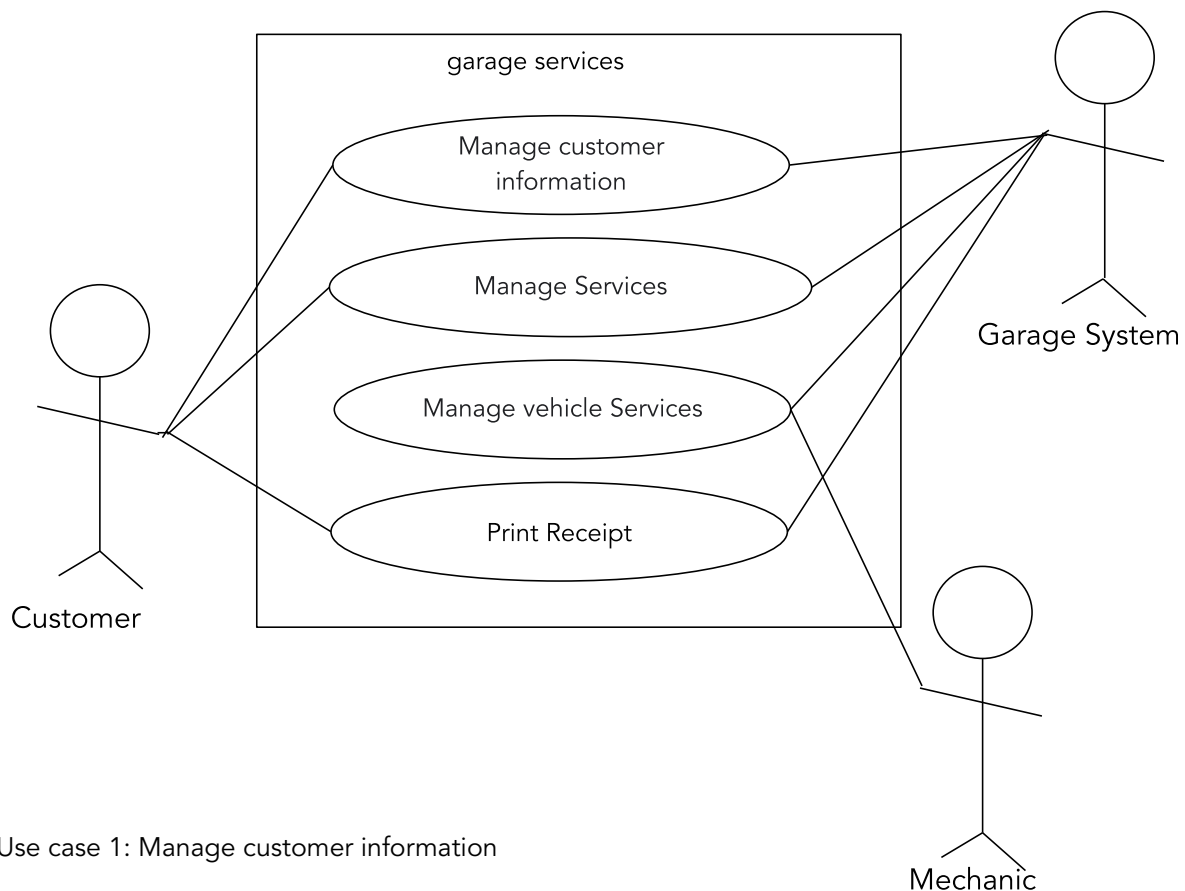


1. Identify the use cases for the software. Draw the **UML use-case diagram** and include supporting use-case descriptions. At-least 3 scenarios must be identified.

Use cases:



Use case 1: Manage customer information

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| Use Case: | Manage customer information |
| Trigger: | The system manages customer information and registers him in the system. |
| Main scenarios: | 1. The customer specifies his/her personal information first name, last name, EID, and phone number. |
| | 2. The garage system verifies the customer's information |
| | 3. The garage system asks the customer to provide the vehicle information, type, color, vehicle Plate and ID. |
| | 4. The garage system verifies the vehicle information. |
| 2a | - The customer information is incorrect. |

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| | <ul style="list-style-type: none"> - Ex. (The customer ID is invalid, The customer number is invalid...) - The use case ends, and an error message is communicated. |
| 3a | <ul style="list-style-type: none"> - The vehicle information is incorrect. - The use case ends, and an error message is communicated |

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| Use Case: | Manage Services |
| Trigger: | The customer wants to add a garage service. |
| Prediction: | - |
| Main scenario: | 1. Customer Choose "Manage Services" from the main menu. |
| | 2. The garage system displays a list of existing services. |
| | 3. The customer selects the wanted services from the list. |
| | 4. the customer can choose the unwanted serves and remove them from the list. |
| | 5. The garage system updates the list. |
| | 6. The garage system verifies the list |
| | 8. The garage system gives the customer date to bring the car. |
| | 9. The garage system verifies the date. |
| 6a | <ul style="list-style-type: none"> - The user wants to add one extra service. - The user wants to remove the service. - The use case ends, and an error message is communicated. |
| 9a | <ul style="list-style-type: none"> - If the date is not suitable for the customer. - If the mechanic is not available at that date. - The use case ends, and an error message is communicated. |

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| Use Case: | Manage vehicle Services |
|-----------|-------------------------|

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| Trigger: | - A customer brings a vehicle for service |
| Prediction: | - The customer is registered - A list of wanted services is generated. |
| Main scenario: | 1. The garage system initiates a new service request for the customer's car. |
| | 2. The garage system creates a unique service request for the vehicle and assigns it to the request (service ID). |
| | 3. A mechanic is sent to the service request by the garage system . |
| | 4. The mechanic checks the service request. |
| | 5. The mechanic performs the requested service on the vehicle. |
| | 6. The mechanic logs the accomplished service with his name in the system. |
| | 7. The mechanic confirm the service and tell the garage system that the service has been completed and write a brief description of the service , part required to preform service and how long it takes with the total cost . |
| | 8. The garage system reviews the completed service request. |
| | 9. The garage system tells the customer that the vehicle is ready for pickup. |
| 8a | - if there is a service that has not been accomplished the use case ends, and an error message is communicated. |

| | |
|----------------|--|
| Use Case: | Print Receipt |
| Trigger: | - The customer wants to pay for the services that have been done. |
| Prediction: | - A list of the done services is generated with the mechanic's name. |
| Main scenario: | 1. The system tells the user to enter any discount code that is available. |
| | 2. User enters discount code, if available. |
| | 3. If the code is valid, the system takes the discount off the total. |

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| | 4. System adds taxes based on the total cost. |
| | 5. The system shows the user the total cost with taxes and any discounts. |
| | 6.the customer chose the payment method |
| | 7.the garage system vafify the payment method . |
| | 8.The system prints the receipt: <ul style="list-style-type: none"> - The user information - The vehicle information. - The date - The Service ID - mechanic's name - list of the accomplished services with each service price, total price, Taxes, and Discount |
| 3a | If the code is invalid the use case ends, and an error message is communicated. |
| 7a | If the payment method is invalid the use case ends, and an error message is communicated. |

The classes :

1. Customer :

Attributes :

- firstName:string
- lastName:staring
- phoneNumber:string
- customerEID:string
- Email:string

2. vehicle :

Attributes:

- vehicleType:string
- vehicleColor:ENUM
- vehicleID:string
- vehiclePlate: string

3. Service:

Attributes:

- serviceName:ENUM
- description:string
- duration : string

- Parts:string
- totalCost:float

4. Receipt :

Attributes:

- firstName:string
- lastName:staring
- phoneNumber:string
- Date:date
- mechanicName:string
- vehicleType:string
- vehicleColor:string
- vehicleID:string
- ServicesName:ENUM
- Taxes:float
- Discount:float
- finalAmount:float

| Customer |
|---|
| -firstName:string -lastName:staring -phoneNumber:string -customerEID:string -email:string |
| +setFirstName(firstName:String) +getFirstName():string +setLastName(lastName:string) +getLastName():string +setPhoneNumber():string +getPhoneNumber(phoneNumber:string) +getID():string +getID(ID:string) +setEmail(email:string) +getEmail():string |

| Vehicle |
|---|
| -vehicleType:string -vehicleColor:ENUM -vehicleID:string -vehiclePlate:string |
| +setMechanicName(mechanicName:string) +getMechanicName():string +setVehicleType(VehicleType:string) +getVehicleType():string +setVehicleColor(color:Color) +getVehicleColor():ENUM +getVehicleType:string +getvehicleID:string |

| Service |
|--|
| -serviceName:ENUM -description:string -duration : string -parts :string -totalCost:float |
| +setServiceName(service:Service) +getServiceName():ENUM +setDescription(description:string) +getDescription():string +setDuration(duration : string) +getDuration():string +setParts(parts:string) +getParts():string +setTotalCost(totalCost:float) +getTotalCost():float |

| Receipt |
|---|
| -firstName:string -lastName:staring -phoneNumber:string -date:date -mechanicName:string -vehicleType:string -vehicleColor:ENUM -vehicleID:string -serviceName:ENUM -taxes:float -discount:float -finalAmount:float |
| +setFirstName(firstName:String) +getFirstName():string +setLastName(lastName:string) +getLastName():string +setPhoneNumber():string +getPhoneNumber(phoneNumber:string) +setDate(date:date) +getDate():date +setMechanicName(mechanicName:string) +getMechanicName():string +setVehicleType(VehicleType:string) +getVehicleType():string +setVehicleColor(color:Color) +getVehicleColor():ENUM +getVehicleID():string +setServiceName(service:Service) +getServiceName():ENUM +setTaxes(taxes:float) +getTaxes():float +getDiscount(discount:float) +setDiscount():float +setFinalAmount(finalAmount:float) +geFinalAmount():float |

