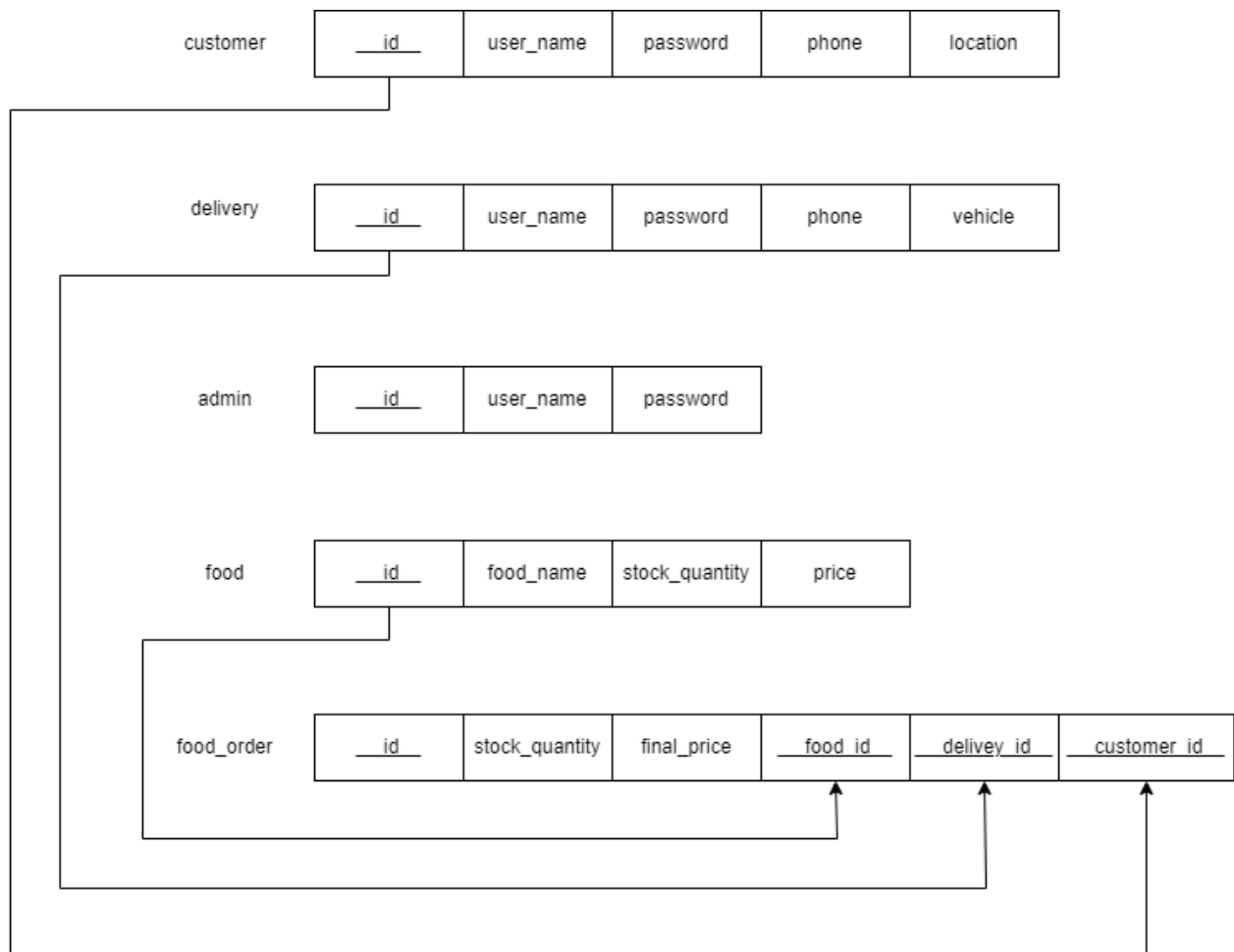
Class diagram



ER diagram



Schema



Application GUI

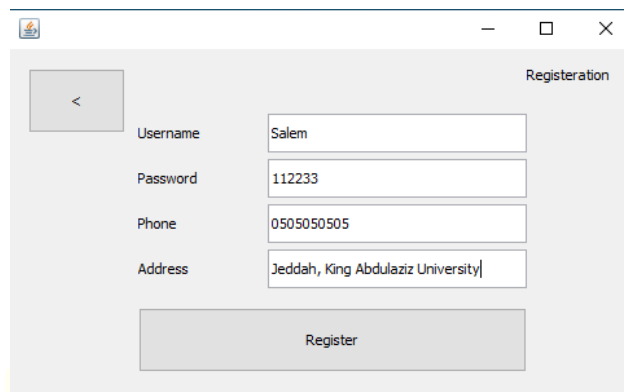
Login GUI

The Customer/Delivery/Admin will type their username and password then hit login, the program will search if the username exists in the database, then it will check if the password matches the username if yes then they can use the program, if not it will reject them. Also, customers can register by pressing the register button and get transferred to the register panel.

The screenshot shows the 'Food Delivery System' login interface. It features a title bar with standard window controls. The main area has a title 'Food Delivery System' and two input fields: 'Username' with the text 'Salem' and 'Password' with the text '112233'. Below the input fields are two buttons: 'login' and 'Register'.

Register GUI

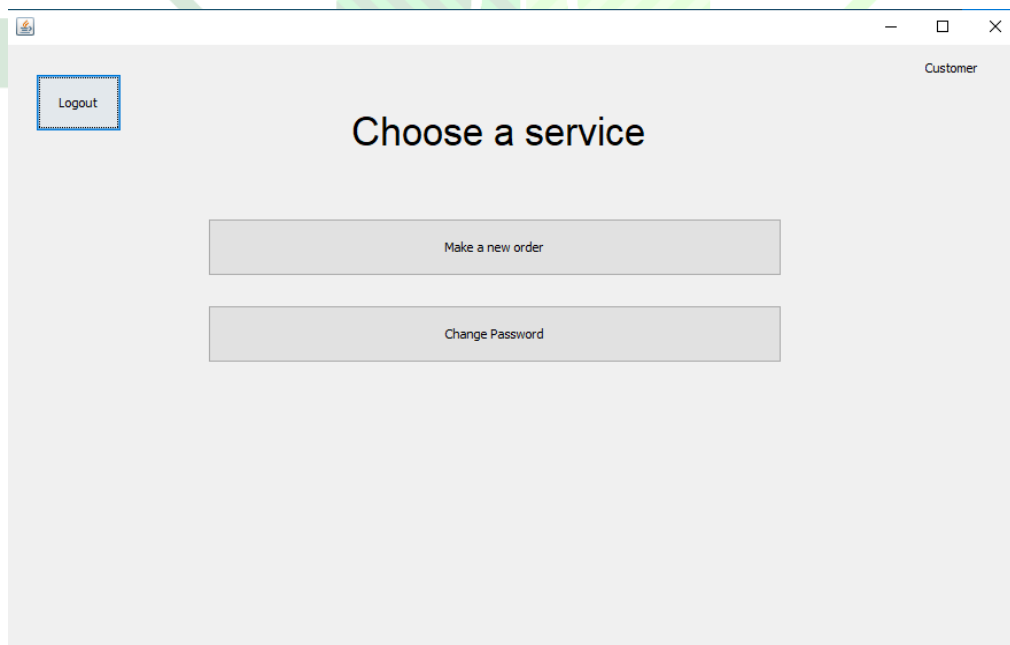
If the customer doesn't have an account they can register in this panel, they will enter a username, password, phone number, and address and press register button, the program will check if the same username exists in the database and if the phone number is more or less than 10 digits if both are valid, they will be added to the database and transferred to customer panel.



The Registration GUI window has a title bar with standard Windows controls. The window title is "Registration". On the left, there is a grey button with a left-pointing arrow. The main area contains four input fields with labels: "Username" (containing "Salem"), "Password" (containing "112233"), "Phone" (containing "0505050505"), and "Address" (containing "Jeddah, King Abdulaziz University"). Below these fields is a large grey button labeled "Register".

Customer GUI

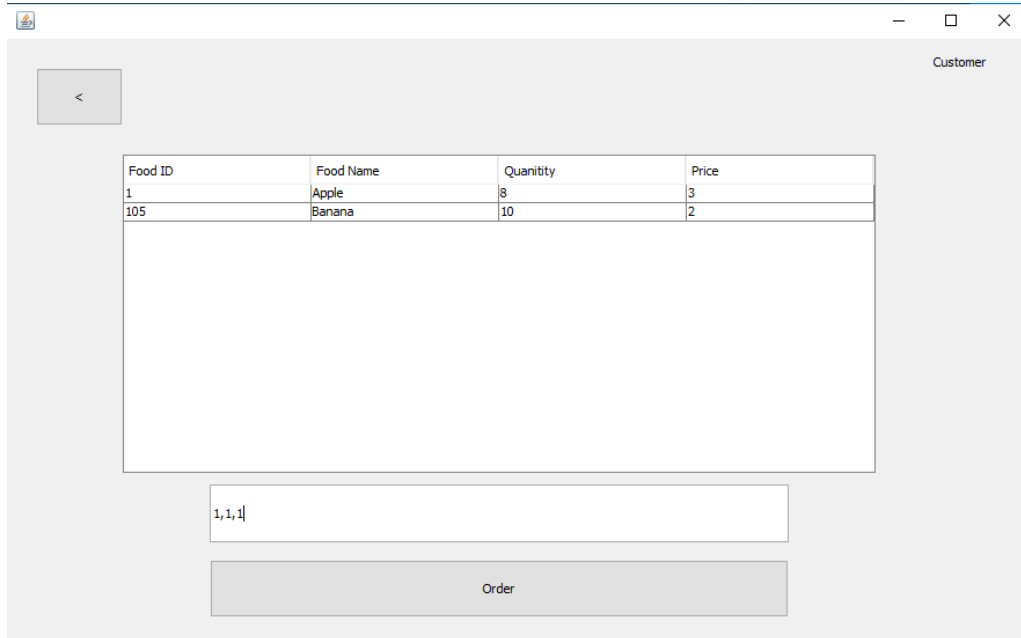
Customers have two services available they can choose from, 1- they can make a new order, 2- they can change their password if they press either of the buttons it will transfer them to another panel.



The Customer GUI window has a title bar with standard Windows controls. The window title is "Customer". In the top-left corner, there is a button labeled "Logout". The main heading is "Choose a service". Below the heading are two large buttons: "Make a new order" and "Change Password".

Make order GUI

Customers see what items are in the shop if they want to order they can enter the food IDs (1,1,1 for example) and press the order button, it will automatically gather all the items ordered and give the order a unique id for the delivery to select it.

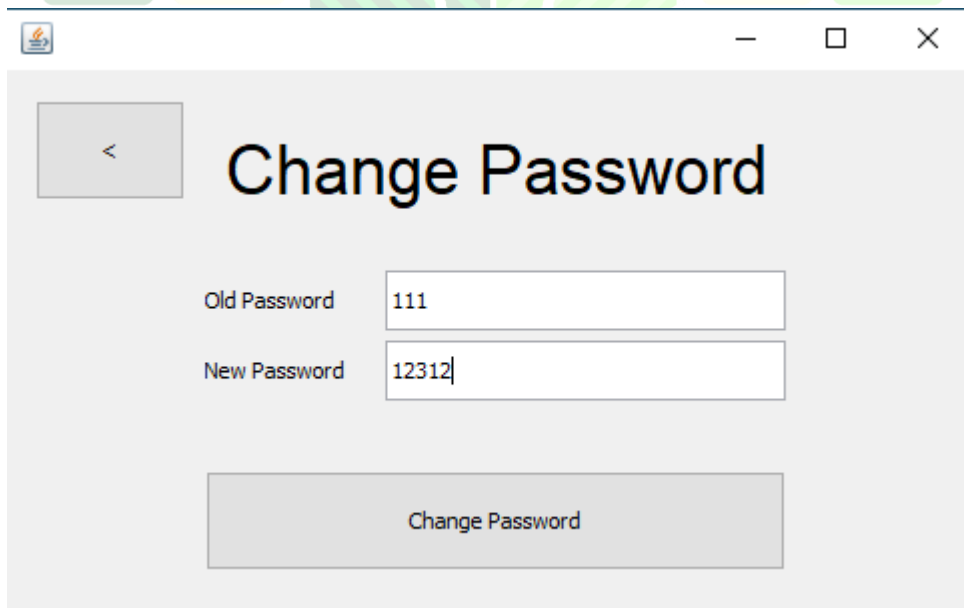


Customer

Food ID	Food Name	Quantity	Price
1	Apple	8	3
105	Banana	10	2

Change Password GUI

Customers can change their password by entering the old password and the new password they want and press the Change Password button, the program will check if the old password matches with the customer's password as a security check, if it's the same the program will insert the new password in the database.



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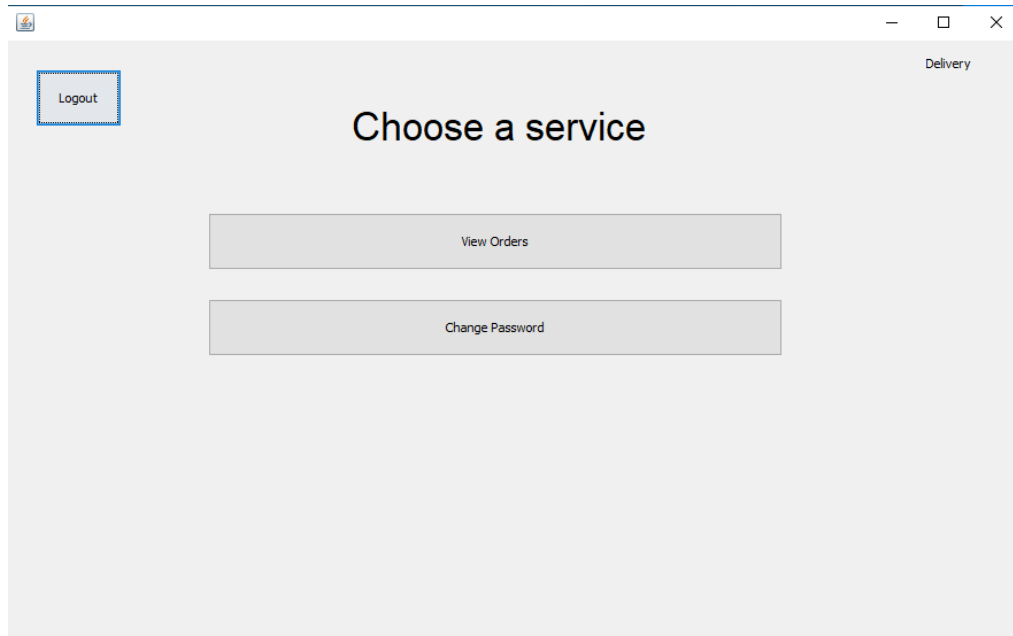
Change Password

Old Password

New Password

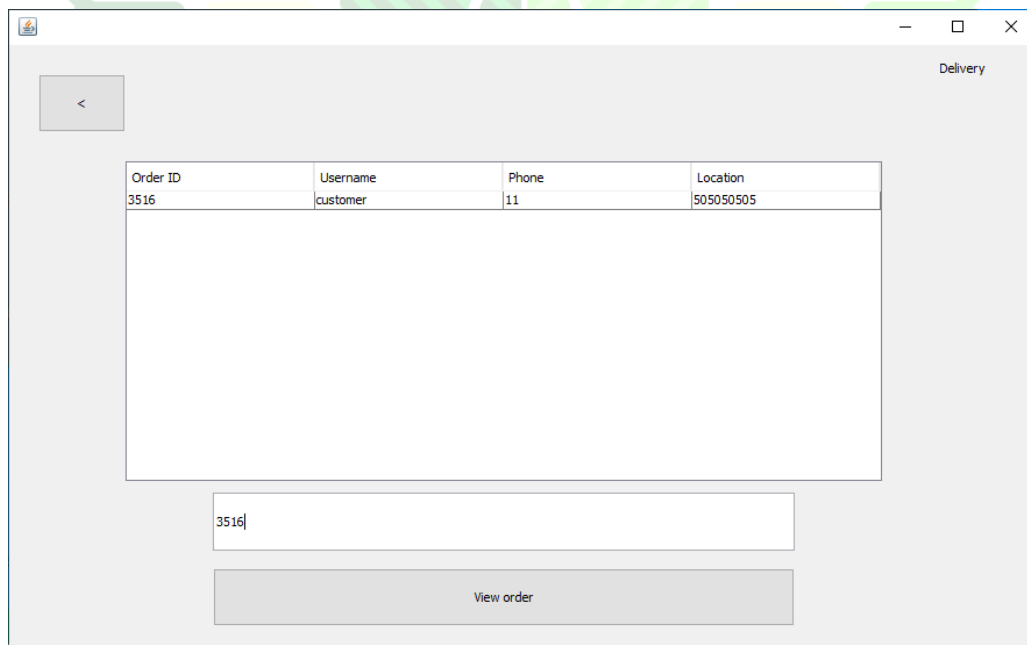
Delivery GUI

Delivery has two services available they can choose from, 1- they can view customer available orders to accept them, 2- they can change their password if they press either of the buttons it will transfer them to another panel.



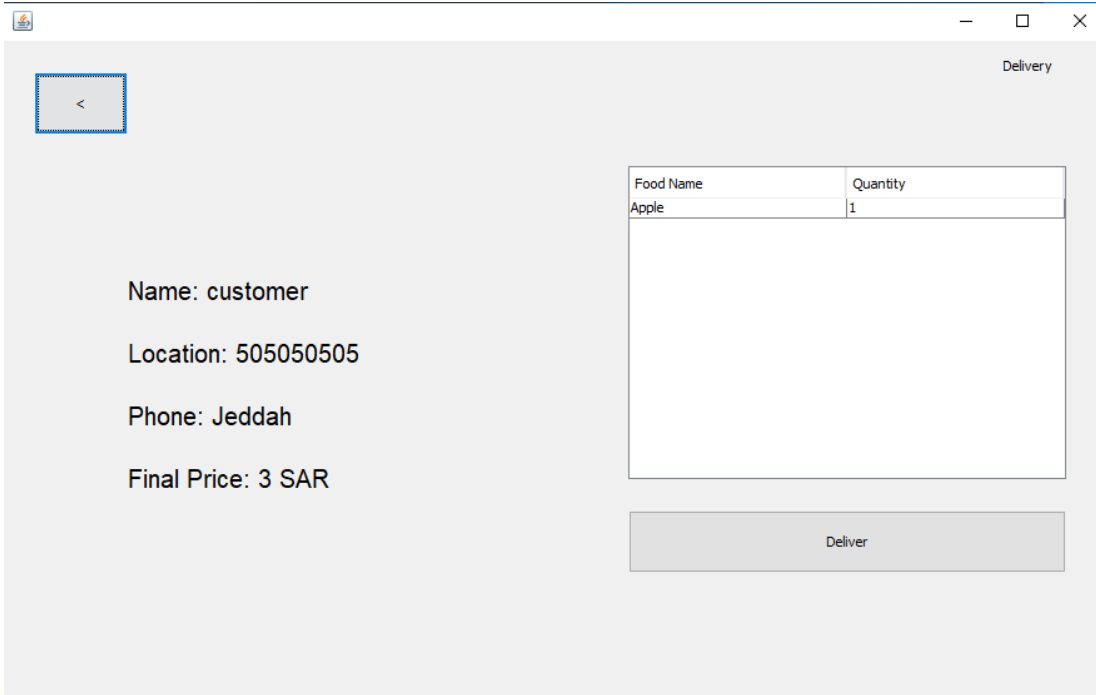
View Orders GUI

Delivery can see what orders are available, if they want to deliver one, they will enter the order id for the order (3516 as an example) and press the view order button, the button will take the delivery to another panel where all the order details the delivery need to deliver the order.



Accept Order GUI

Delivery will see the quantity and food name of that order from the database and their details including the total price for the order, if they delivery want to deliver that order they will press Deliver button.

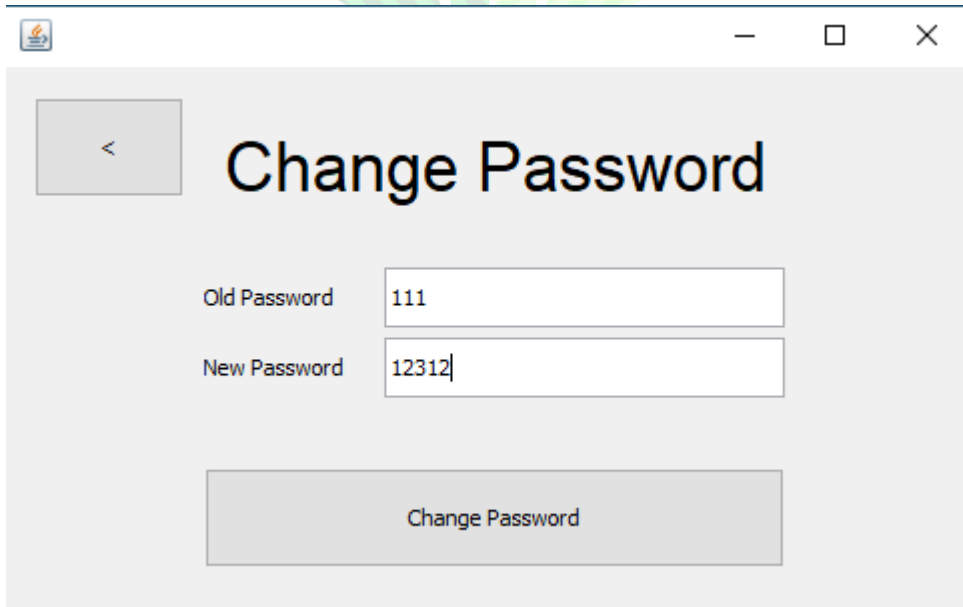


A screenshot of a software window titled "Accept Order GUI". The window has a light gray background. In the top-left corner, there is a button with a left-pointing arrow. On the right side, there is a table with two columns: "Food Name" and "Quantity". The first row of the table contains "Apple" and "1". Below the table is a large empty rectangular box. To the left of this box, the following text is displayed: "Name: customer", "Location: 505050505", "Phone: Jeddah", and "Final Price: 3 SAR". At the bottom right, there is a button labeled "Deliver".

Food Name	Quantity
Apple	1

Change Password GUI

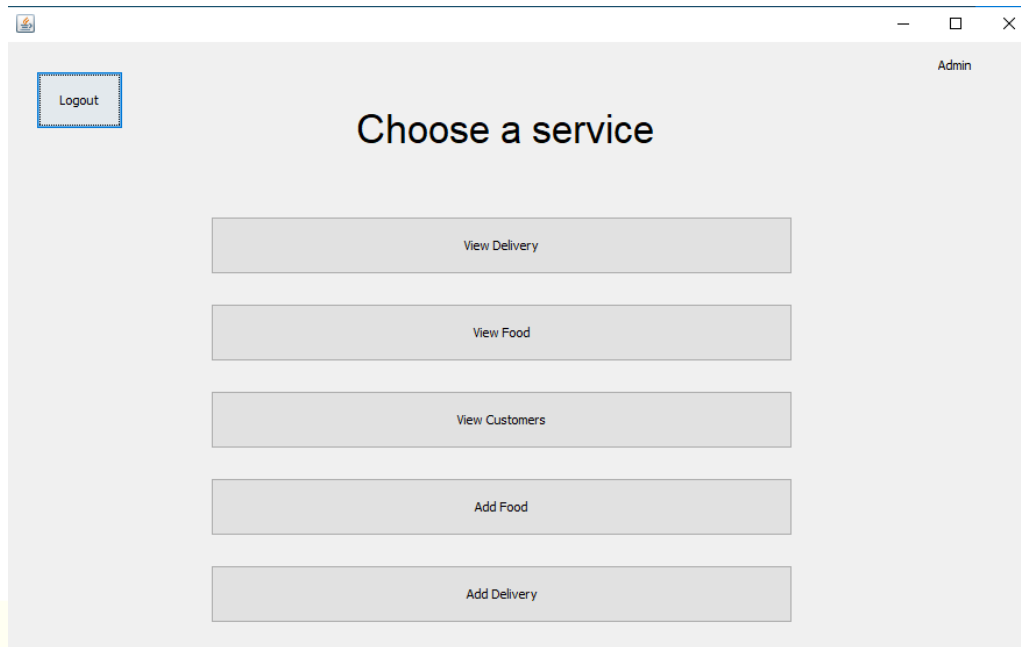
Delivery can change their password by entering the old password and the new password they want and press the Change Password button, the program will check if the old password matches with the delivery password as a security check, if it's the same the program will insert the new password in the database.



A screenshot of a software window titled "Change Password GUI". The window has a light gray background. In the top-left corner, there is a button with a left-pointing arrow. The title "Change Password" is displayed in a large, bold font. Below the title, there are two input fields. The first is labeled "Old Password" and contains the text "111". The second is labeled "New Password" and contains the text "12312". At the bottom, there is a button labeled "Change Password".

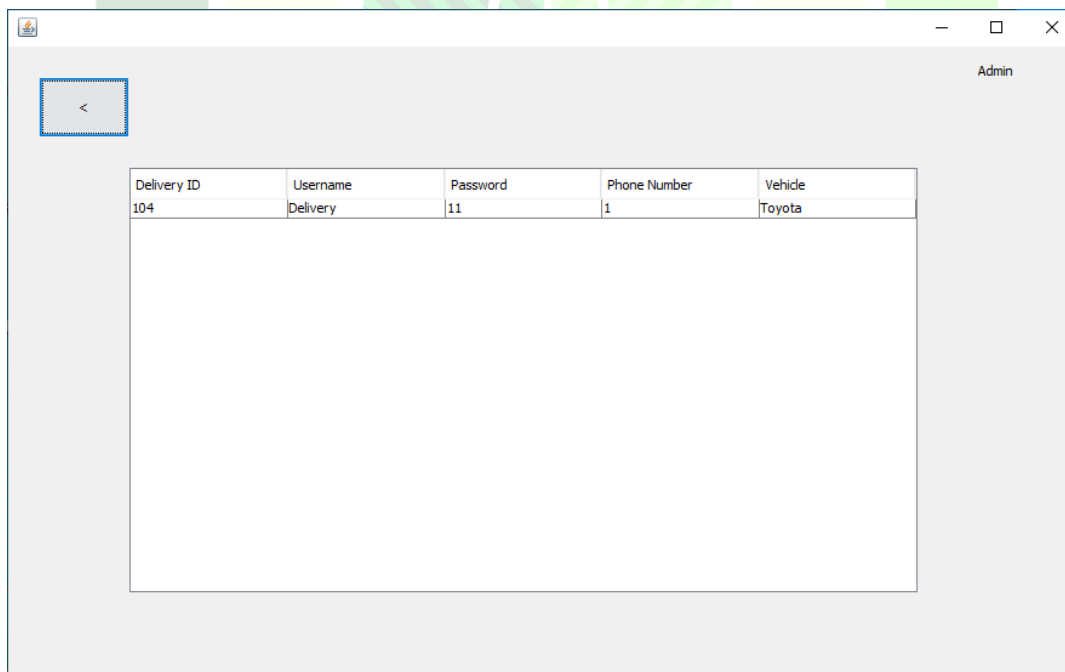
Admin GUI

Admins have five services available they can choose from, 1- they can view deliveries, 2- they can view food available in store, 3- they can view the registered customers. 4- they can add food into the database 5- they can add deliveries into the system. if they press either of the buttons it will transfer them to another panel.



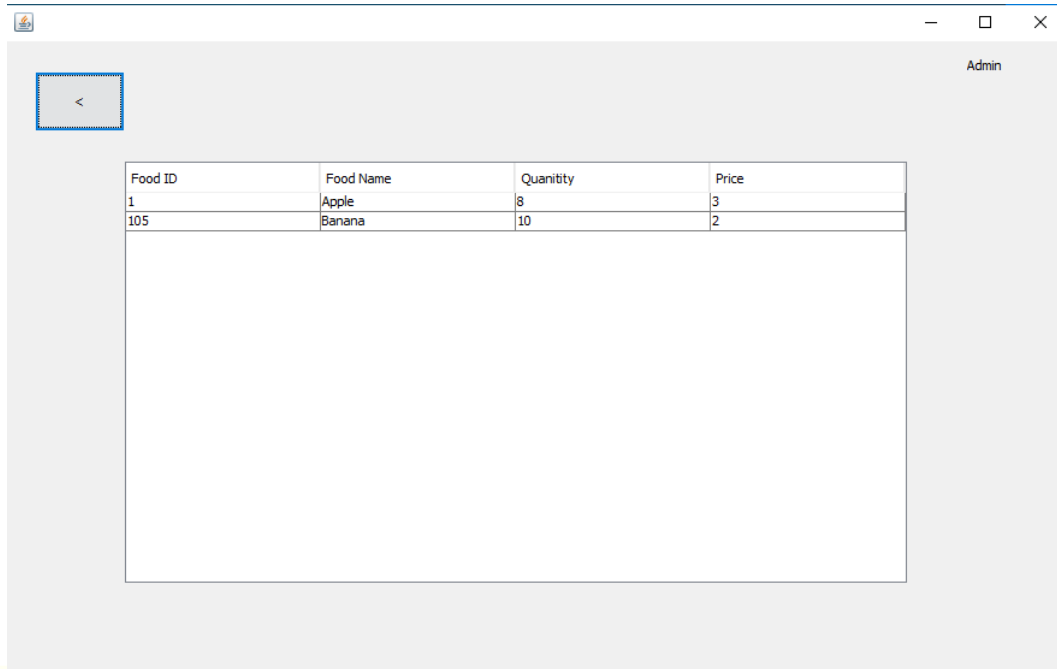
View Delivery GUI

Admins can see all delivery captains with their details in the database.



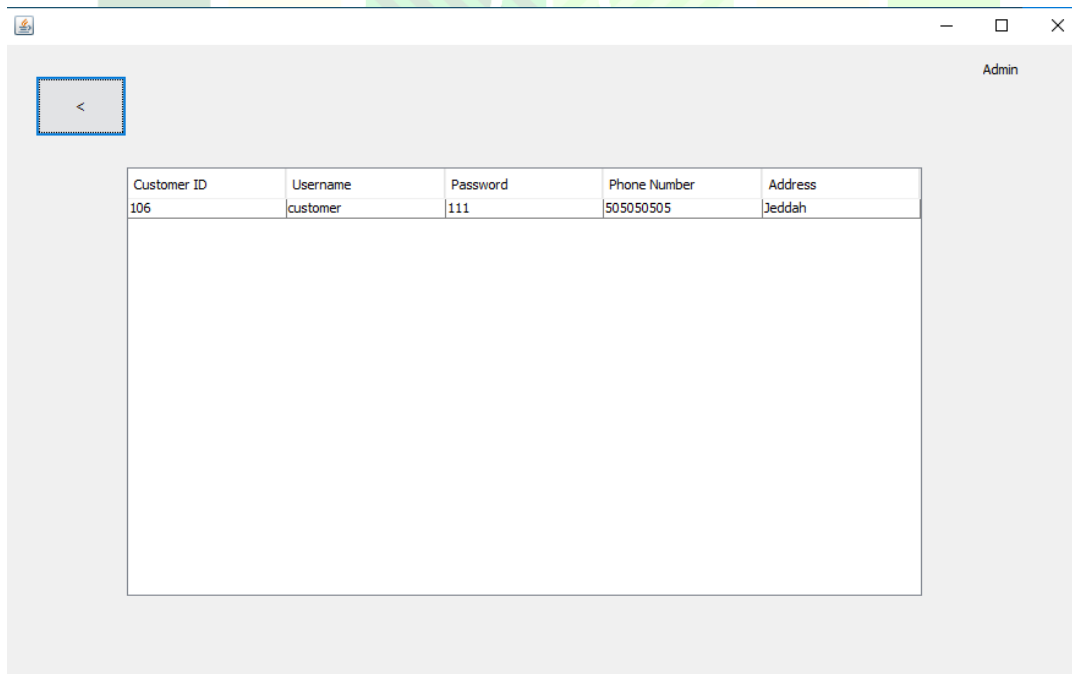
View Food GUI

Admins can see all food including the quantity and price in the database.



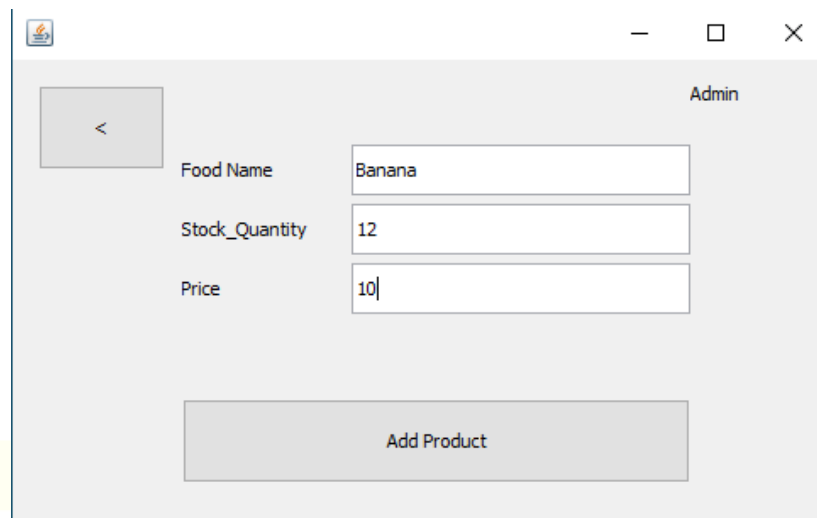
View Customer GUI

Admins can see all customers registered in the system with their details.



Add Food GUI

Admins can add food into the system, they will enter the food name, the quantity they have, and the price for each one and press add product button, the program will add the details entered in the database for the customer to see them.



Admin

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Food Name: Banana

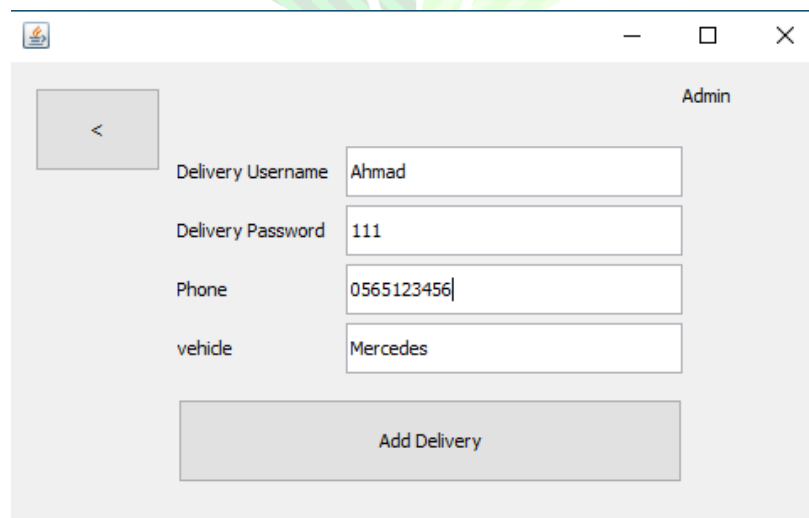
Stock_Quantity: 12

Price: 10

Add Product

Add Delivery GUI

Admins can add deliveries into the system, they will enter the delivery username, the password, the phone number, and the vehicle they use, and press Add delivery button, the program will check first if the username exists before, if not it will check as well if the phone number is more or less than 10 digits if all valid it will add the delivery into the database of deliveries.



Admin

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Delivery Username: Ahmad

Delivery Password: 111

Phone: 0565123456

vehicle: Mercedes

Add Delivery

References

- [1]Saudi Arabia Online Food Ordering and Delivery Market. (n.d.). Retrieved from techsciresearch: <https://www.techsciresearch.com/report/saudi-arabia-online-food-ordering-and-delivery-market/7245.html>
- [2]Wetzler, T. (2021, November 2). food delivery apps thrive following covid-growth. Retrieved from www.adjust.com: <https://www.adjust.com/blog/food-delivery-apps-thrive-following-covid-growth/>
- [3]Adithya R., Abhishek Singh, Salma Pathan, Vaishnav Kanade “Online Food Ordering System, International Journal of Computer Applications 2017.
- [4] Faculty of Computing and Information Technology. (n.d.). Retrieved from King Abdulaziz University: <https://computing.kau.edu.sa/>

