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Ministry of education
Prince Sattam Bin Abdulaziz University
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وزارة التعليم
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Mrsool Application

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Feasibility Study &Project Proposal

1. Introduction

In modern times, technology has become an integral part of our daily lives, and has significantly affected various areas of life including the delivery services sector. Delivery apps have become an integral part of our life, meeting our growing needs for goods and services quickly and conveniently, saving us time and effort.

2. Problems

Changing overcrowded lifestyles and work makes it difficult for people to fulfil their needs and meet their requirements, thereby increasing their needs to have access to their requirements without having to go to markets. Besides, there are a lot of markets that are difficult to access or that customers have never heard about it.

3. Background

Mrsool is delivery platform in Saudi Arabia which is established in 2015, relating the customers with a goods and services. It's known for its fast and efficient delivery service, by using a user-friendly app. The company continues to expand its services to many other countries.

4. Proposed Solution

The proposed solution is to create a mobile app that connects the tradesman to the user, providing a lot of delivery services including restaurant delivery service and many other products such as gifts, stationery, electronics, and even moving home furniture, also delivering orders from your home to any other place. The app also provides tradesman with access to the largest segment of customers.

5. Work Plan

To complete this work, we use **incremental** model based on agile because this application will be developed depending on users reviews to make sure that the app meets their needs, and also all development phases are interleaved and dependent on each other, and this approach allow the continuous improvement and changing the requirements

The following phase have been followed:

A feasibility study to create the application by collecting and analyzing information, studying the target market, competition, costing expected returns and identifying existing challenges. Then **analyze the requirements** functional and non-functional on this phase the real cost may be defined, then move to the **design** phase of the system via UML diagrams to clarify the requirements at this phase some requirement may be changed, and design the user interfaces to make the system then ready to move to the **implementation** phase and construction after the completion of implementation the app enters the **validation** phase and correction of errors to reach finally to the **marketing** and **launch** phase and the application remains in continuous **development** and add new features and requirement to get new versions based on customers evaluations and reviews.

Project requirements

1. Functional Requirements

User requirements:

1. The system shall enable the user to sign up as tradesman by entering registration information.
2. The system shall enable the user to sign up as Delivery representative by entering registration information.
3. The system shall enable the user to login by phone number and verification code.
4. The system shall enable the client to send order.
5. The system shall enable the client to define location.
6. The system shall enable the client to view stores and restaurants.
7. The system shall enable the client to define payment method.
8. The system shall enable the client to add coupon
9. The system shall enable the client to add note to order.
10. The system shall enable the client to choose delivery offer.
11. The system shall enable the client to choose language.
12. The system shall enable the client to sign in by mobile or social media account.
13. The system shall enable the delivery representative to sign in by mobile number and password.
14. The system shall enable the delivery representative to receive order.
15. The system shall enable the client to rate the delivery and provide feedback on the quality of service.
16. The system shall enable chatting between the client and the delivery representative.

System Requirements:

1. The system shall enable the user to sign up as tradesman by entering registration information.

1.1 The system shall enable the tradesman to enter trade information (Trade name, commercial registration number, activity classification, The official email and its confirmation, and is the establishment registered for VAT, VAT certificate, city)

1.2 The system shall enable the tradesman to enter official information (official name, official phone number, official position, and official signature)

1.3 The system will verify the registration request and send the login information (username and password) to the tradesman if the request is accepted.

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2. The system shall enable the user to sign up as delivery representative by entering registration information.

2.1 The system shall enable the delivery to enter personal information (full name- national ID – nationality – phone number – email) optional) – date of birth - personal photo)

2.2 The system shall enable the delivery to enter car information (car model – car manufacture year – car plate letter – car plate number - car type (private or public))

2.3 The system shall enable the delivery to enter another information (work region – work city - account IBAN (optional) – account owner (optional))

2.4 The system shall enable the delivery to enter some required image (image of NID – Drive license- car image from front and back – car form image)

2.5 The system will verify the registration request if the result is accepted the delivery can login by phone and verification code to start his activities.

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3. The system shall enable the client to send order.

3.1 After adding all required item to the order, the client click on send order.

3.2 The client defines the location.

3.3 The clients can add coupon to get discount.

3.4 The client defines payment method (cash, apple pay, STC pay).

3.5 The client can add note

3.6 The client sends the orders.

3.7 The client gets the delivery offers and accept one of them.

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4. The system shall enable the delivery representative to receive order.

4.1 After sending the order by client the nearest deliveries will receive the order.

4.2 The delivery views order detail, his location, client location, and store/restaurant location.

4.3 The delivery can send his offer to client.

4.4 if the client accepts the offer the delivery start to complete this order.

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5. The system shall enable the user choose language.

5.1 There is language icon enable user to change language (Arabic- English) any time.

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6. The system shall enable the client to sign in by mobile or social media account.

6.1 The user can enter mobile number to get verification code and complete sign in

6.2 The user can choo social media account to login by it.

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7. The system shall enable chatting between the client and the delivery representative.

7.1 If the order is accepted by both of client and the delivery representative any one of them can start chatting.

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8. The system shall enable the client to rate the delivery and provide feedback on the quality of service.

8.1 The client can choose rate value from 1 to 5 for the delivery.

8.2 The client can provide feedback about service quality

2. Non-Functional Requirements

1. The system shall be simple and easy to use so the user can train to use the system for 1 hour then can use it with no more than two mistakes.
2. The application shall be maintainable by using the following in the code: OOP, writing clean code, add comment, use suitable function and variable name.
3. The application should be scalable where more stores, restaurant, services are being added frequently.
4. The application should be compatible with different type of devices and OS, the application should be tasted on android and IOS and make sure that all services is working.

Activity diagram

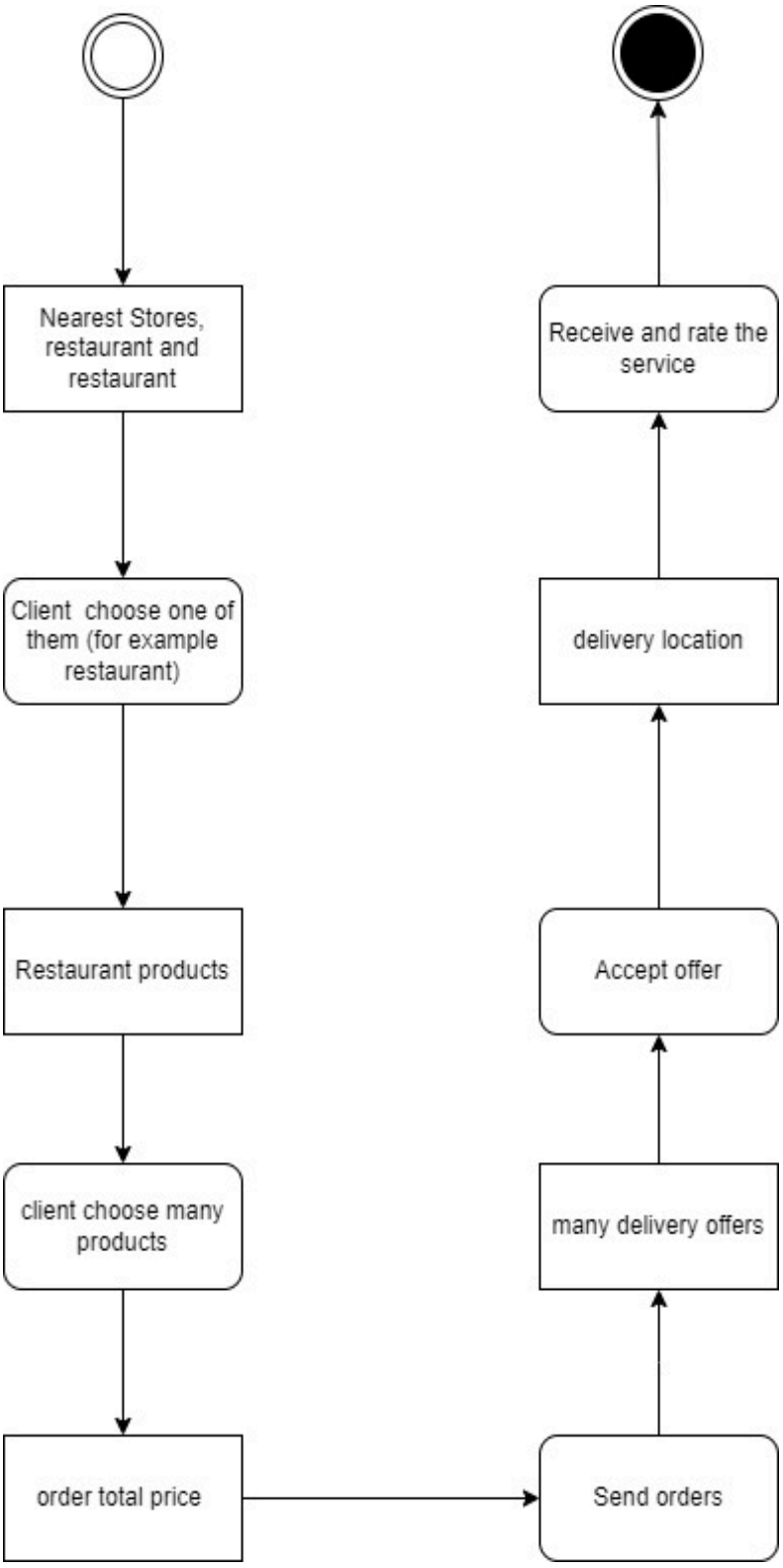

Figure 1: Client order

Project Use Case Modelling

1. Actors

Actor	Roles
Client	- sign in - view stores and restaurants - send order - accept driver offer - chat with delivery - rate delivery - send feedback - define location - add note - add coupon - sign out
Tradesman	- register - sign in - manage product (add – edit -delete) - receive order - sign out
Delivery representative	- register - sign in - receive order - send offer - chat with client - sign out

2. Use cases &its related use cases

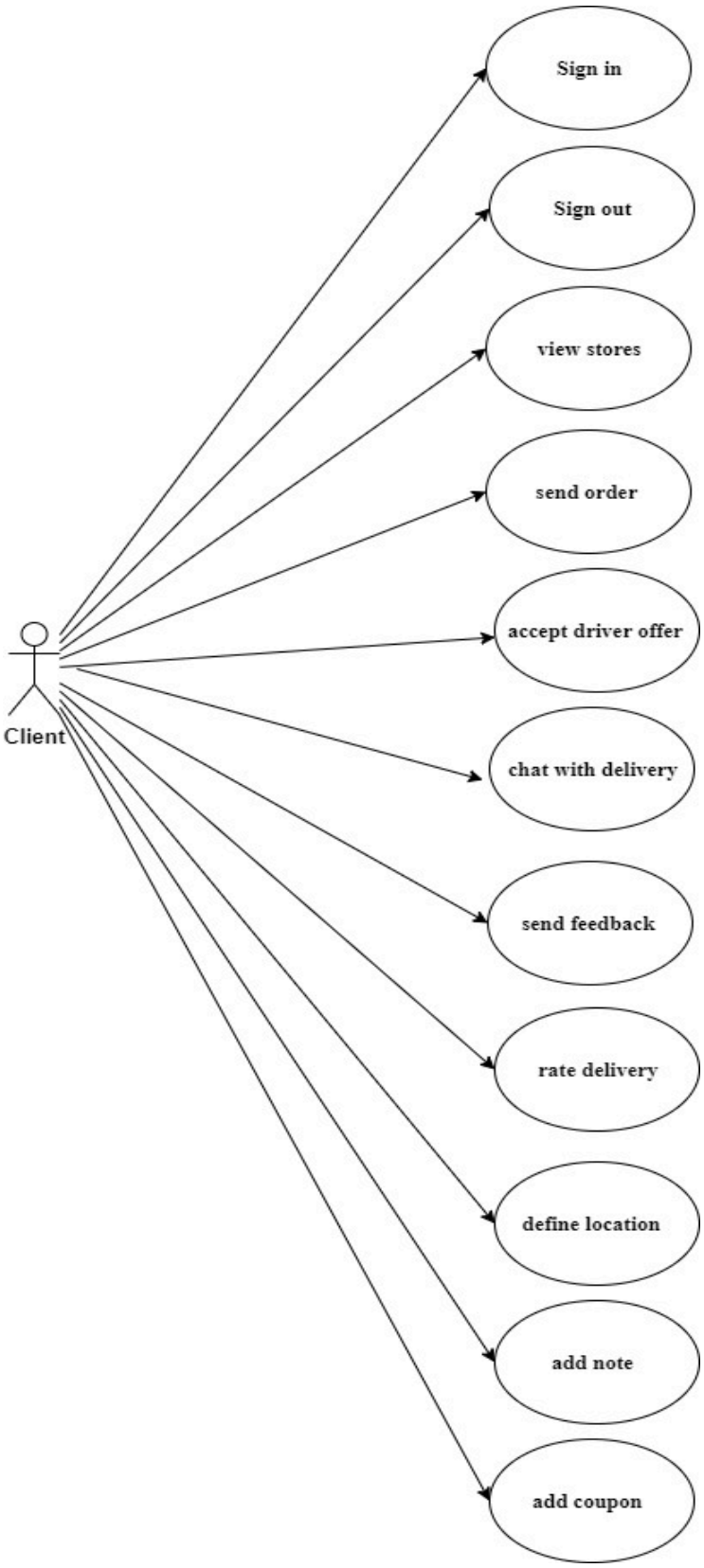

Figure 2: Client Use case

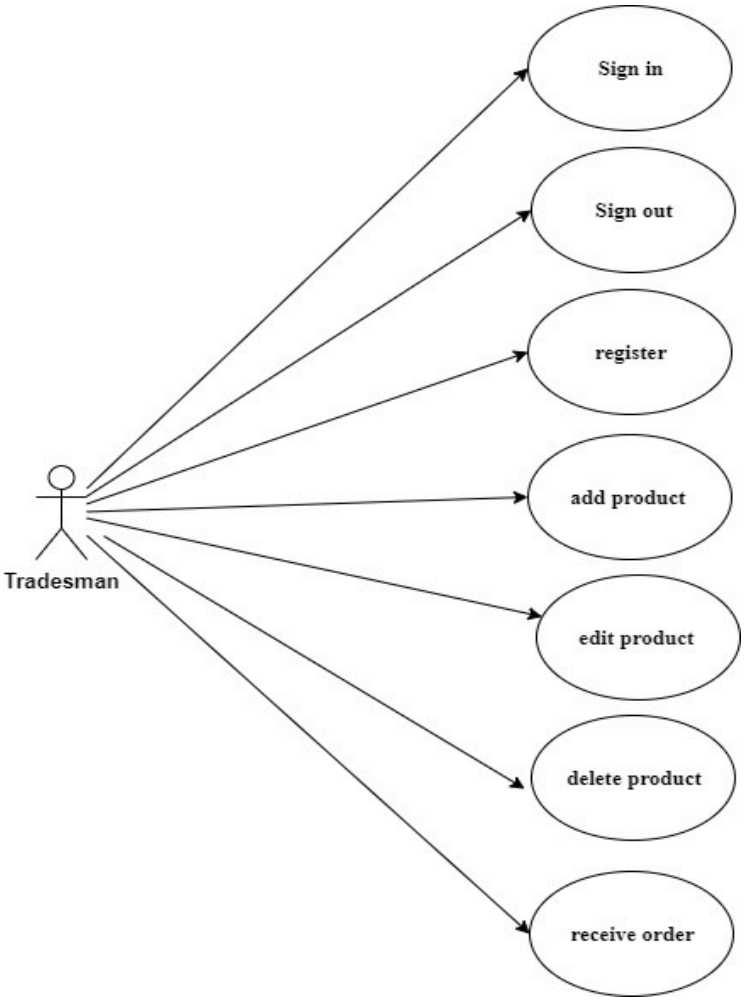

Figure 3: Tradesman use case

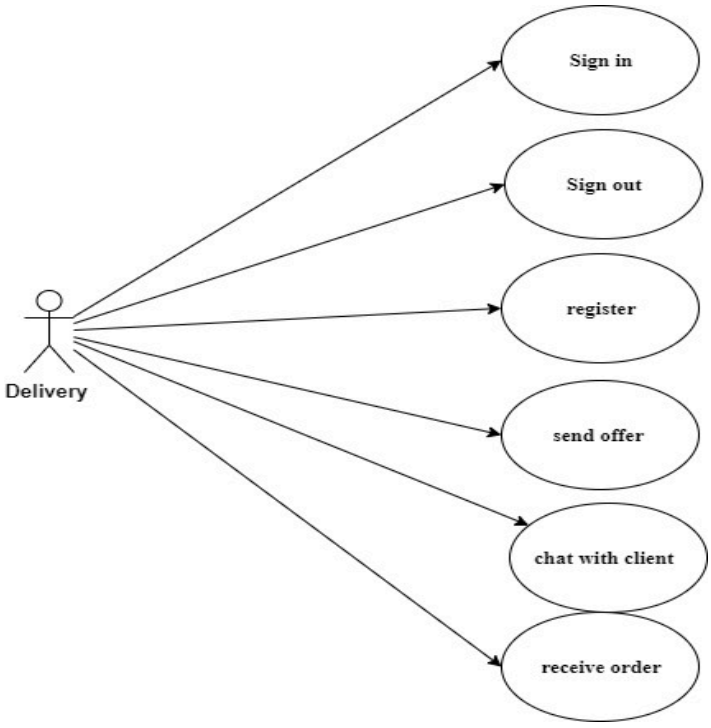

Figure 4: Delivery use case

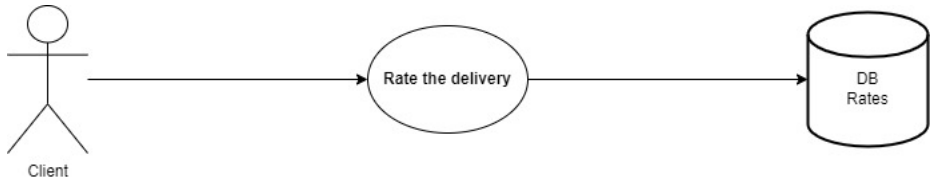

Table 1: Rate the delivery

Client: rate the delivery	
Actors	Client, rate DB
Description	The client sends the rate value from 1 to 5 to be saved and displayed for each delivery
Data	Rate value (from 1 to 5), client ID, Delivery ID
Stimulus	The order is completed and the client want to rate the delivery.
Response	The value of rate is saved to data base
Comment	The order must be completed and confirming by delivery before rating.

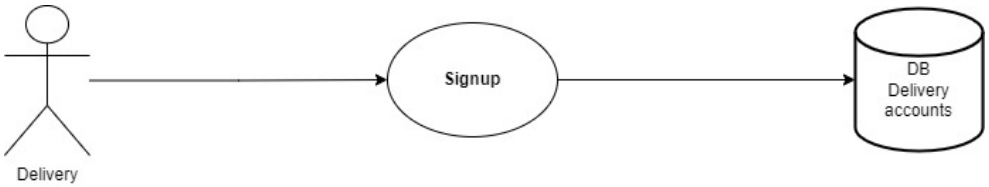

Table 2: Signup as delivery

Delivery representative: signup	
Actors	Delivery, delivery account DB
Description	The delivery creates new account at the app to start receiving orders.
Data	personal information (full name- national ID – nationality – phone number – email) optional) – date of birth - personal photo) car information (car model – car manufacture year – car plate letter – car plate number - car type (private or public)) (work region – work city - account IBAN (optional) – account owner (optional)) some required image (image of NID – Drive license- car image from front and back – car form image)
Stimulus	The user wants to create delivery account.
Response	If data is correct the account information is saved to data base and successful message is shown and redirect to delivery main interface. Else suitable message will be displayed.

Sequence diagram

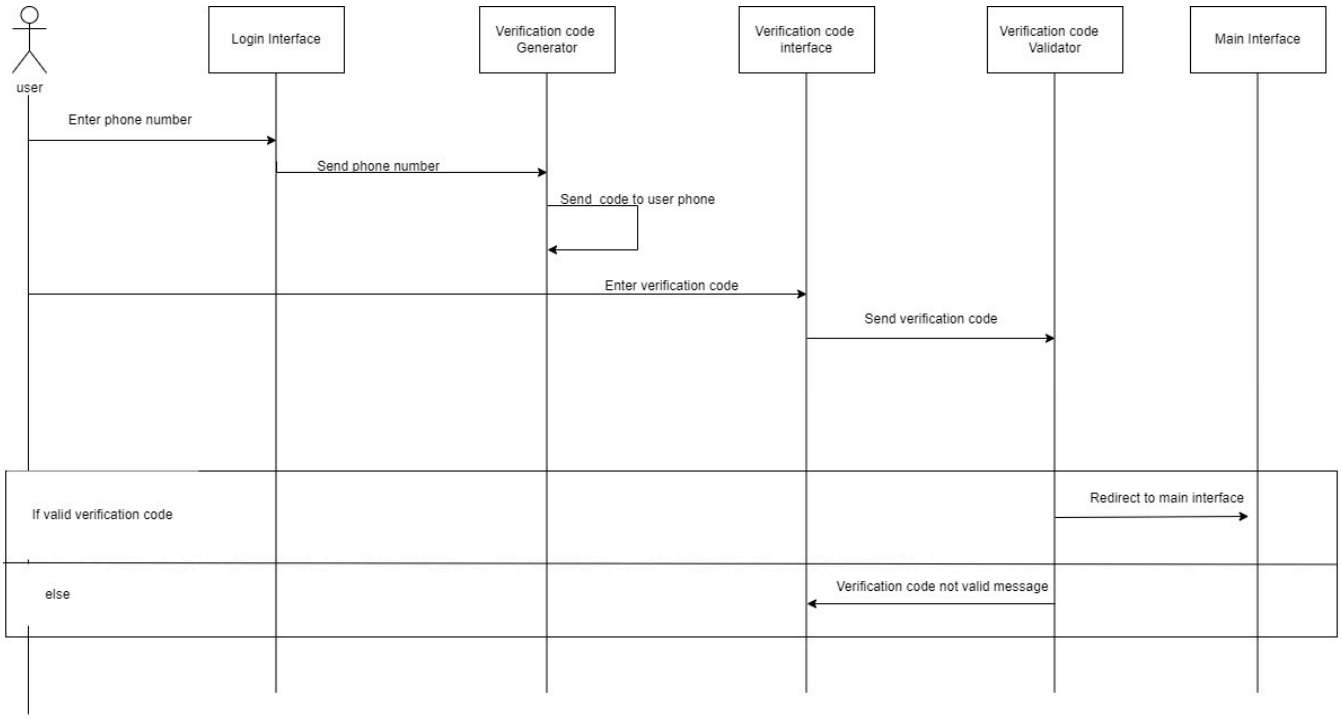

Figure 5: Login sequence diagram:

Class diagram

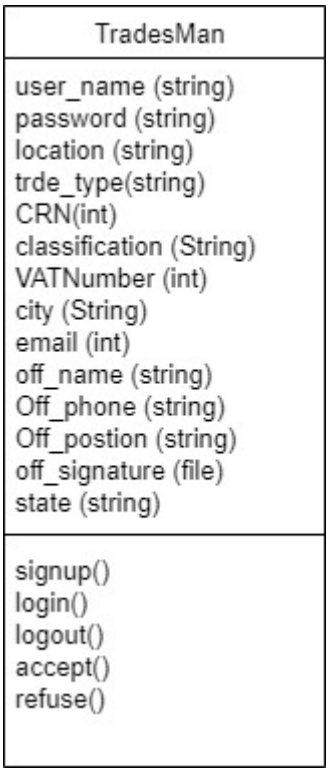

Figure 6: Tradesman class

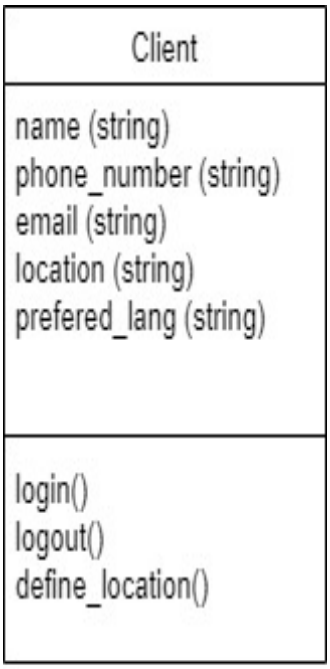

Figure 7: client class

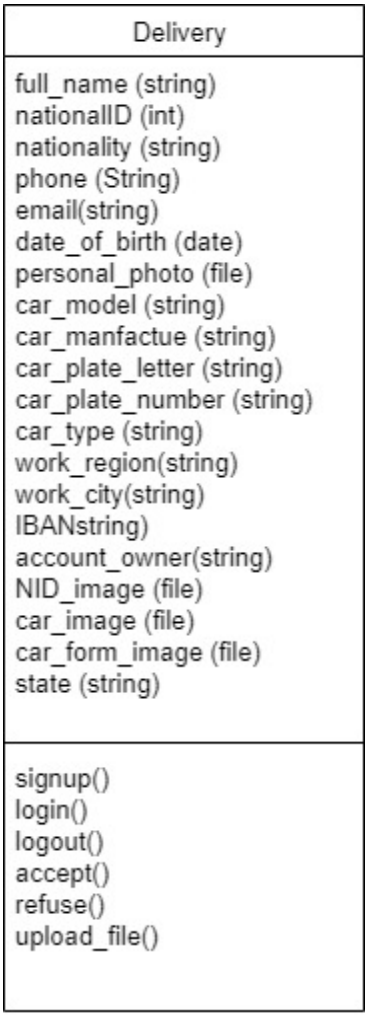

Figure 8: Delivery class

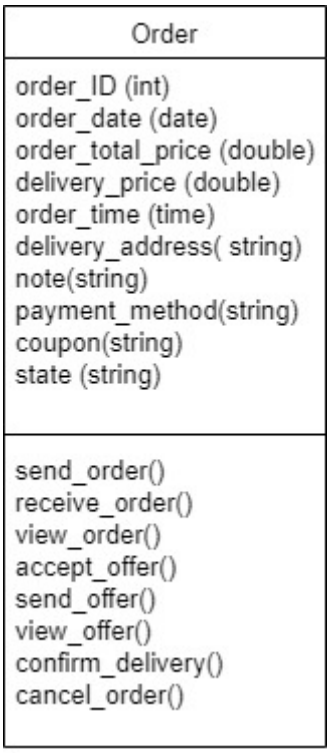

Figure 9: Order class

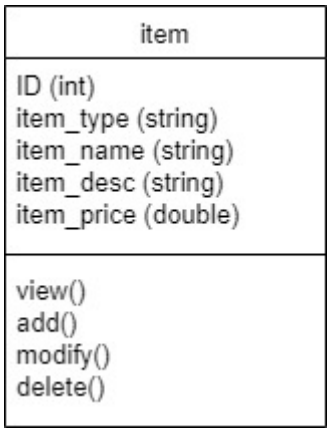

Figure 10: Item class

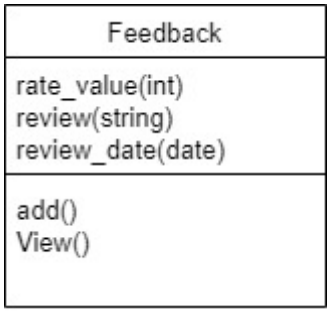

Figure 11: Feedback class

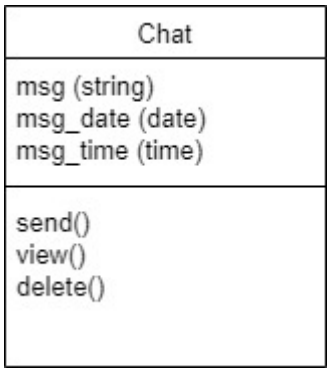

Figure 12: Chat class

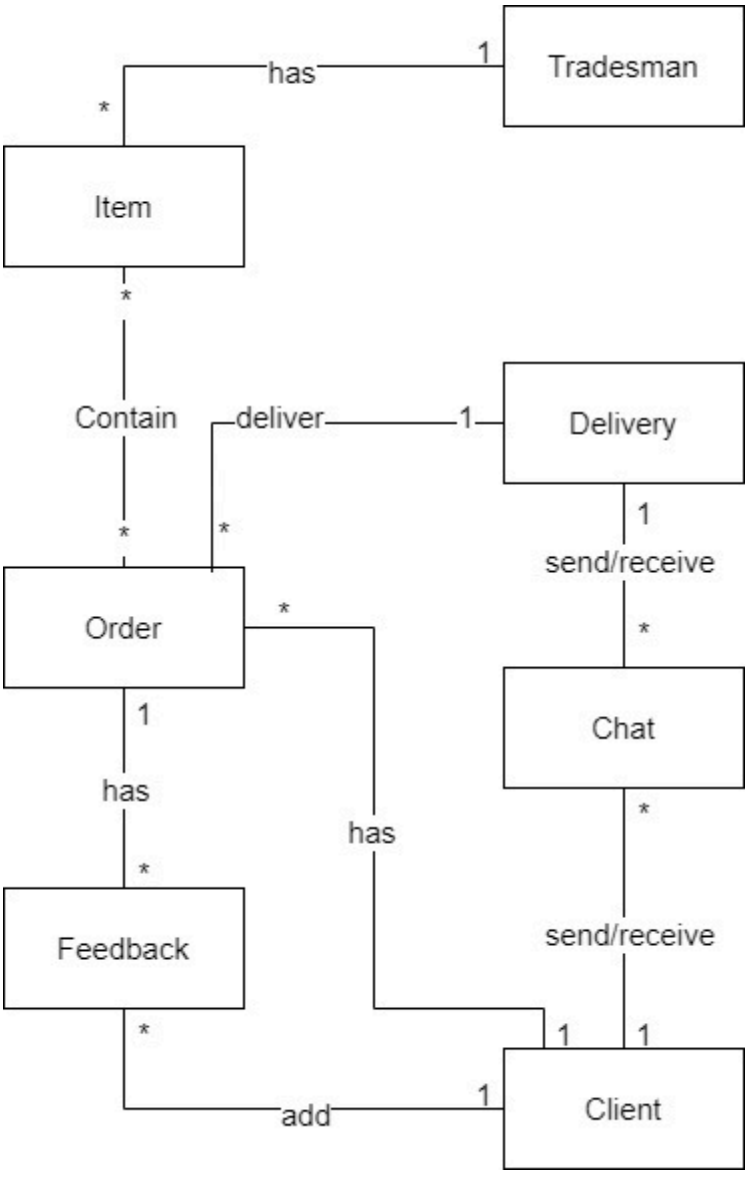

Figure 13: Mrsool Class Diagram

References

For sequence diagram:
https://stackoverflow.com/questions/8114770/how-to-show-if-condition-on-a-sequence-diagram