

Home Delivery Project Documentation

SOFTWARE ENGINEERING – ANALYSIS – WS20/21

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GROUP 4 – FRIDAY 4PM |

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1. Introduction

Since the start of 2020, the coronavirus outbreak has affected every part of the world both economically and socially. It has created great challenges for nations to cope with the situation and protect their economy from severe damages. One of the solutions is putting “lockdown” into practice so that people can keep distance and thus, prevent the spread of the virus. However, this has put businesses in the place where they are struggling to exist and endure this difficult situation. In Germany, non-essential shops and schools are forced to close for a long time. Many businesses are shifting to online shopping as a solution but it is much more complicated than it may seem at first. One common problem of these shops is the lack of reliable delivery services. However, increased online shopping demand opens up a golden opportunity for businesses to revive.

That is why SuperGo is established as an answer for those pressing demands. We are a home delivery services that provides the best experience at the most reasonable prices. If you need to have a package shipped, we will deliver it for you. SuperGo is a user-friendly mobile application where everybody can easily access and utilize. How we work is that when a store wishes to use the service, they simply add the orders' information into the system. Then, a registered contractor is assigned to select, pick up and deliver those orders in a short amount of time. All the processes are direct and safe and we guarantee a secure environment for both parties throughout their experience with SuperGo. Our Agile software development process and functionality are going to be illustrated in this document.

2. Product Backlog

Annotation:

User Type: C – Customer, Co – Contractor, A – Admin, S – System

No	Initial Requirement	Extended Requirement	Description	Priority	Estimate (Week)	Sprint	User Type	Categorize	Business Value
1	User Registration	Create new account	User wants to create new account to use the system	High	3	1	C, Co	F	Customers and contractors must have registered account to be able to use the service. After registration, users are in control of their activity in the system.
		Log-in/Log-out	User can log into or log out of the system	High	3	1	C, Co	F	
		Edit Profile	User wants to change the personal information	Medium	3	1	C, Co	F	
2	Management	Admin Log-in/Log-out	Admin log into and log out of the system	High	3	1	A	F	Admins have control over the system and have an overall report of the customers and contractors.
		Database Management	Admin uses database to execute tasks	High	3	1	A	F	
3	Payment and Refund through external service provider	Payment through external service provider	Customer uses external service provider to pay shipping fee to contractor	High	3	2	C, Co	F	This is to guarantee that contractors receive their payments and customers can have a secure environment to run their business.
		Refund through external service provider	Should there be any failed delivery, customer is refunded with the	Medium	3	2	C, Co	F	

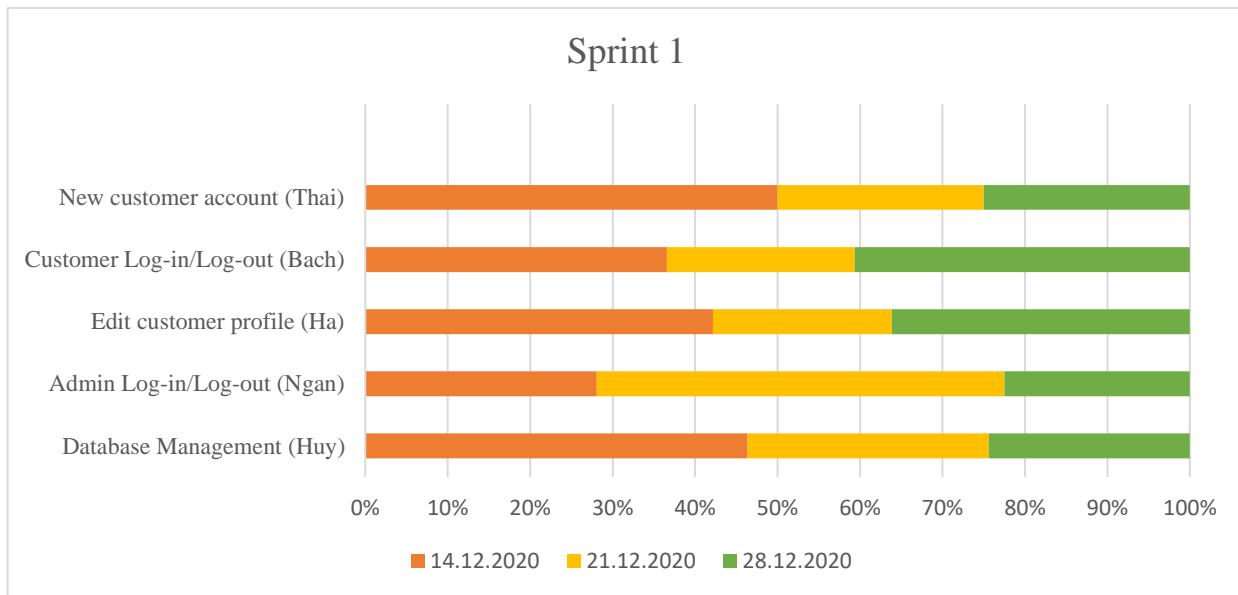
			shipping fee						
4	Before Delivery	Placement of order	Customer places order on the system	High	3	2	C	F	The customers and contractors can experience a time-saving and flexible service.
		Oder Pickup	Contractor chooses the order and picks up the package from the customer to deliver	High	3	2	C, Co	F	
5	Tracking		Customer can track the progress of delivery	High	3	3	C, Co	F	Customers are able to keep track of their orders.
6	Post Delivery		Procedure happens after a successful or failed delivery	High	3	3	C, Co	F	Procedures that guarantee a safe delivery experience for both customers and contractors.
7	Rating System		Customer can rate contractor	Low	3	3	C, Co	F	Customers can express their satisfaction of the contractors
8	Collect Surveys		The developer can view feedbacks from users	Low	3	3	C, Co	F	Through collecting feedbacks, developers are provided with useful information to develop the system
9	Check Revenue		Customer and contractor can check their	Medium	3	3	A, C, Co	F	Users can keep track of their work

			monthly or annual revenue							
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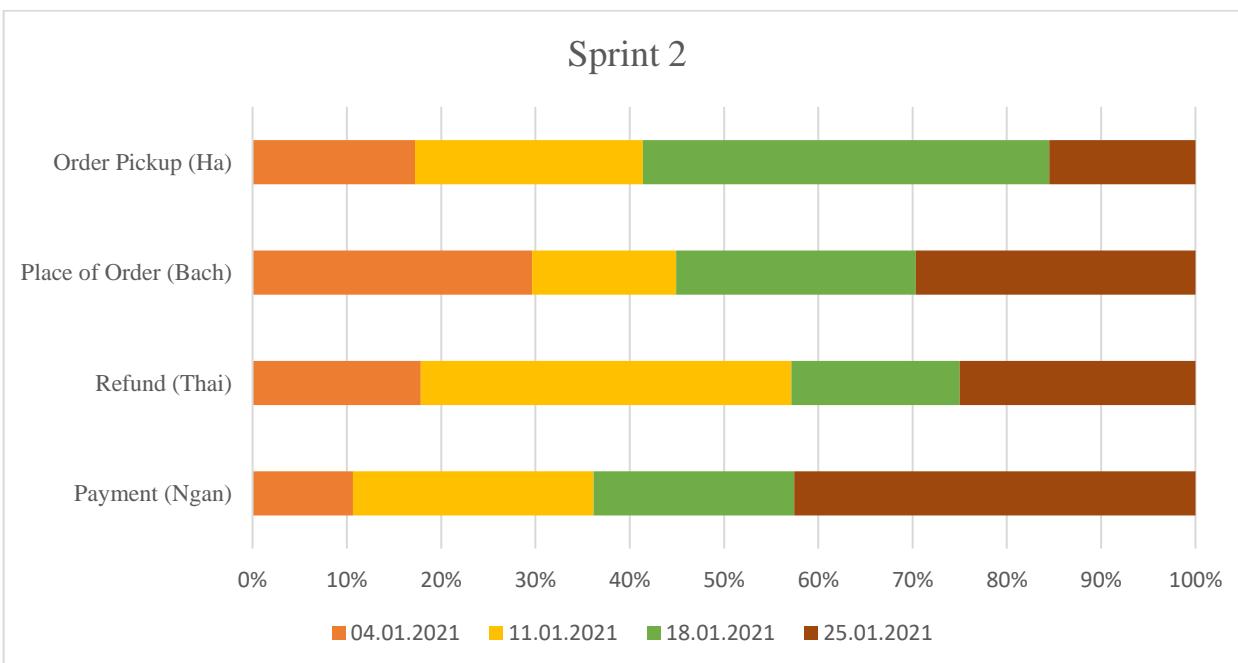
3. Scrum Review

3.1 Report

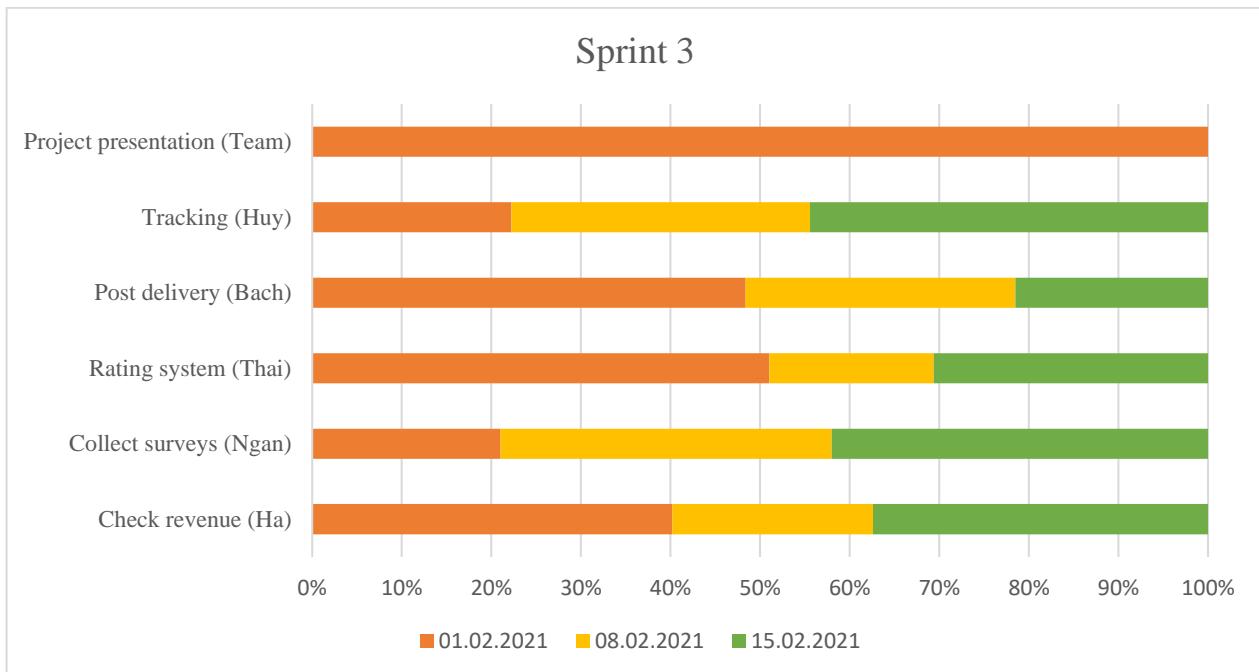
3.1.1 Sprint 1



3.1.2 Sprint 2



3.1.3 Sprint 3



3.2 Retrospective

3.2.1 Sprint 1

From 14.12.2020 to 28.12.2020, we arranged 2 meetings weekly to review and keeping track of the work.

Requirements that we worked on:

- Customer Registration
- Customer Sign in/ Sign out
- Edit Profile
- Admin Sign in/ Sign out
- Database Management

Achievements:

- We analyzed the requirements and sorted according to the importance of the functionalities to the system.
- We chose Google Drive platform for storing and updating our work.
- We made plan for the next period of time as well as assigning work for each individual.

Difficulties:

- We had hard time understanding the requirements and arranging them.
- We experienced some difficulties drawing UML and confusions about the functions of each diagram.

Improvement:

- We should learn and practice drawing UML.
- We should do more research on analyzing requirements effectively.

3.2.2 Sprint 2

From 04.01.2021 to 25.01.2021, we had 3 meetings weekly to check our progress.

Requirements that we worked on:

- Placement of order
- Order Pickup
- Payment and Refund

Achievements:

- We accomplished the assigned work in sprint 2.
- We made some preparation for the final documentation.

Difficulties:

- Some requirements did not meet expectation and needed many effort to modify.

- Some team members misunderstood the requirements and underperformed.
- Some team members had difficulties drawing Magic Draw.

Improvement:

- We should ensure that all team members understand their work.
- We should keep up with each individual work at an early stage.

3.2.3 Sprint 3

From 01.02.2021 to 15.02.2021, we had a total of 5 meetings to finalize the work.

Requirements that we worked on:

- Order tracking
- Post delivery
- Rating system
- Collect survey
- Check revenue

Achievements:

- We finished all the requirements in sprint 3
- We had our Project Documentation finished and went through some modifications
- We worked more effectively

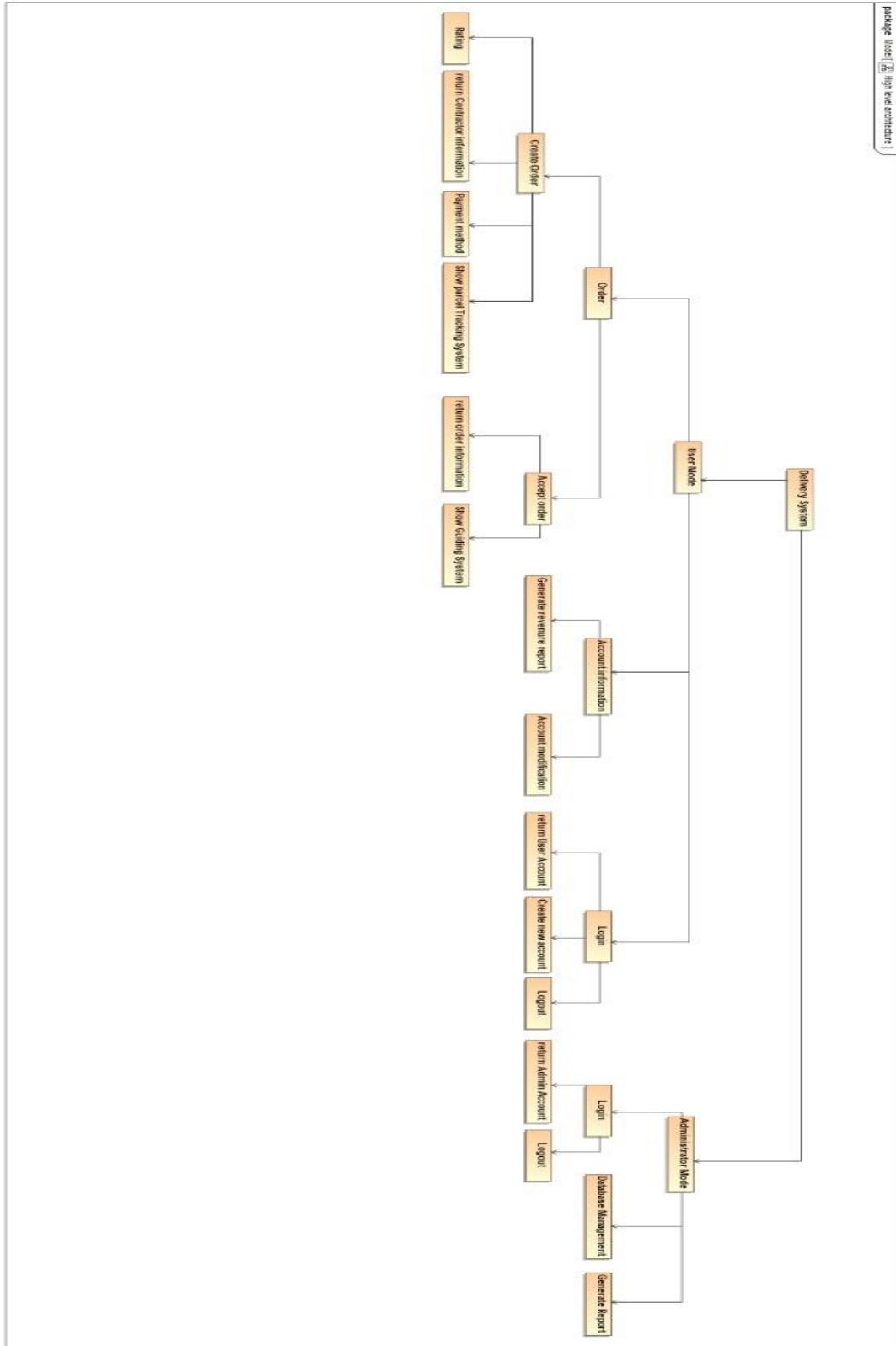
Difficulties:

- We still had some problems with our Documentation's format.

Improvement:

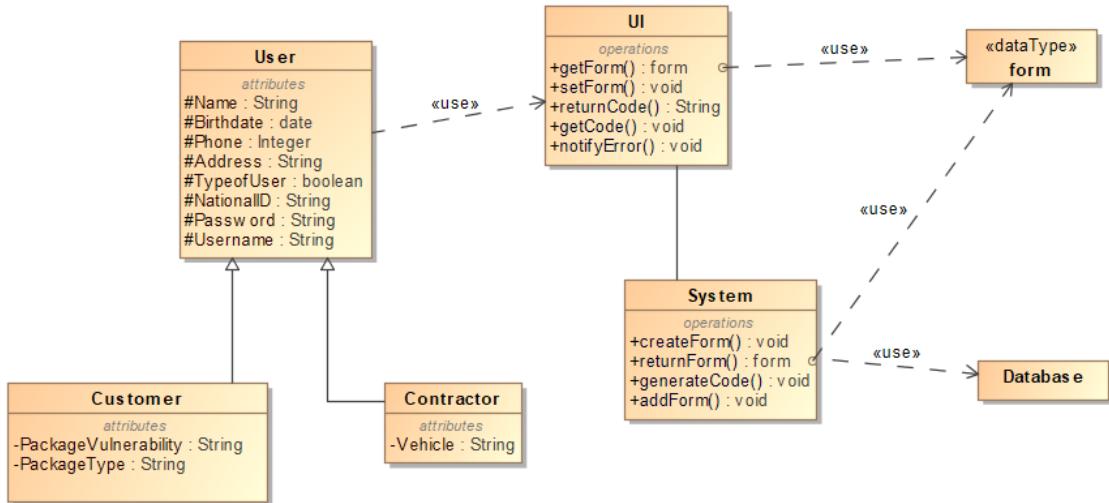
None

4. High Level Architecture



5. Requirements

5.1 Customer Management



Class Diagram

5.1.1 Create new account

5.1.1.1 User Case Description

- **User case description:**

The customer or contractor wishes to create a new account in the application to use the home delivery services.

Actors: Customer/Contractor and the management system

Preconditions: Customer is an existing business and has downloaded the application
Contractor has downloaded the application

Basic flow:

This describes the authentication steps:

1. The user attempts to login
2. The user fills in the registration form
3. The user submits the form
4. The system checks the information
5. The system sends authentication code to user through email or phone number
6. The user fills in the code
7. The system successfully creates a new account

Postconditions: The user has a registered account for future practice

Alternative 1A:

This describes the steps taken in occurrence that user has not registered

1. The system is unable to find the entered account
2. The system shows that the account does not exist
3. The system requires registration

Postconditions: The user is requested to create a new account to continue using the application.

Alternative 4A:

This describes the situation where user has entered incorrect information

1. The system checks the accuracy of the information
2. The system informs the user to check the registration form again
3. User changes the incorrect information and re-submit the form
4. The system detects no error
5. The process continues as step 5 in the basic flow

Postconditions: The user has submitted correct information and is waiting for authentication code from system.

Alternative 6A:

This describes the outcome of user inserting inaccurate authentication code

1. The system detects incorrect authentication code
2. The user asks to re-send new authentication code through email or phone number
3. The system sends new authentication code
4. The user enters the correct code

Postconditions: The system has verified that the entered code is correct.

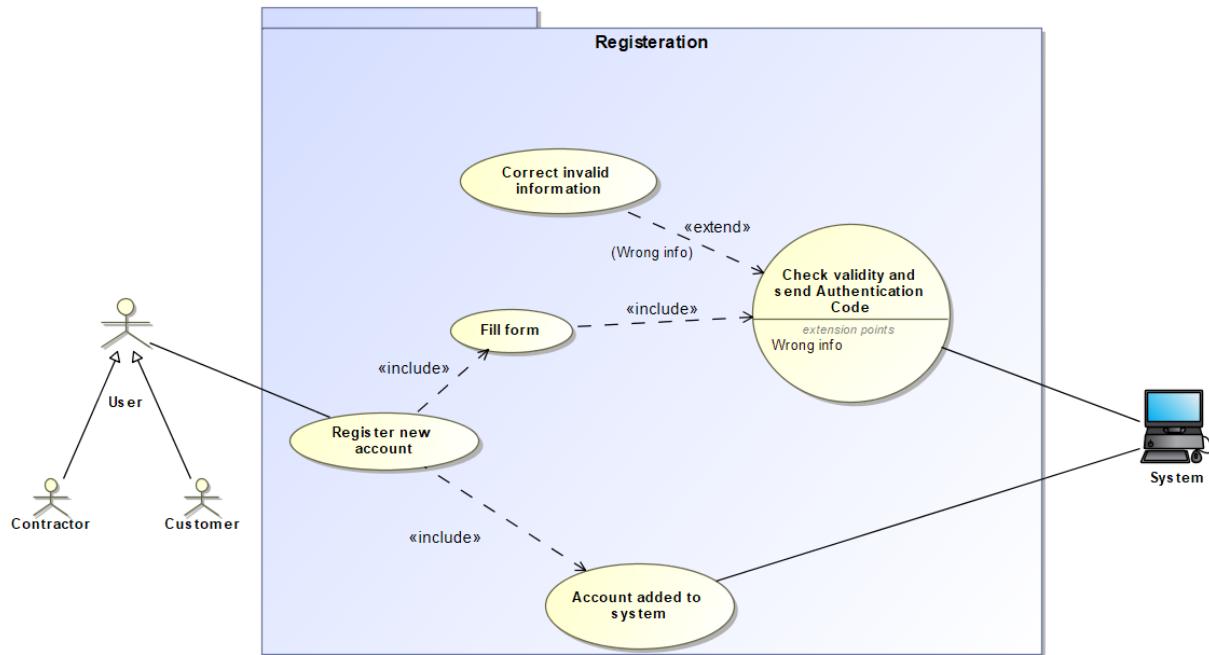
Alternative 6B:

This describes the consequences of user fails to receive the authentication code because of false email or phone number

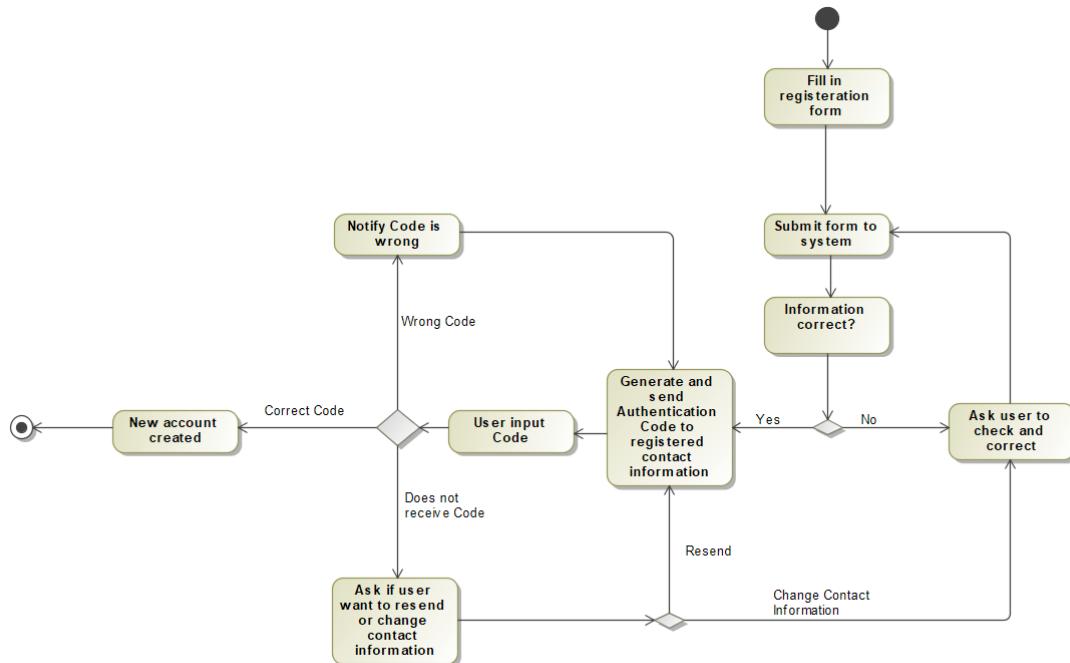
1. The user does not receive any authentication code
2. The system messages user to check contact information
3. The user re-submits new contact information
4. The system forwards new authentication code
5. The customer enters the correct code

Postconditions: The customer changed his/her contact information and been successfully verified with new authentication code.

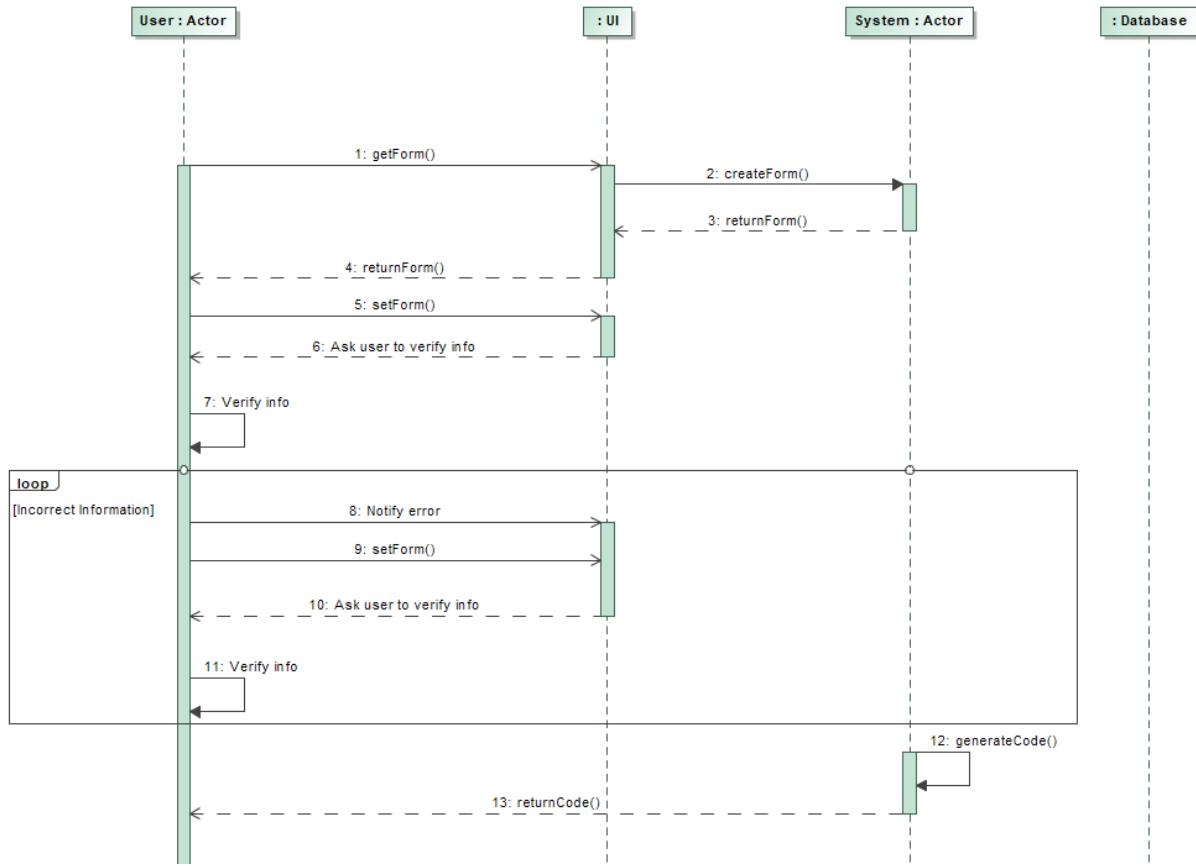
5.1.1.2 UML Diagrams

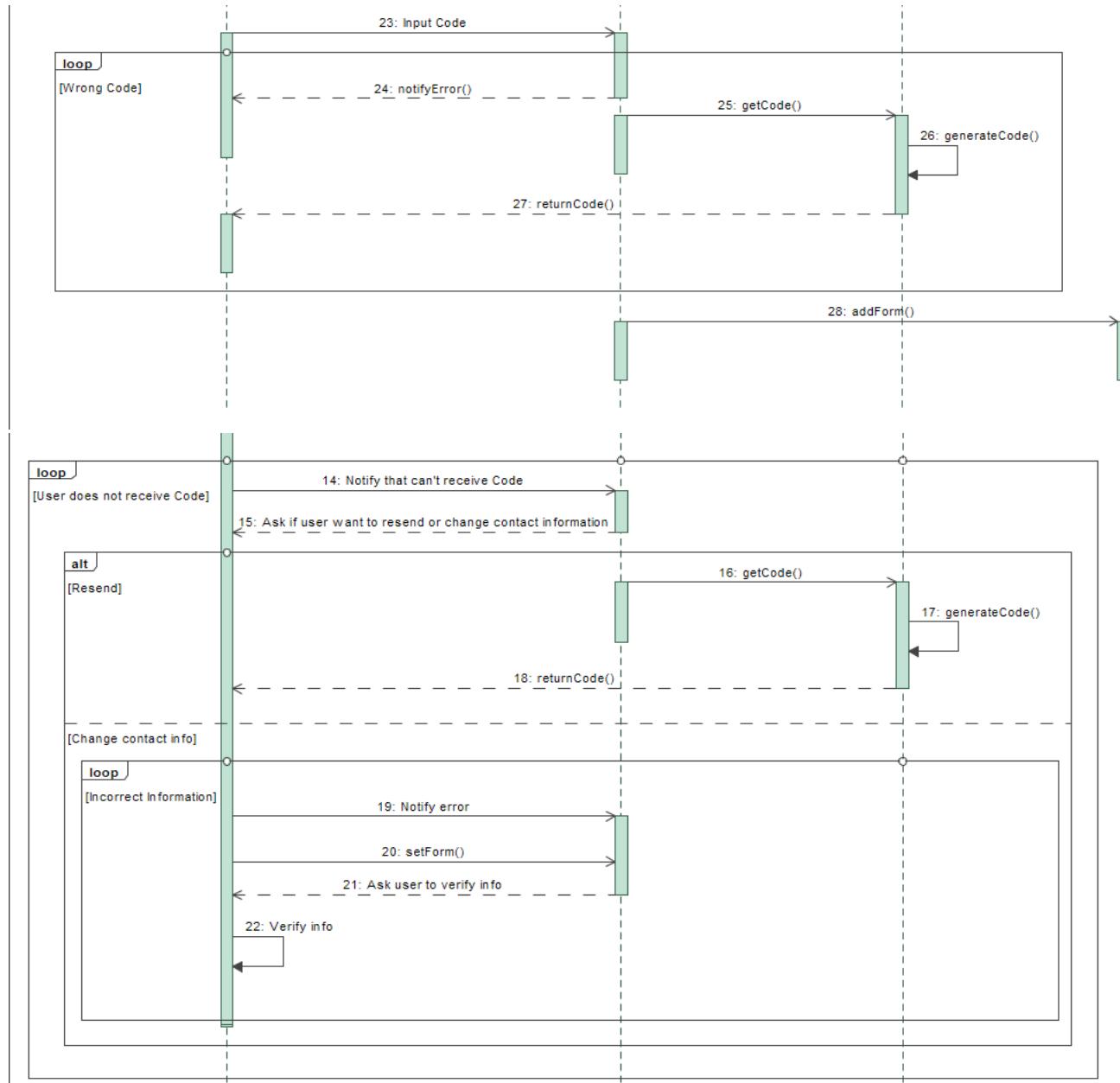


Use Case Diagram



Activity Diagram





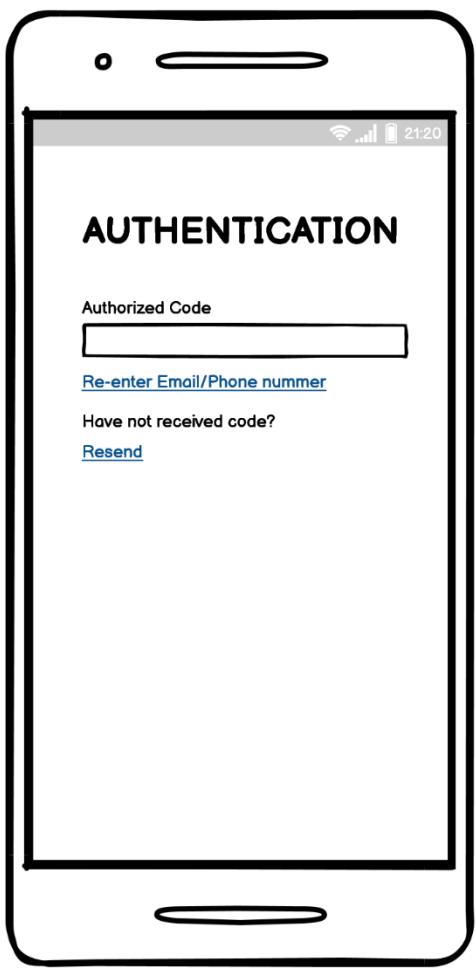
Sequence Diagram

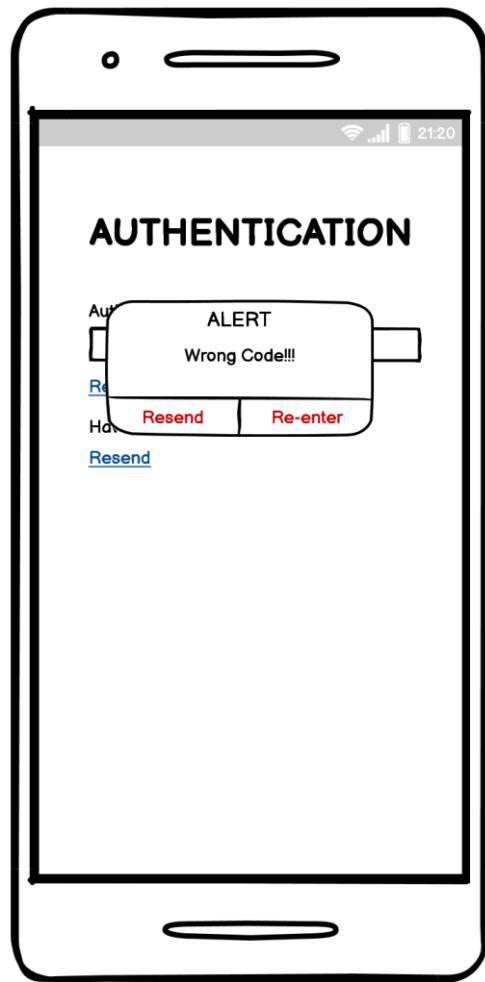
A smartphone wireframe displaying a registration form. The screen shows a logo at the top center, followed by the word "REGISTER" in bold capital letters. Below the title are seven input fields with labels and asterisks indicating they are required:

- Email Address*
- Password*
- Re-enter Password*
- Firstname*
- Lastname*
- Phone number*
- Birthdate* (with date, month, and year dropdown menus)

At the bottom of the form is a "Submit" button.

A smartphone wireframe showing the same registration form as the first one. However, an alert dialog box is overlaid on the screen. The alert has a title "Alert!" and a message "You have not fill out all the form. Please check again!". It includes a red "CONTINUE" button at the bottom right. The rest of the form fields are visible beneath the alert box.





User Interfaces

5.1.2 Log-in and Log-out

5.1.2.1 Log-in

5.1.2.1.1 User Case Description

- User case Description:**

The user wants to use his/her account for work

Actors: Customer or contractor and the management system

Preconditions: User has already registered in the system

Basic flow:

1. The user enters his/her username and password
2. The system checks the availability of the entered username in the database
3. The system accepts the username
4. The user continues to enter the password
5. The password goes through system-checking
6. The user is successfully logged into the application
7. The system adds user session
8. The system checks if there is previous session already occurred at the same time with the new session
9. The system deletes the previous session

Postconditions: The user is able to utilize the function of the service

Alternative 2A:

This illustrates the steps of system fails to recognise the entered username or available in the database

1. The system messages that the entered username or password does not exist and suggests that the user should check again
2. User re-enters username until system can recognise them

Postconditions: The username exists in database

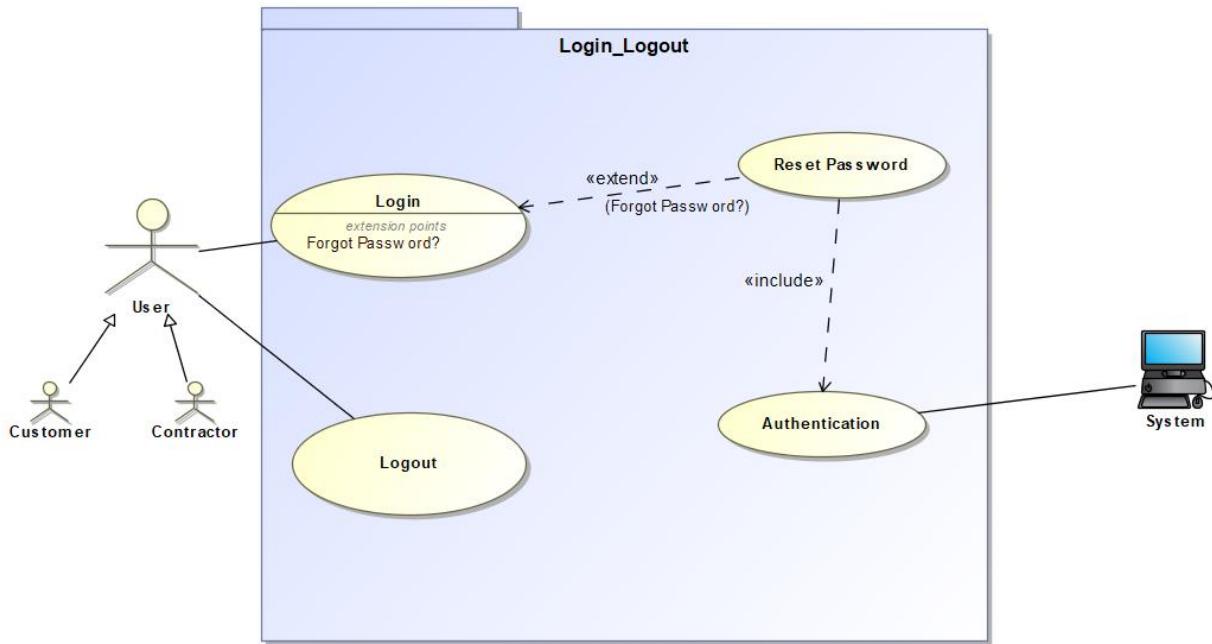
Alternative 5A:

This illustrates the result of user enters incorrect password

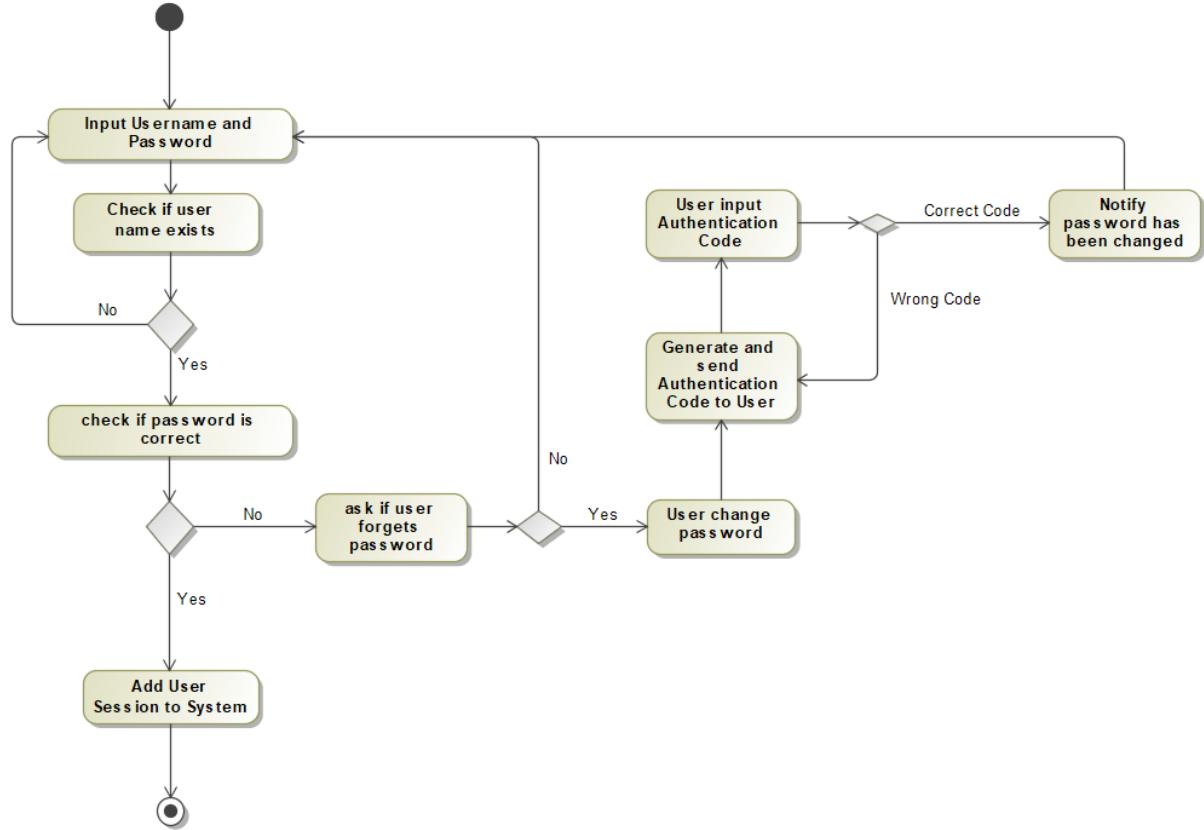
1. System suggests that user should reset password
2. User fills in new password
3. System generates and sends authentication code to user
4. User verifies using the sent code
5. Password has been changed

Postconditions: The user is introduced to reset new password.

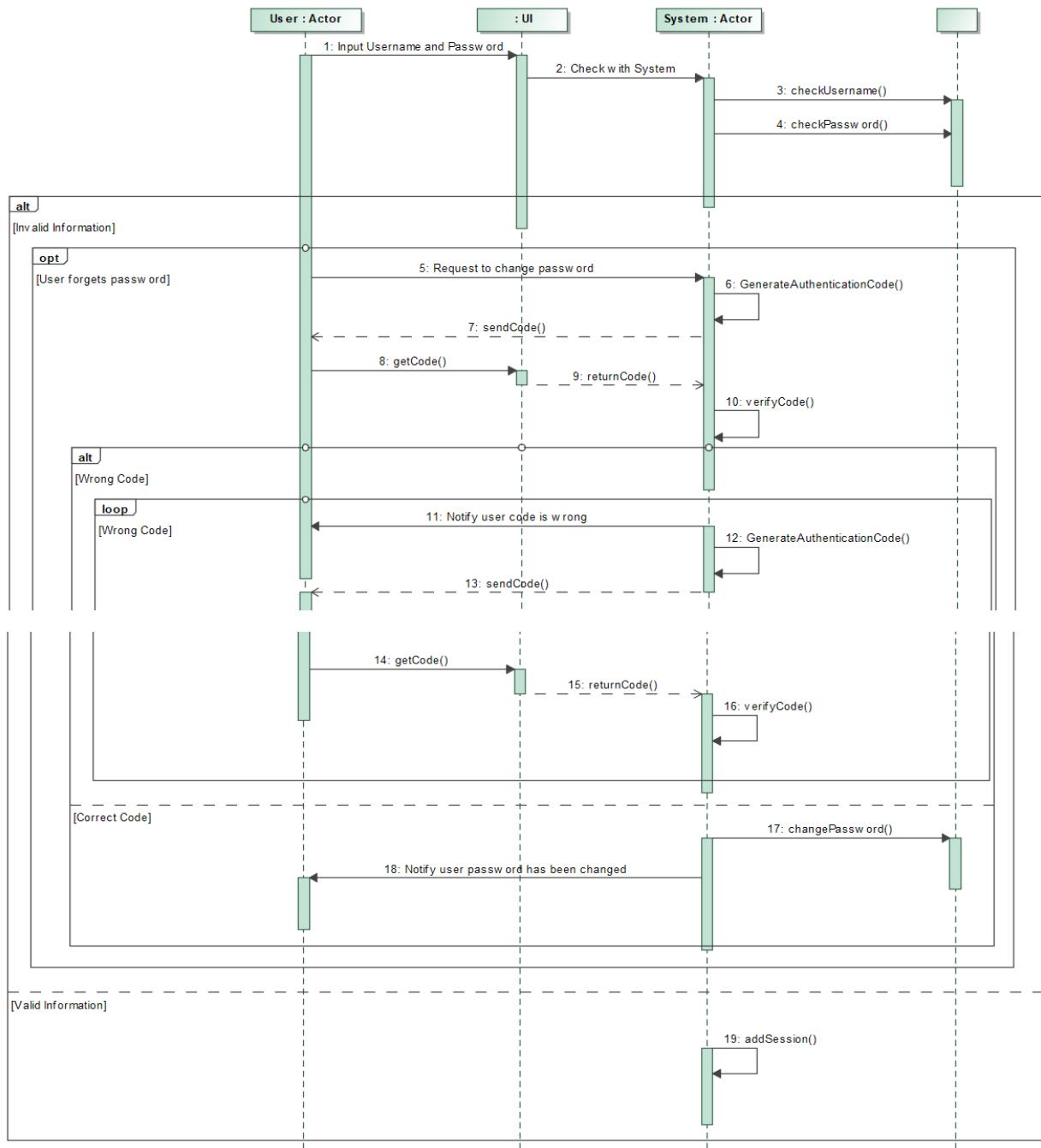
5.1.2.1.2 UML Diagrams



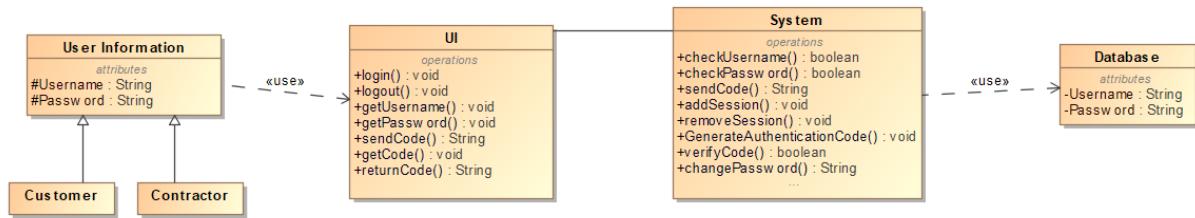
Use Case Diagram



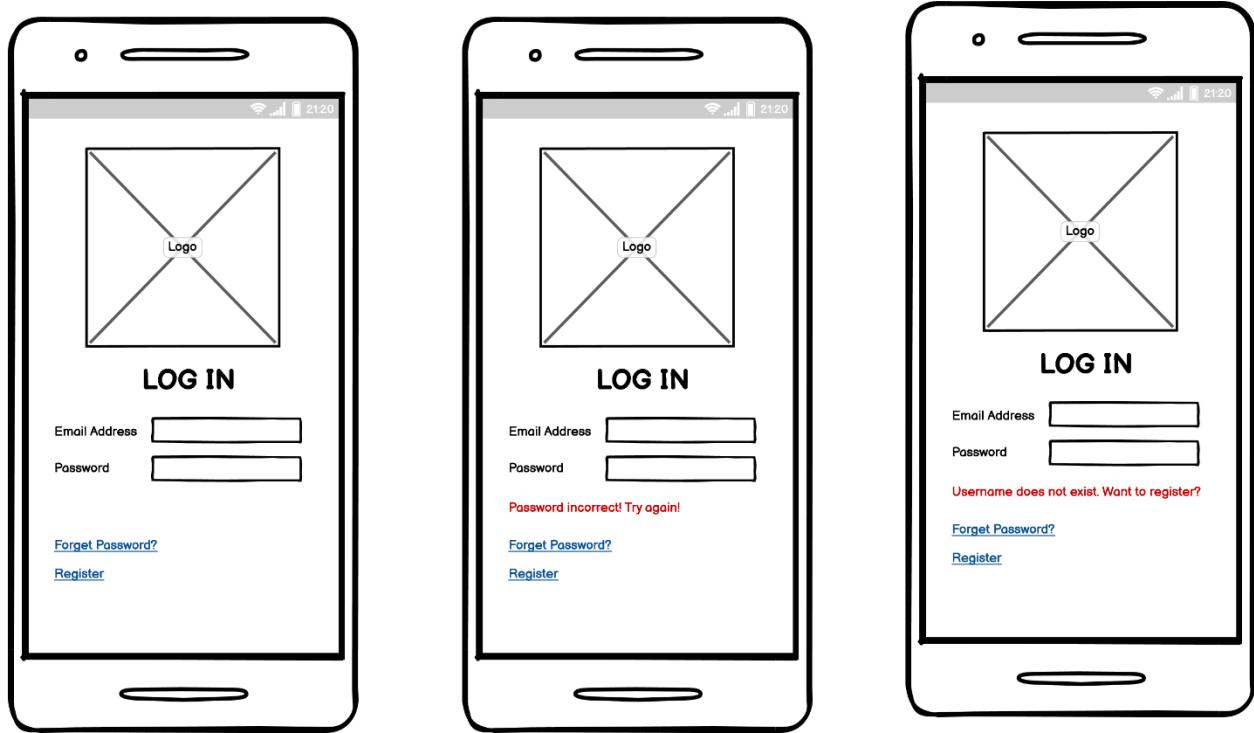
Activity Diagram



Sequence Diagram



Class Diagram



User Interfaces

5.1.2.2 Log-out

5.1.2.2.1 User Case Description

- **User Case Description:**

The user has finished the work and want to log out of account

Actors: Customer or contractor and management system

Preconditions: The user has a valid account and is being logged in the account

Basic flow:

1. The user chooses to log out
2. The system asks for confirmation to sign out
3. The system removes the user session

Postconditions: The user signs out

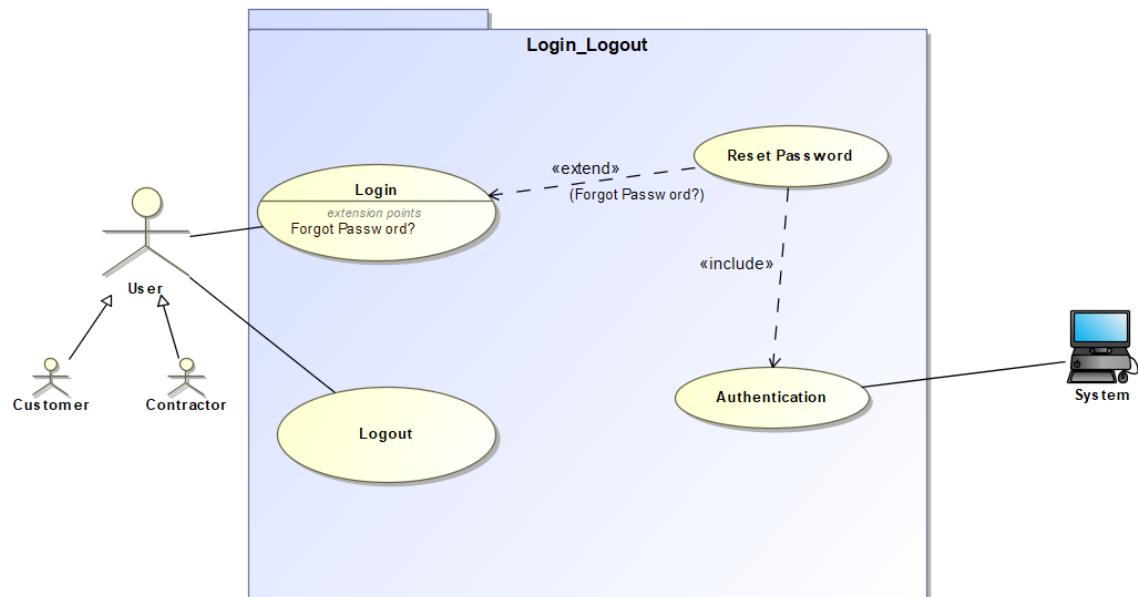
Alternative 2A:

This describes the result of user refuses to sign out

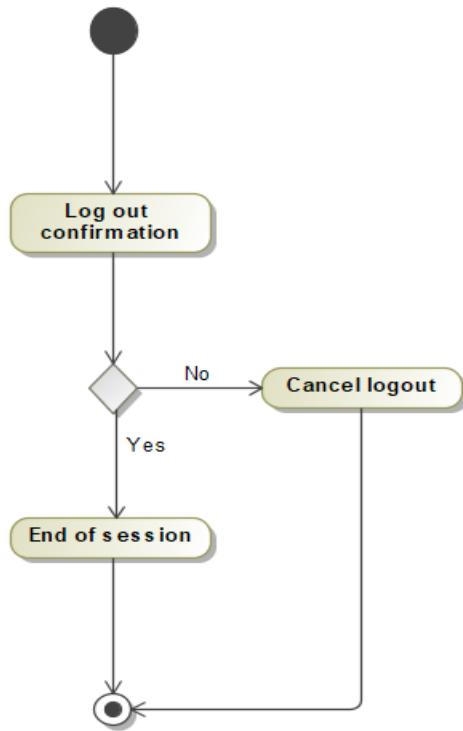
1. The system cancels the log out request

Postconditions: The user does not log out anymore

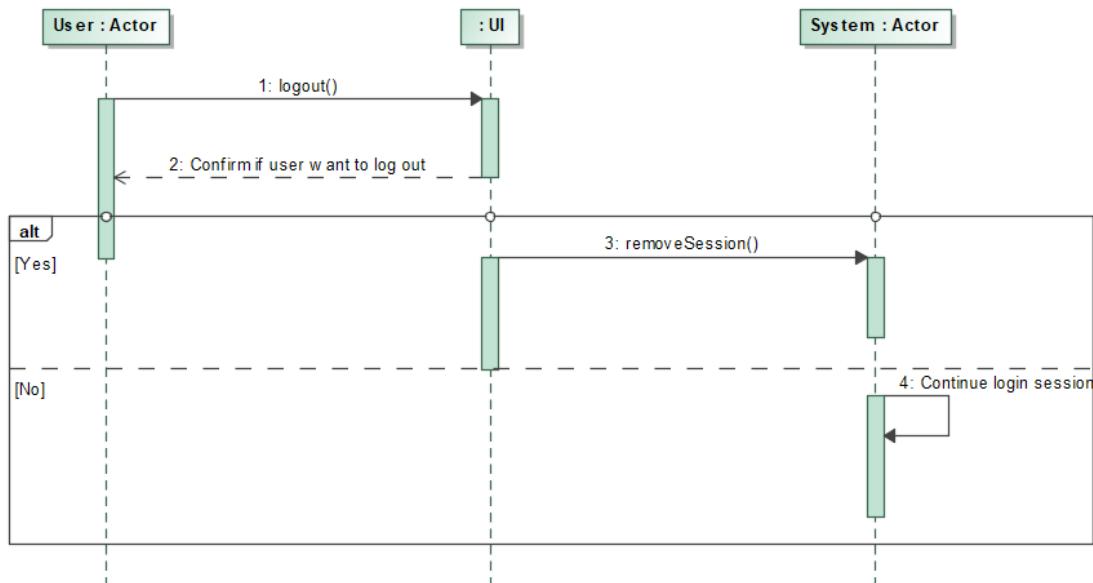
5.1.2.2 UML Diagrams



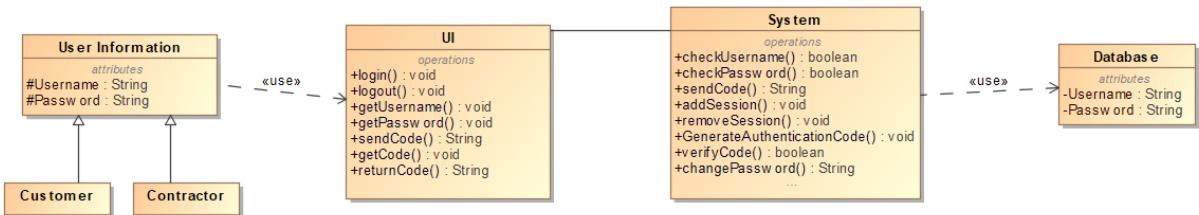
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram



User Interfaces

5.1.3 Edit Profile

5.1.3.1 User Case Diagram

- **User Case Description**

The user needs to change his/her information in their user profile

Actors: Customer or contractor and the management system

Preconditions: User has been logged in the system

Basic flow:

1. The user selects edit features in his/her profile settings.
2. The system accepts the request and sends a profile-editing form
3. The user fills in the form
4. The form is submitted to the system
5. The system checks the information
6. An authentication code is generated and sent to user via email/phone number
7. User enters the code
8. The system verifies the code
9. The information has successfully been modified

Postconditions: User is able to change his/her information in the user profile

Alternative 5A:

This portrays the situation where user has filled in incorrect information

1. The system informs that the information is not valid
2. User checks and re-submit the form
3. The system recognizes no error
4. The process continues from step 6 in the basic flow

Postconditions: The user has entered valid information to system

Alternative 7A:

This portrays the steps taken when user enters invalid authentication code

1. The system informs that the authentication code is incorrect
2. The user requests to re-send new authentication code through email or phone number
3. The system sends new authentication code
4. The user enters correct code

Postconditions: The system has verified that the entered code is correct

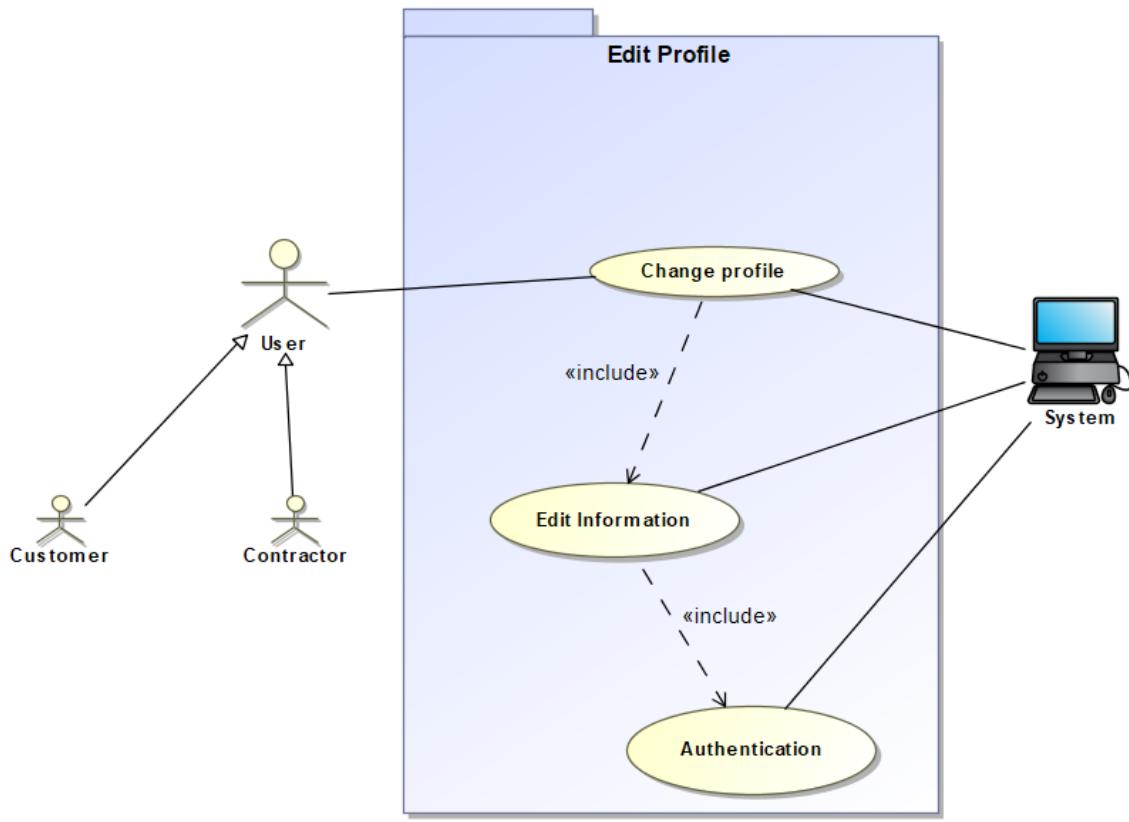
Alternative 6B:

This describes the steps taken when user has received no authentication code due to invalid contact information

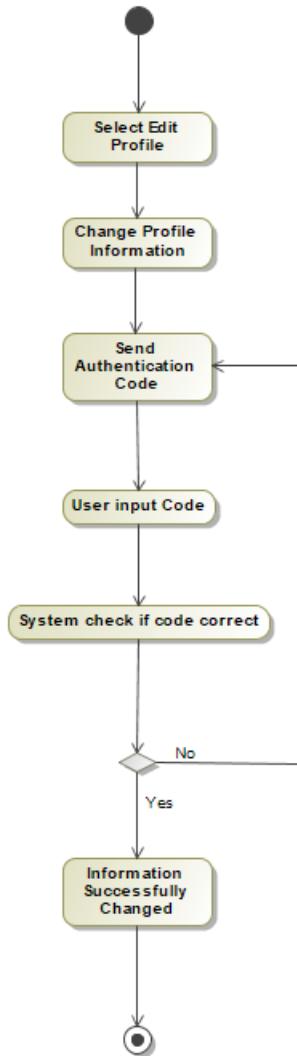
5. The user does not obtain any authentication code within 30 minutes
6. The system asks user to check contact information
7. The user re-submits new contact information
8. The system generates new authentication code
9. The customer enters the correct code

Postconditions: The customer modified his/her contact information and has been authenticated by the system

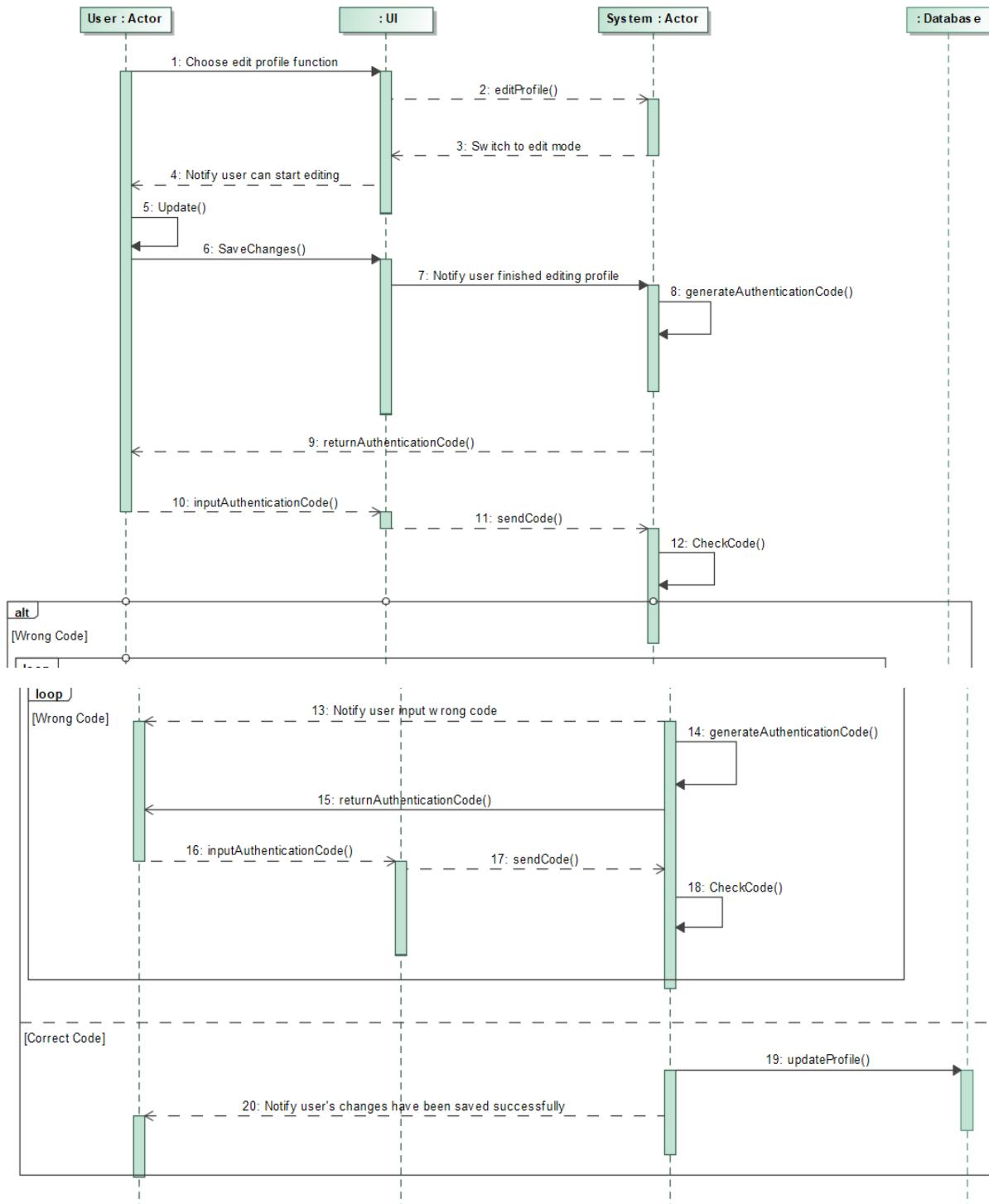
5.1.3.2 UML Diagrams



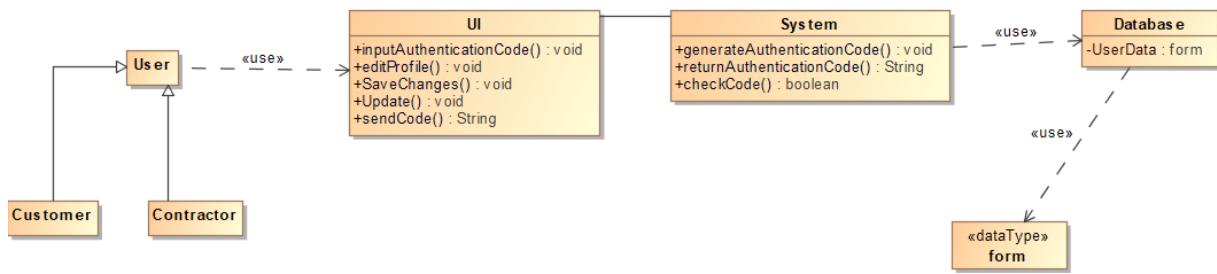
Use Case Diagram



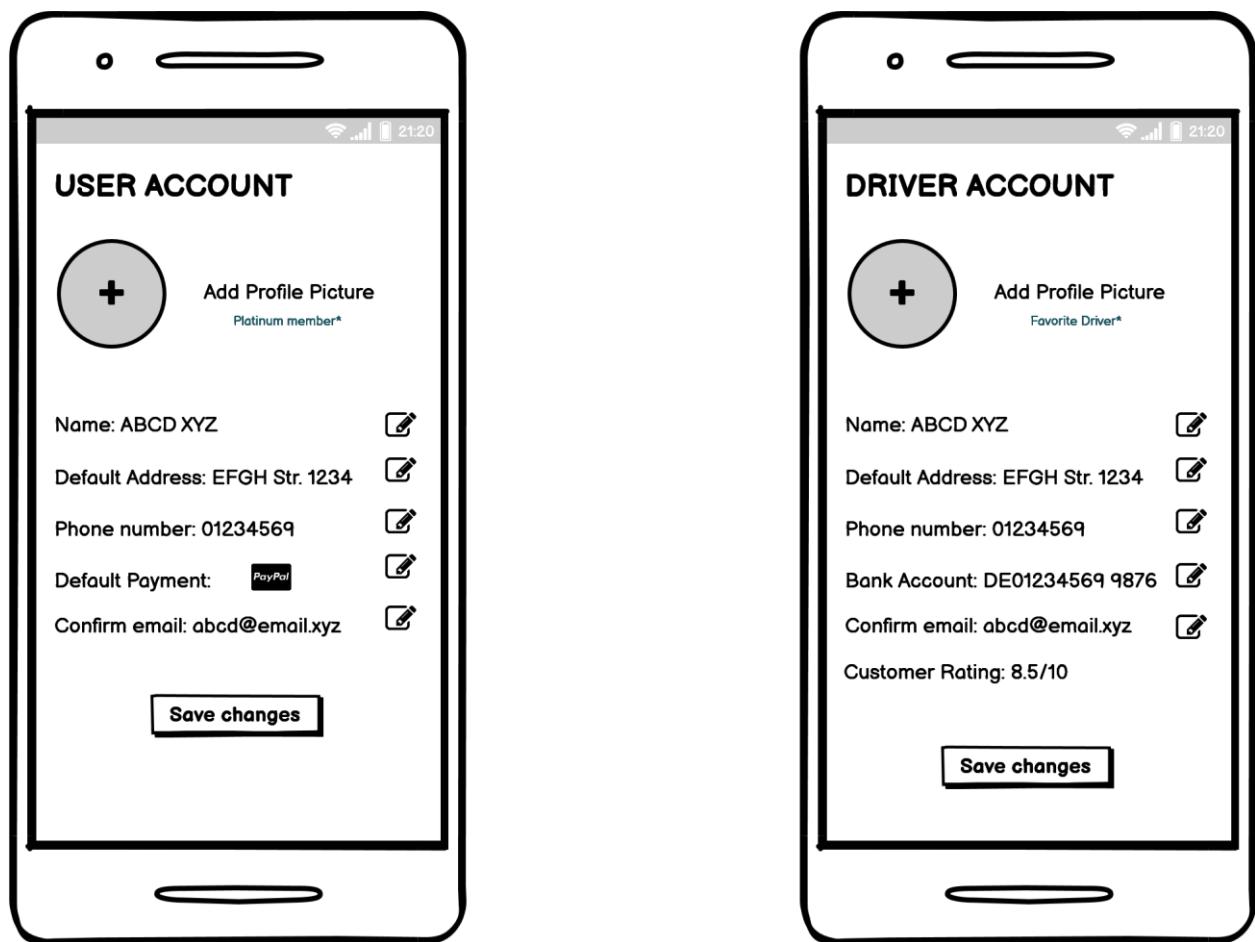
Activity Diagram



Sequence Diagram



Class Diagram



User Interfaces

5.2 Management

5.2.1 Admin Log-in and Log-out

5.2.1.1 Log-in

5.2.1.1.1 User Case Description

- **User case description:**

Admin wants to use his/her account for work

Actors: Admins or owner of the product.

Pre-conditions: Admin has given an admin code and a valid account.

Basic flow:

1. The admin enters username and password
2. System checks if it is a valid account.
3. The admin then enters his/her admin code.
4. Systems check if the admin code belongs to that account.
5. Admin is successfully logged in.

Postconditions: Admin now can perform actions on database.

Alternatives 2A:

This illustrates the step of systems that fails to recognize the entered account in the database.

1. The system terminates the login screen for security, session is timeout.

Post conditions: Admin fails to login.

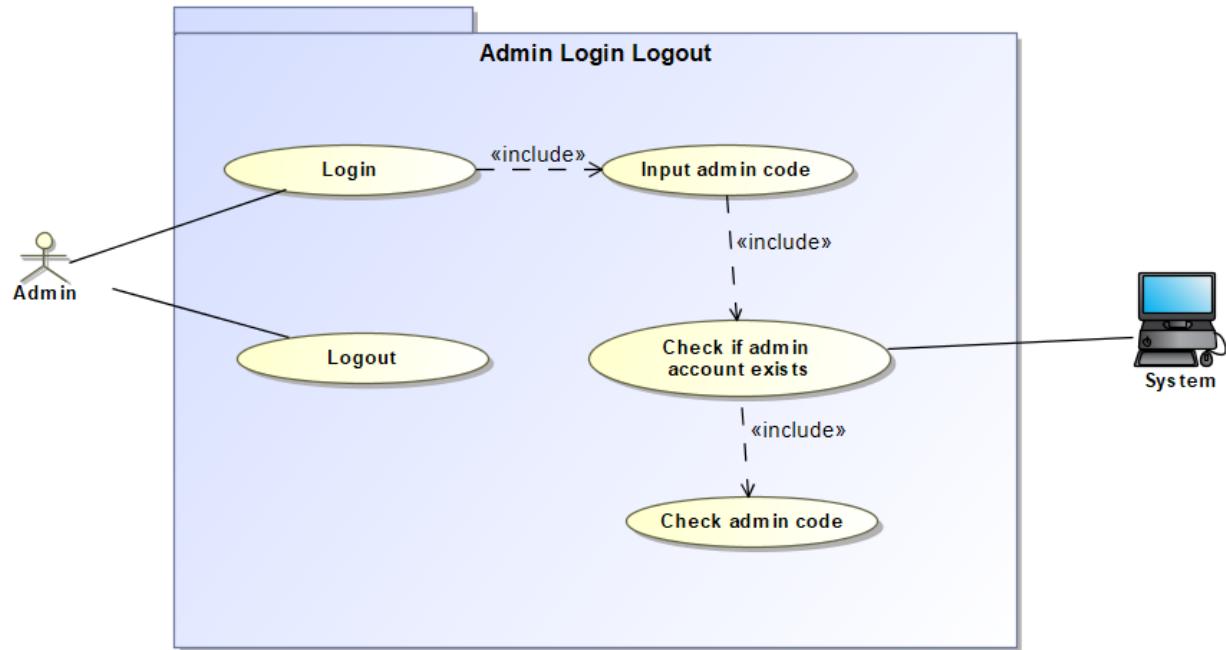
Alternative 4A:

This illustrates the step of system that fails to check the corresponding admin code whether it is invalid or not.

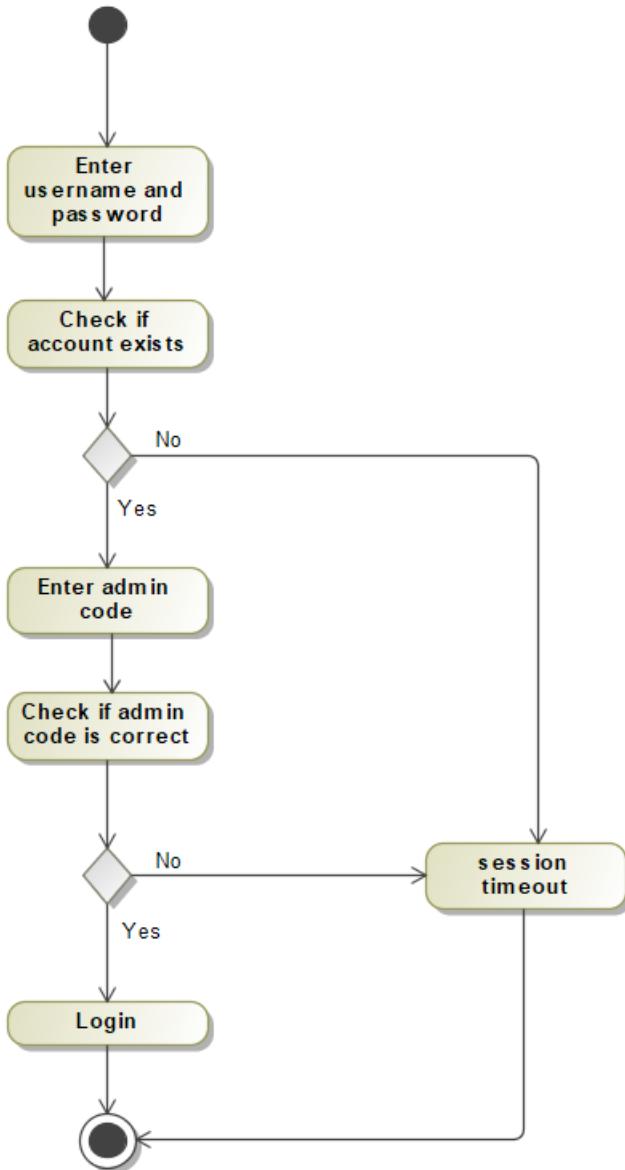
1. The system terminates the login screen for security, session is timeout.

Post conditions: Admin fails to login.

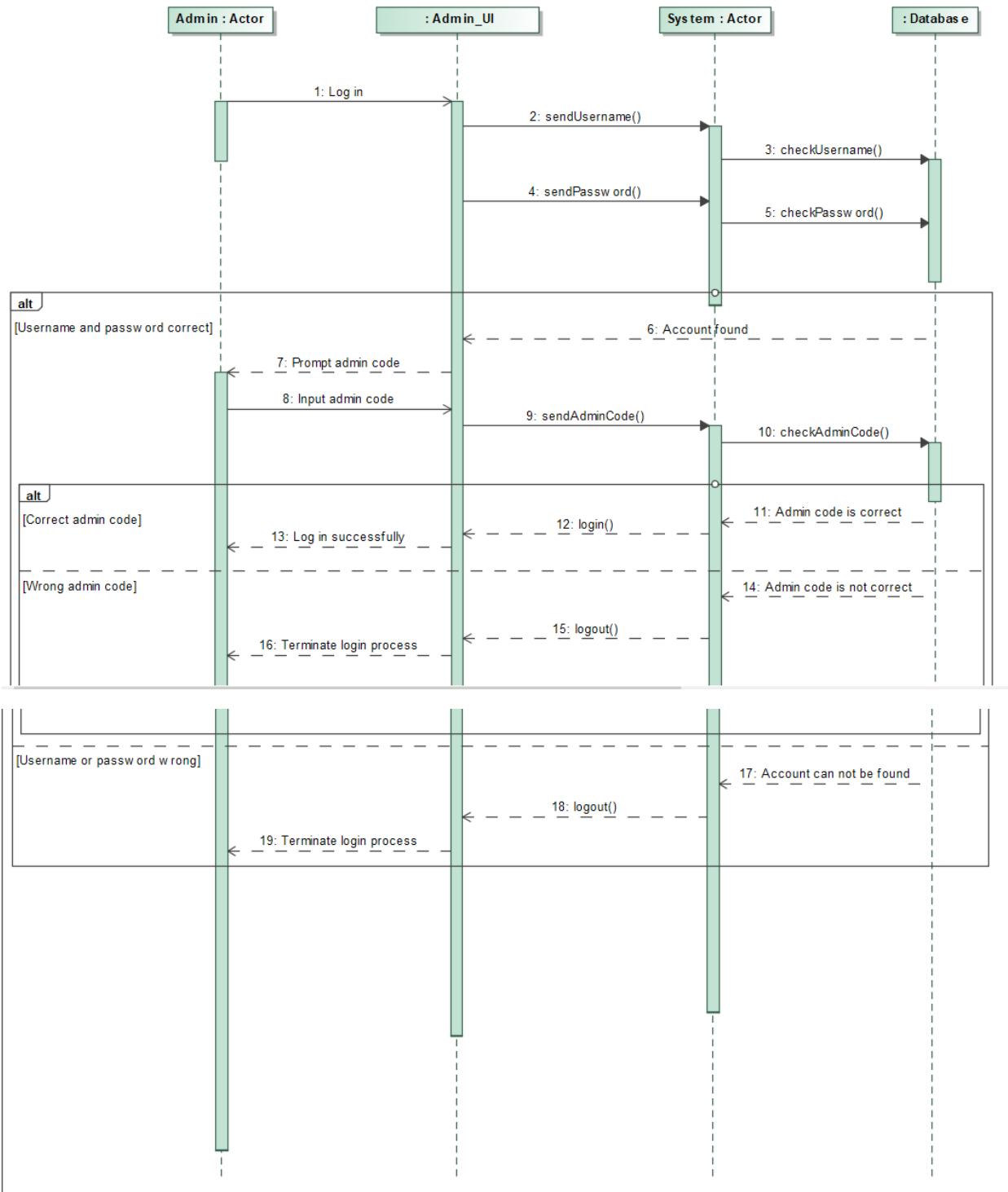
5.2.1.1.2 UML Diagrams



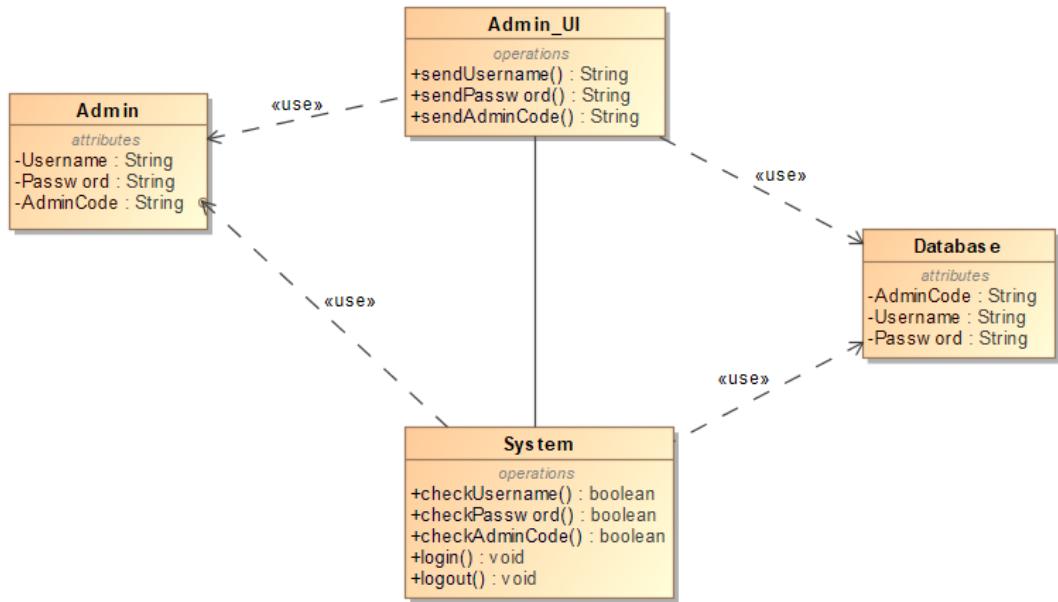
Use Case Diagram



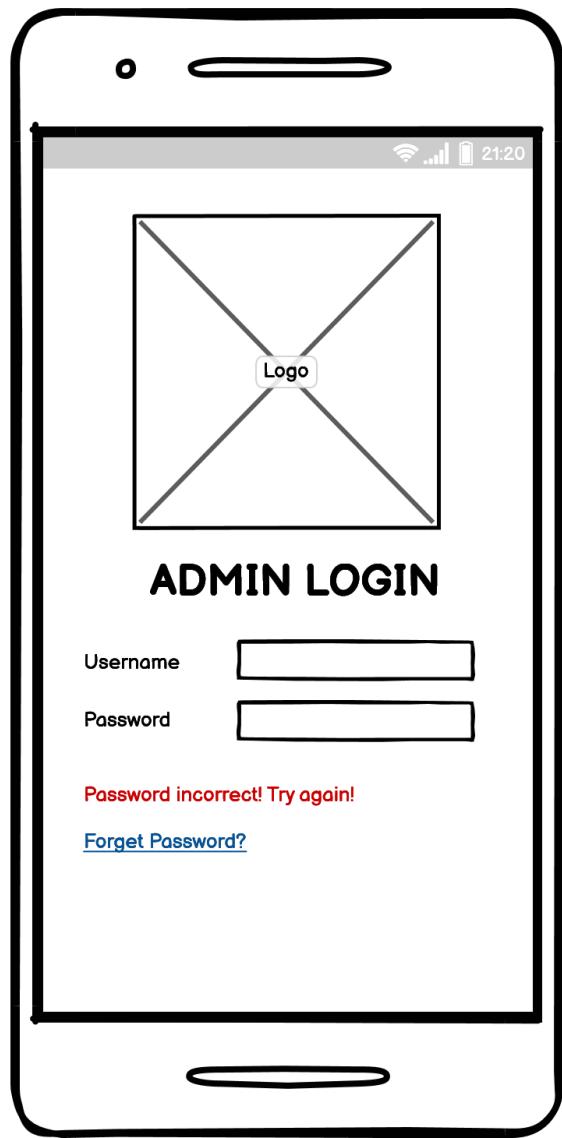
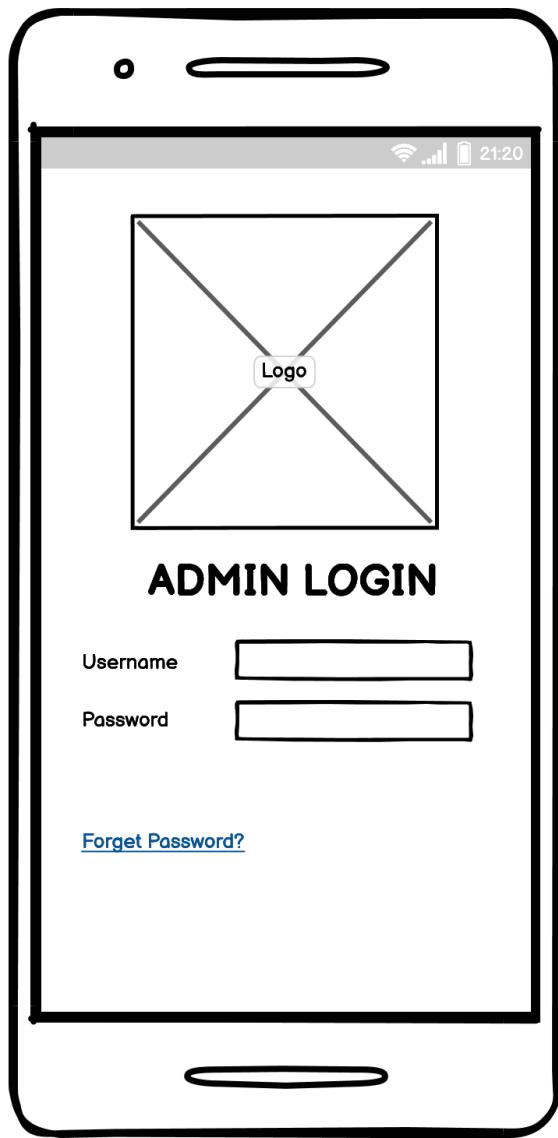
Activity Diagram



Sequence Diagram



Class Diagram



User Interfaces

5.2.1.2 Log-out

5.2.1.2.1 User Case Description

- **User case description:**

Admin wants to terminate his/her session.

Actors: Admin or owner of the product.

Preconditions: Admin is being logged in.

Basic flow:

1. Admin chooses to log out.
2. System asks for log-out confirmation.
3. System end admin session.

Postconditions: admin is now logged out.

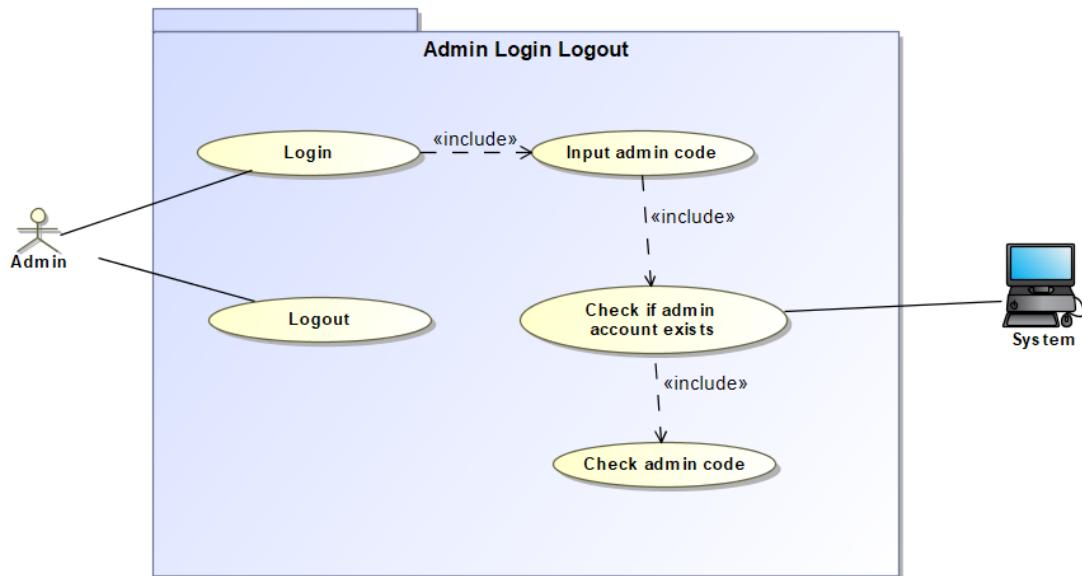
Alternative 2A:

This illustrates the steps that admin refuses to log out.

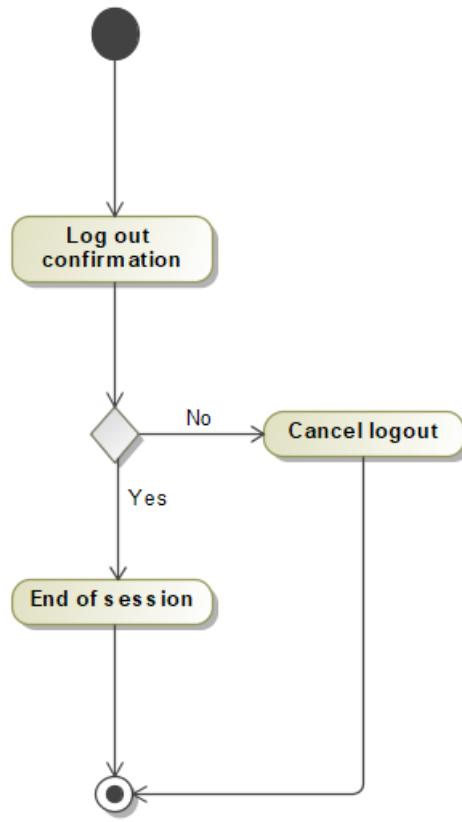
1. System cancels the log out request.

Postconditions: The admin does not log out.

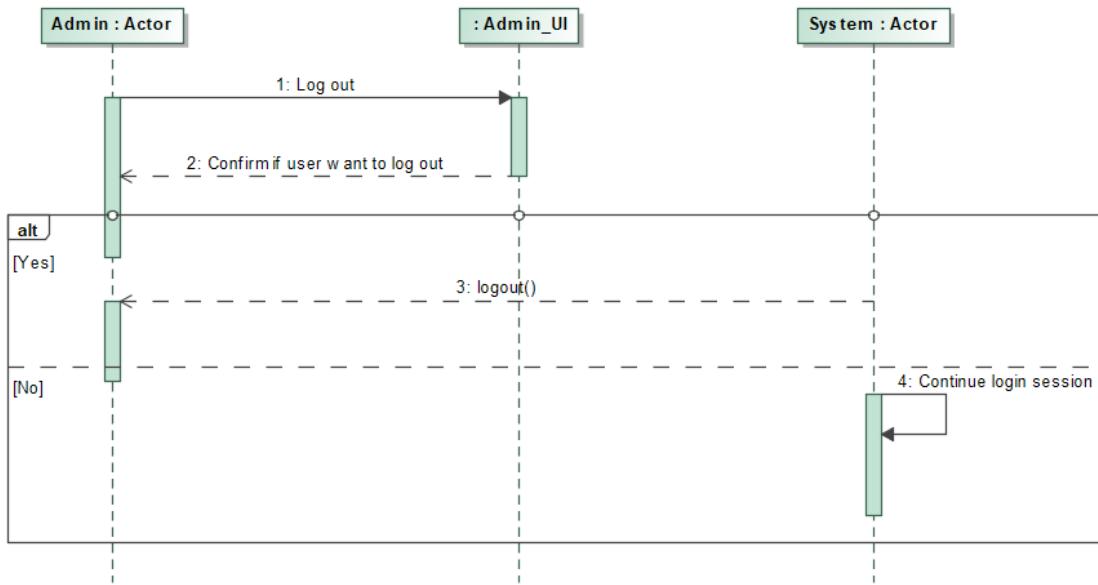
5.2.1.2.2 UML Diagrams



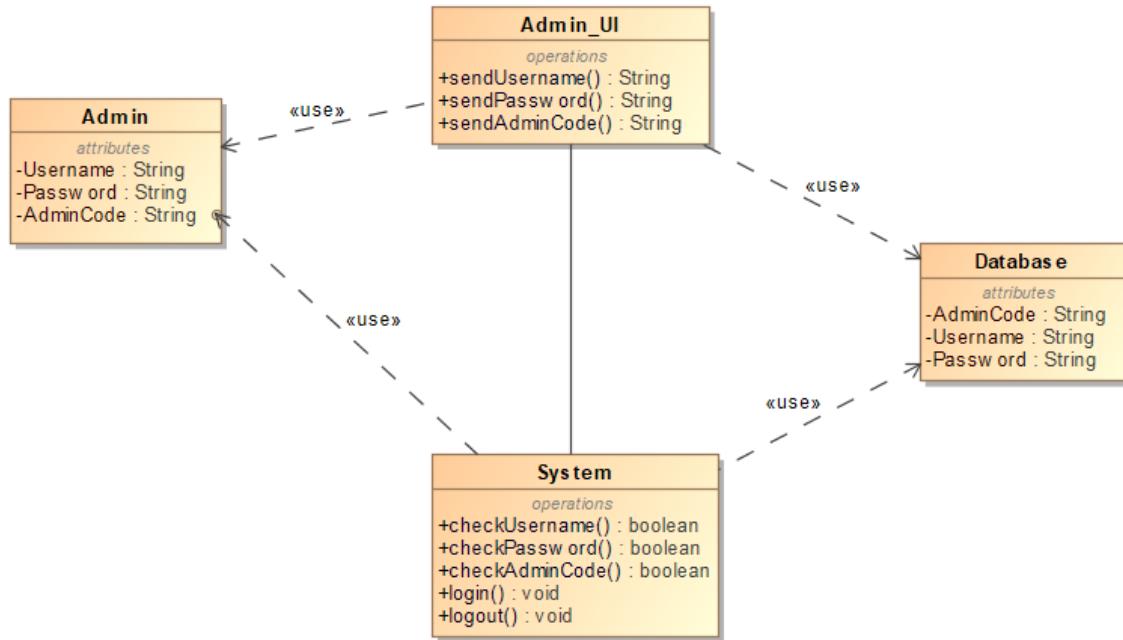
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram



User Interfaces

5.2.2 Database Management

5.2.2.1 User Case Description

- **User case description:**

Admin performs actions on database.

Actors: Admin or owner of the product.

Preconditions: Admin has already logged in.

Basic flow:

1. Admin finds user's account in database
2. The admin chooses available functions to perform on that found account.
3. System receives and sends query to database.
4. Database executes the query
5. Database returns the result to the system.
6. System displays results to admin.

Postconditions: Admin can acquire the information from system to perform further tasks.

Alternative 1A:

This shows the situation that system cannot find the entered account.

1. System notifies the admin that the entered account does not exist.
2. Systems redirect admin to search page.

Postconditions: That account does not exist in the database

Alternative 5A:

This illustrates that database return null or the query cannot be executed.

1. System notifies errors to the admin.
2. System redirects admin to the page that admin can choose available functions to perform on database

Post-conditions: The query cannot be executed.

Alternative 6A:

This illustrates that admin needs to work on the database.

1. System redirects admin to the page where available options can be chosen.

Postconditions: Admin can continue to acquire the information from database through available actions.

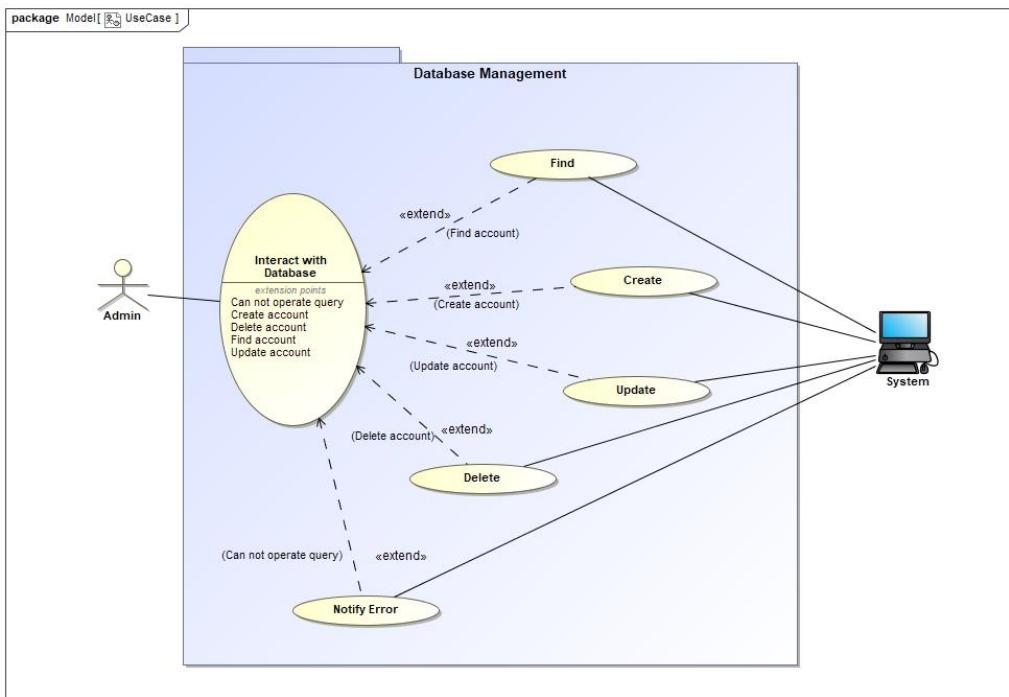
Alternative 6B:

This shows that admin no longer wants to perform further actions on database.

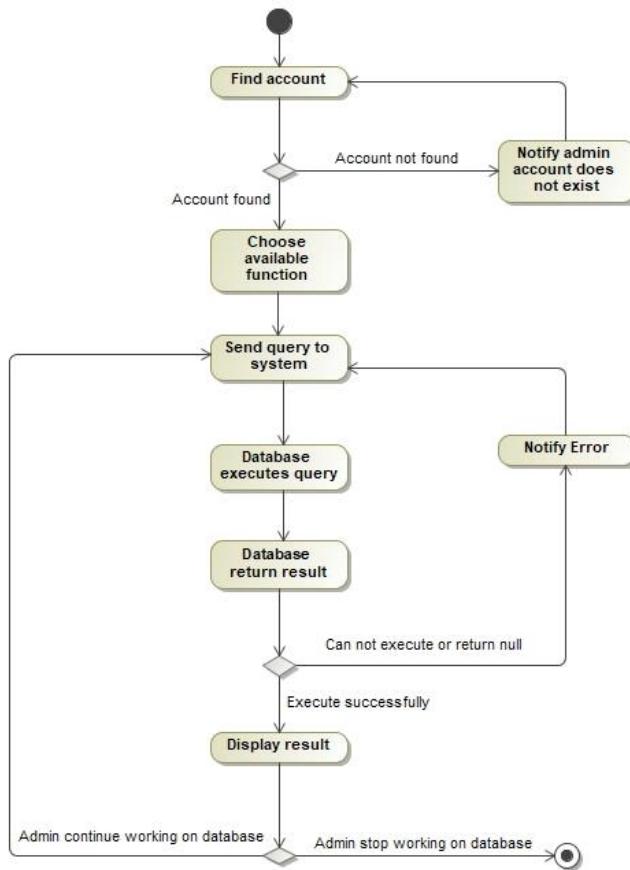
1. System redirects admin to the search page and waits for next actions from admin.

Postconditions: Admin can now log out or continue to acquire further information from database.

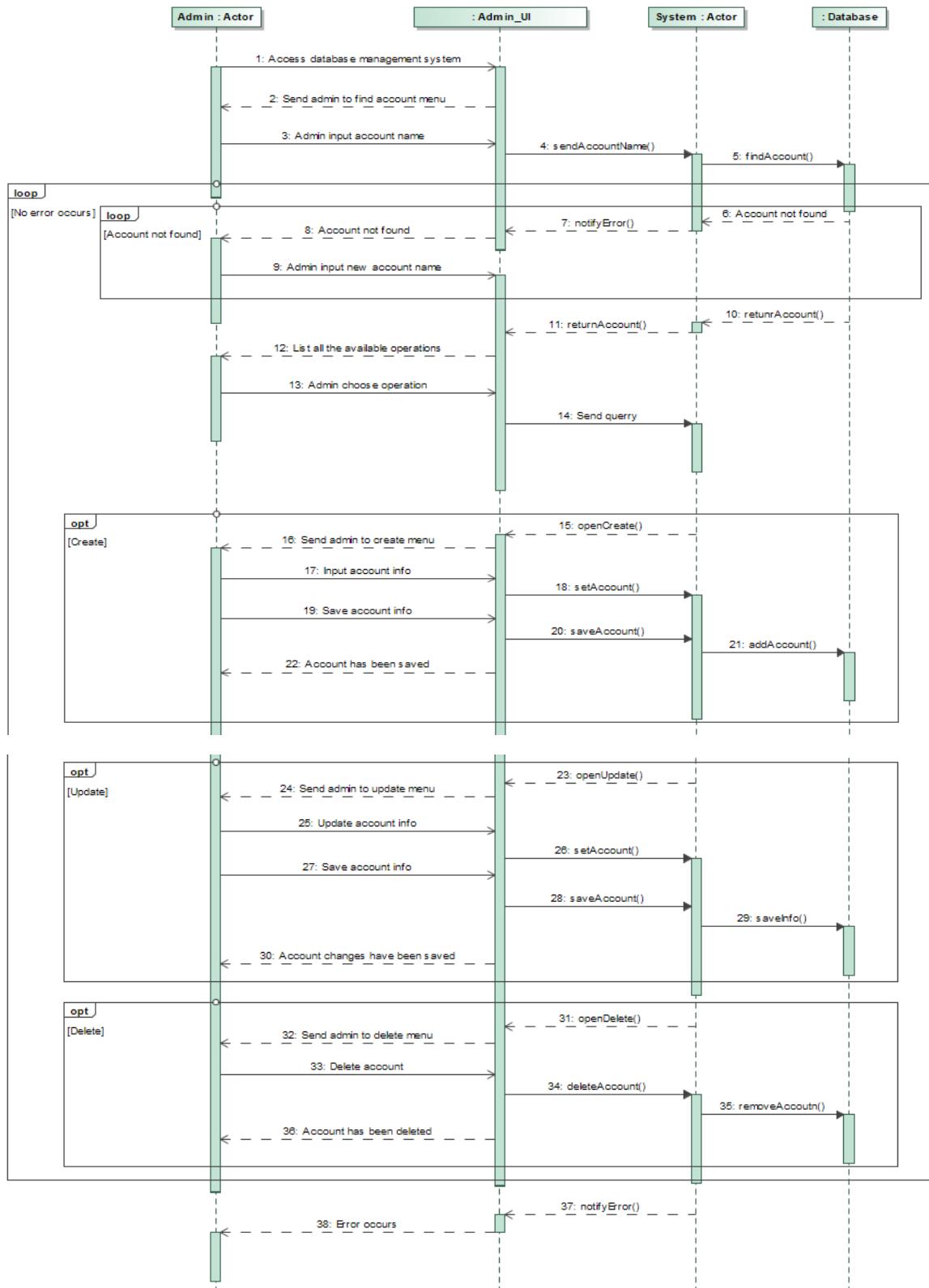
5.2.2.2 UML Diagrams



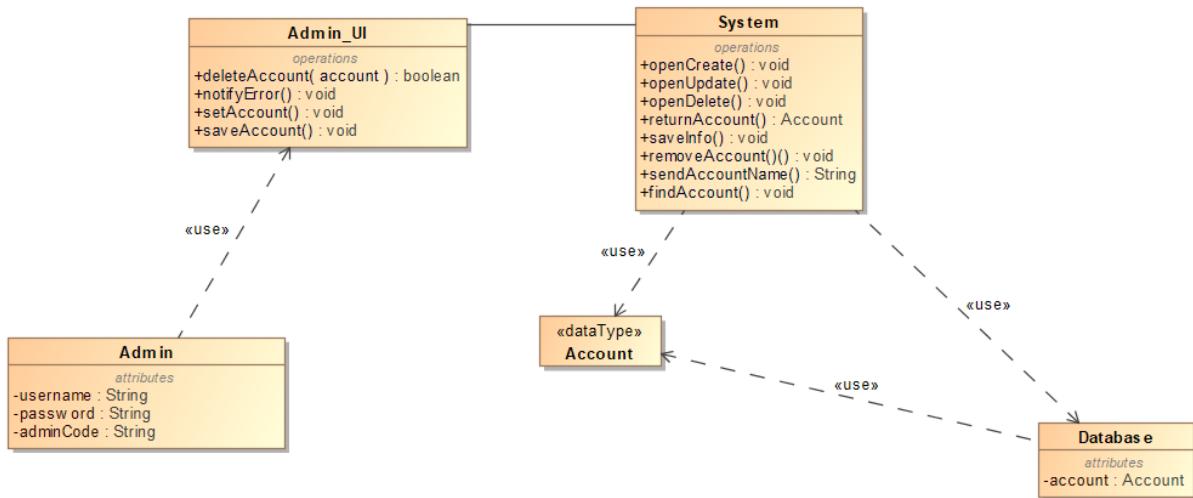
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram

5.3 Payment and Refund through external services provider

5.3.1 Payment through external services provider

5.3.1.1 User Case Description

- **User Case Description**

The customer pays for the shipping fee of the contractor through a third party service

Actors: Customer, Contractor and management system

Preconditions:

1. The customer has a valid account with payment method saved in system
2. The customer is being logged in to the system
3. The customer currently has more than one payment needed to be made
4. The balance of the account must not be negative

Basic flow:

1. System announces the shipping fee that customer must pay for
2. Customer confirms the total amount and select the payment method
3. The system displays a list of payment platforms
4. Customer chooses a suitable payment method
5. The system redirects customer to the selected external service provider
6. Customer logs into his/her account using username and PIN code
7. Customer confirms the amount and proceeds to pay
8. The system receives the shipping fee and forwards to the contractor
9. Contractor confirms of having received the shipping fee

Postconditions: Customer successfully pays for the shipping fee and contractor has received the payment

Alternative 8A:

This describes the result of customer selecting to pay before the delivery is completed

1. The contractor confirms having picked up the order and ready for delivery
2. System forwards the shipping fee to contractor
3. The contractor receives the payment and begin to deliver the order

Postconditions: The contractor has received the shipping fee and the order is ready to be shipped

Alternative 8B:

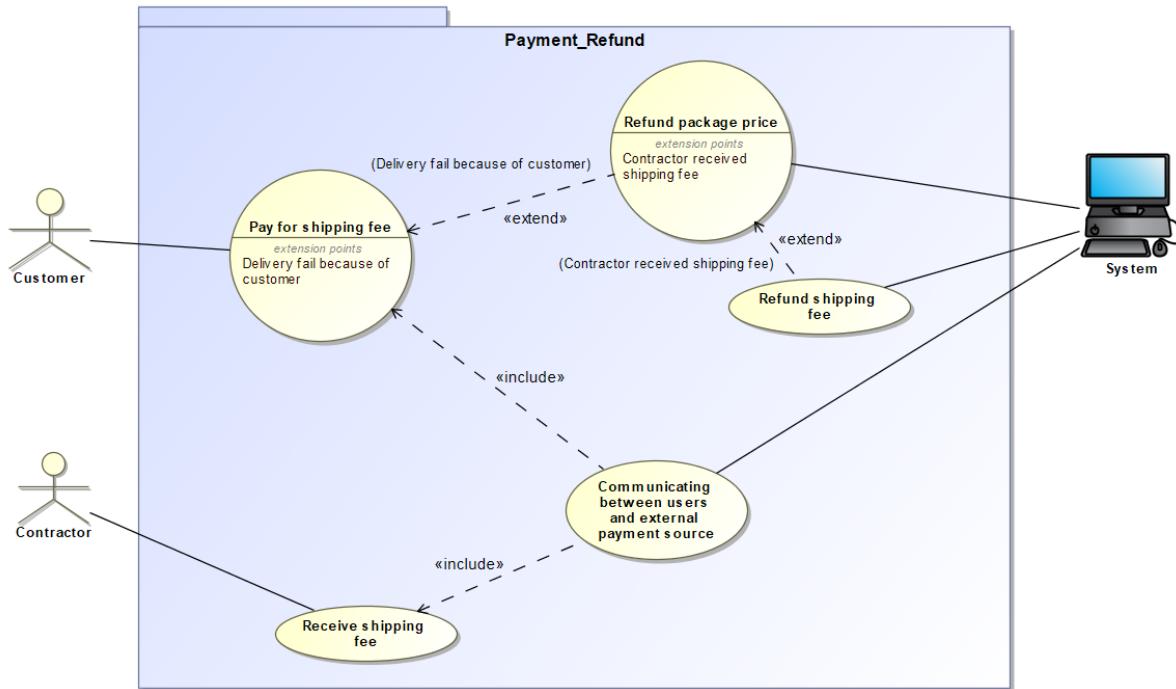
This describes the result of customer selecting to pay after order is delivered

1. The system keeps the payment on hold and awaits delivery status update from contractor

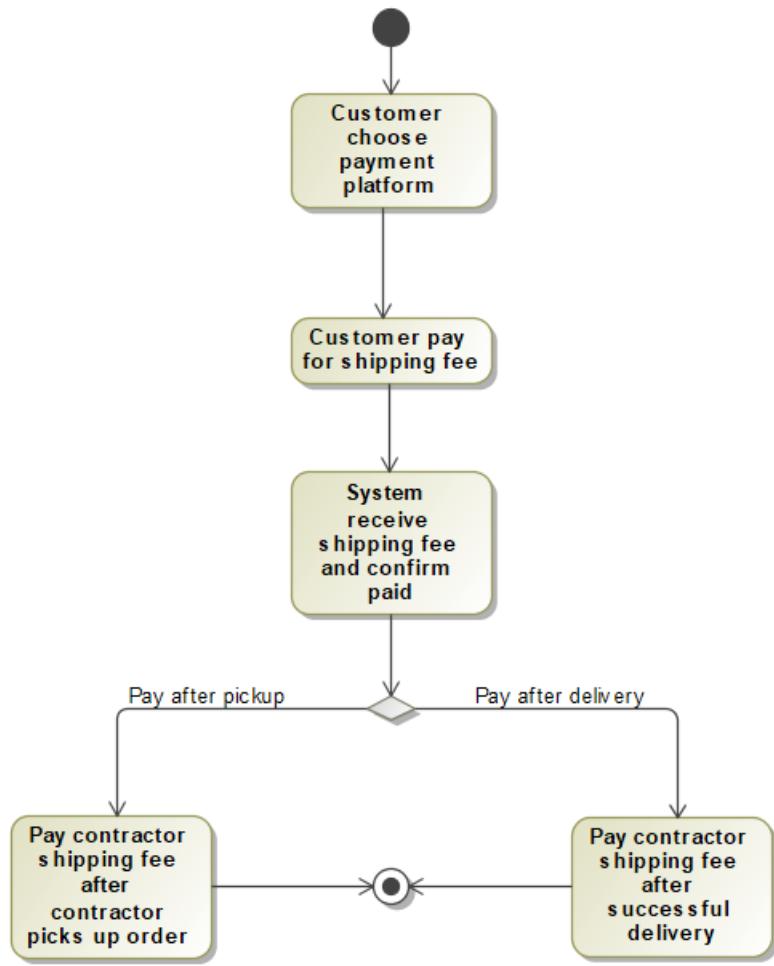
2. Contractor has delivered the order
3. Contractor confirms successful delivery
4. The system forwards the payment to contractor
5. Contractor affirms of having received the shipping fee

Postconditions: Contractor obtains the shipping fee after having distributed the order successfully

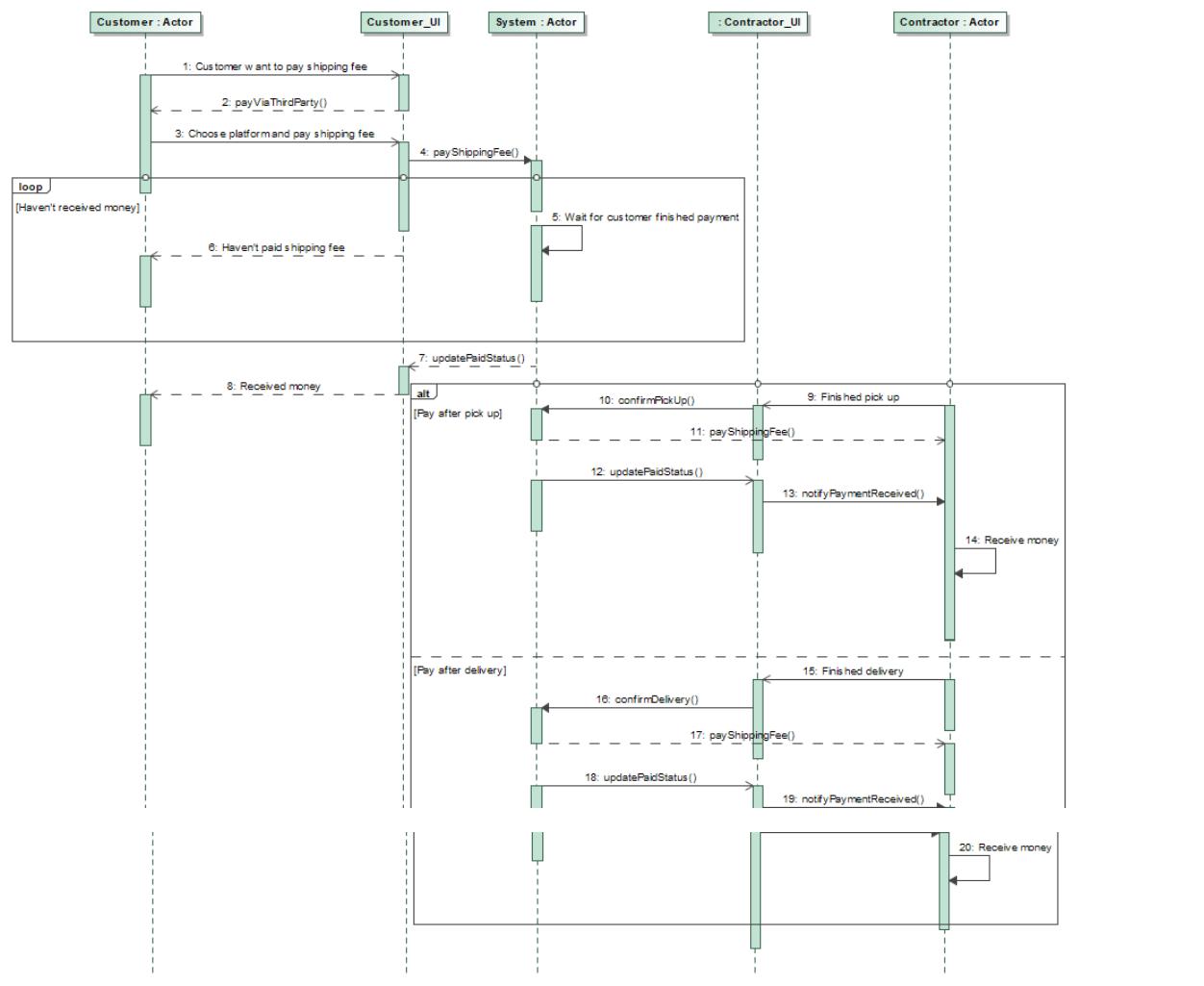
5.3.1.2 UML Diagrams



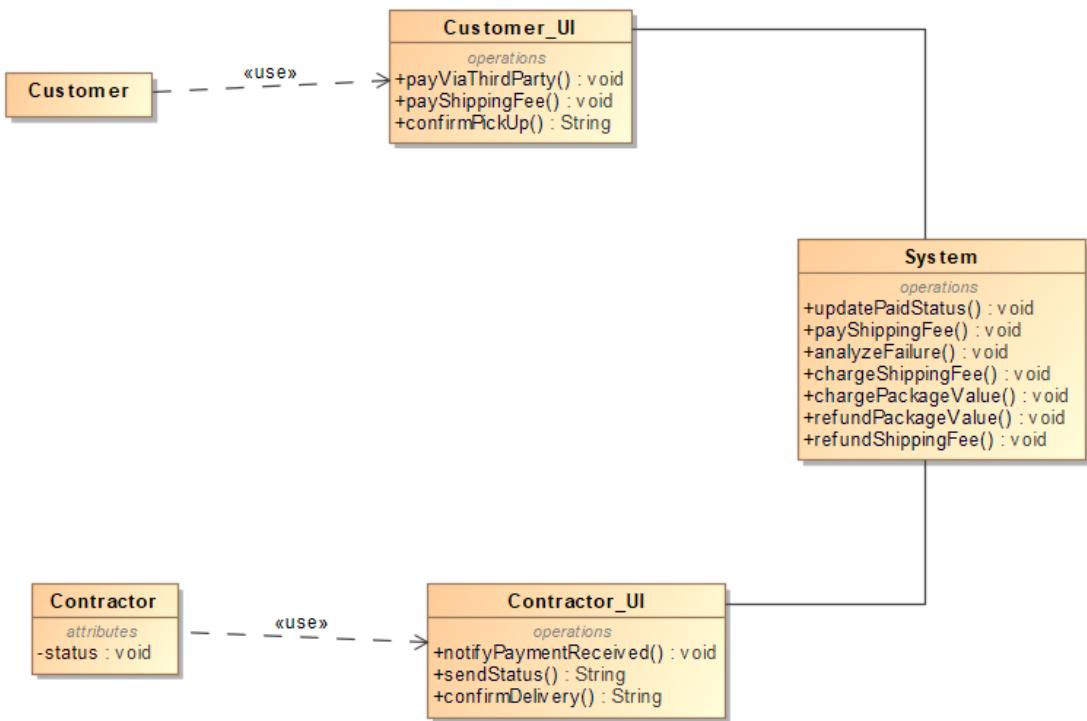
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram

5.3.2 Refund through external services provider

5.3.2.1 User Case Description

- User Case Description:**

Contractor fails to deliver the order and the system has to refund the shipping fee to customer

Actors: Customer, Contractor and the management system

Preconditions:

1. Customer and Contractor have valid accounts
2. Customer has paid the shipping fee
3. Contractor has picked up the order
4. Contractor is responsible for the unsuccessful delivery

Basic flow:

1. Contractor informs system that he/she fails to ship the package(s)
2. System messages the failed deliver and asks if customer wants to be refunded
3. Customer accepts the refund
4. System returns the payment through the payment platform that customer has used to send the payment
5. Contractor returns the order to the customer
6. Customer confirms having received back the order and the payment

Postconditions: Customer has collected the refund as well as the package(s)

Alternative 4A:

This describes the condition that customer has made payment option that paid before the delivery is completed

1. The system informs the contractor of the refund
2. The system charges the contractor through the registered bank account
3. This continues as step 4 in the basic flow

Postconditions: Contractor is charged by the system and customer is refunded with the payment

Alternative 4B:

This describes the condition that customer has made payment option that paid after the order is delivered

1. The system informs the contractor of the refund
2. The system returns the payment that has been kept on hold
3. This continues as step 4 in basic flow

Postconditions: Contractor does not receive the payment and the shipping fee is returned to customer

Alternative 5A:

This illustrates the circumstances that contractor fails to return the order to the customer due to his/her only fault:

1. Contractor informs the system that the order cannot be returned and states the reason
2. The system notifies the customer of the situation
3. The system sends the package's values to contractor and request to return the amount
4. The contractor is charged accordingly if it is his/her sole responsibility for the failed delivery
5. The customer verifies that the package's amount has been collected

Postconditions: The contractor is responsible for the unsuccessful deliver and the customer is refunded with the order's total

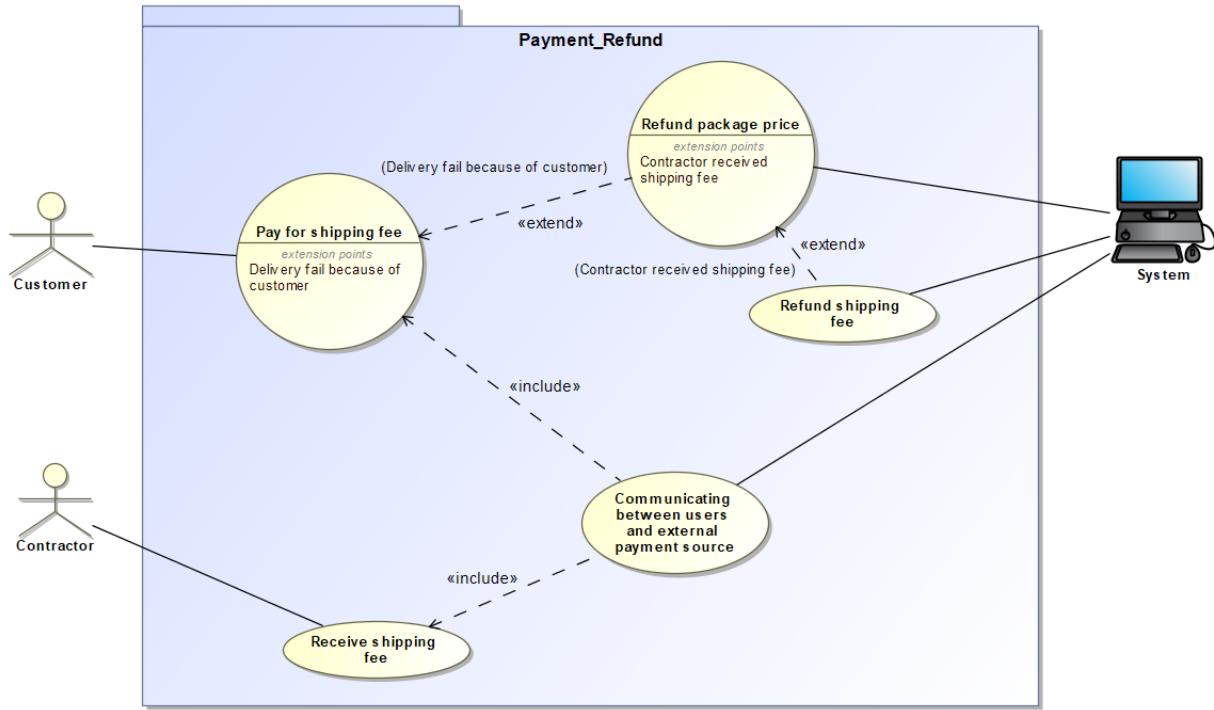
Alternative 5B:

This illustrates the result of contractor cannot return the order to the customer due to no fault of his/her:

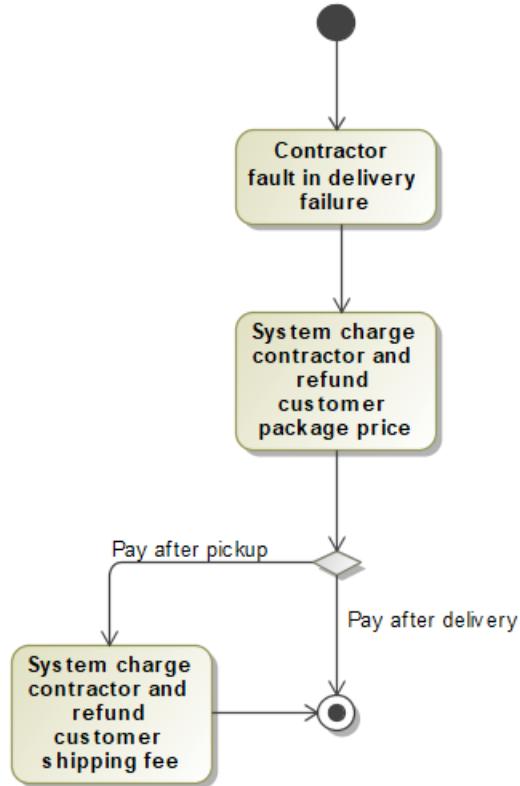
1. Contractor informs the system and specifies the circumstances that occurred
2. The system notifies the customer of the situation
3. The system requests that customer make direct contact with contractor to deal with the situation
4. The system acts upon the agreement between the customer and contractor

Postconditions: Customer and contractor have made arrangement based on the situation.

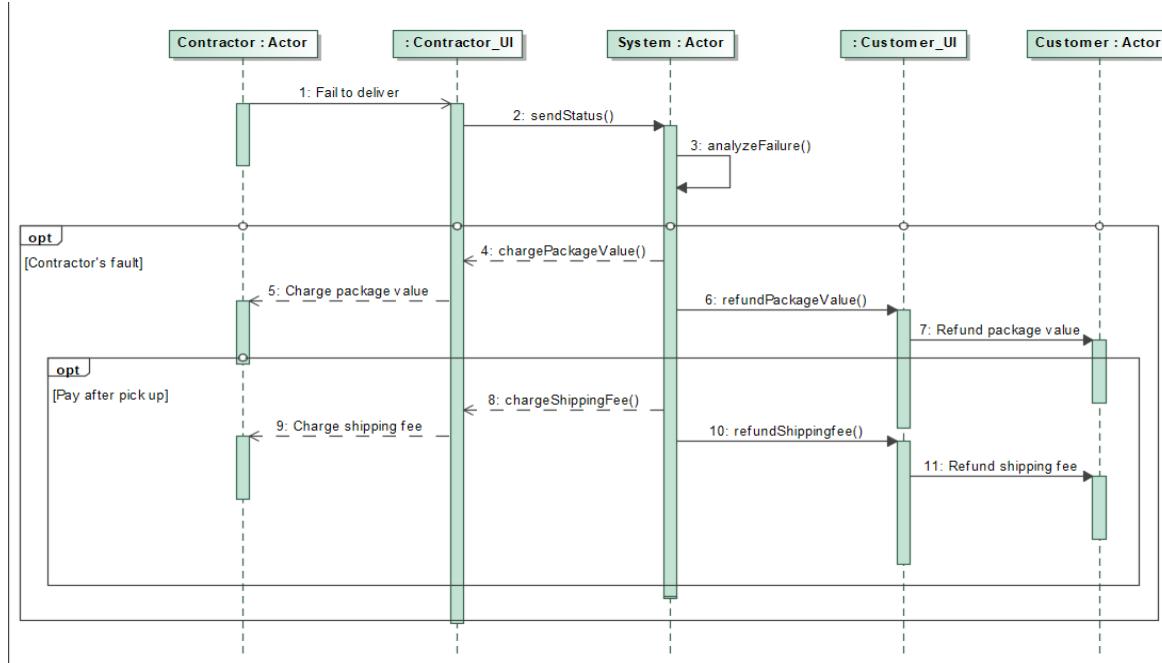
5.3.2.2 UML Diagrams



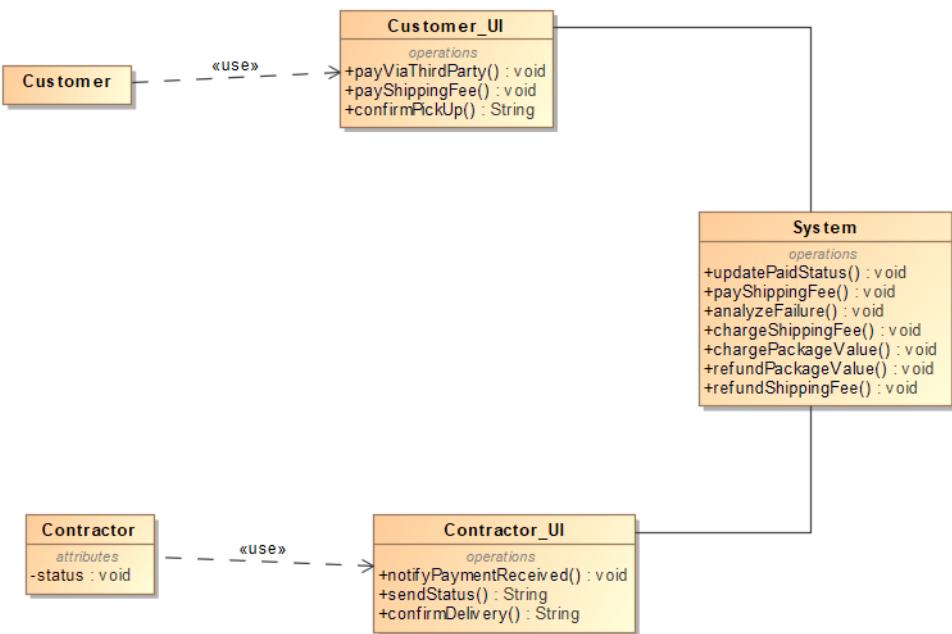
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram

5.4 Before Delivery

5.4.1 Placement of order by customers

5.4.1.1 User Case Description

- **User Case Description**

Customer wants to place orders onto the system

Actors: Customer and the management system

Preconditions: Customer has already logged into the system.

Customer has valid order(s).

Basic flow:

1. Customer has order(s) and wants to place onto the system for shipment
2. Customer fills out the information of the order(s) on the system
3. The system checks the validity of the order(s)
4. The system calculates the shipping fee and notifies the customer
5. Customer selects shipping fee payment method
6. Order(s) are added in the system

Postconditions: Contractors are able to view and select the order shipment

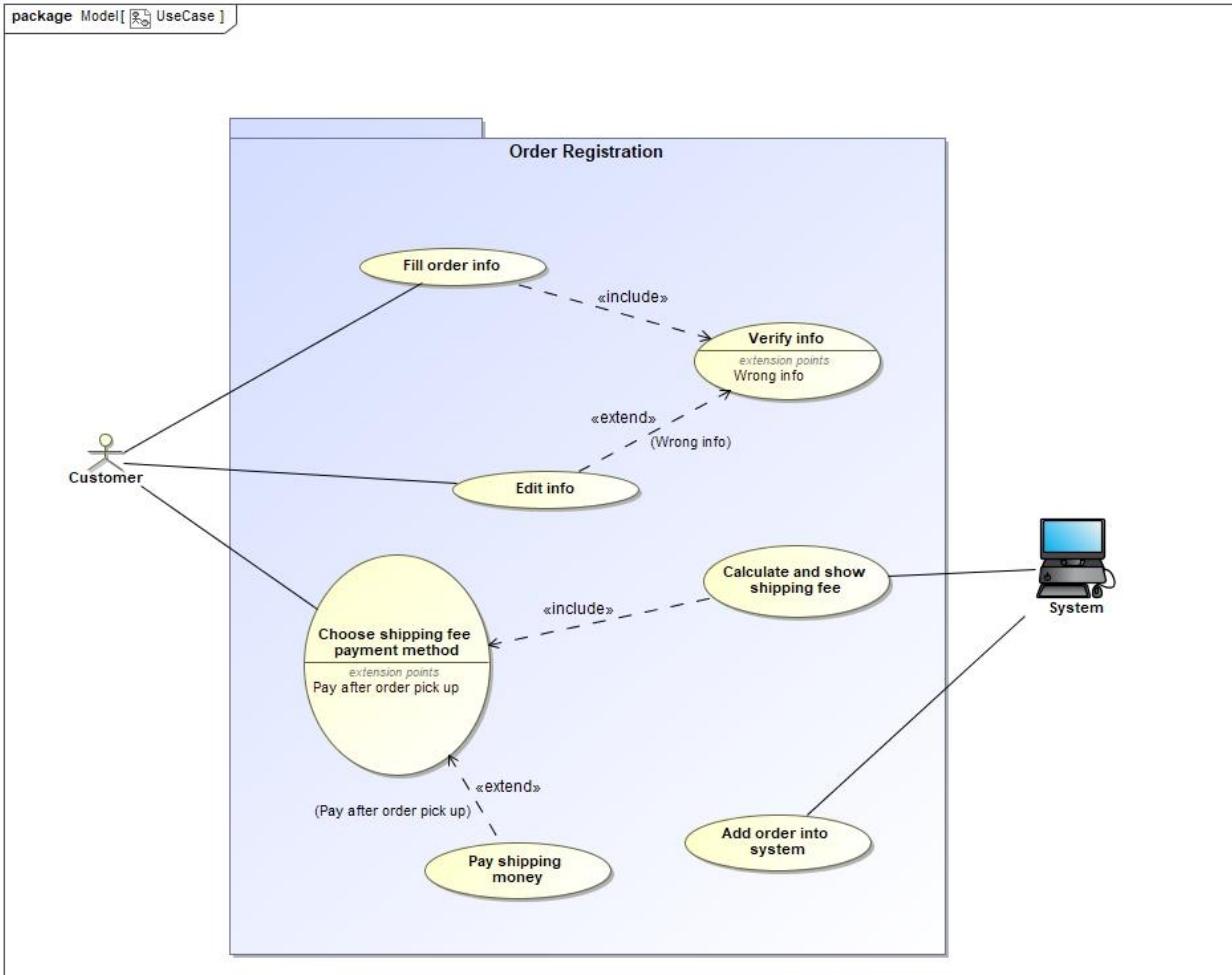
Alternative 3A:

This describes the situation where the order information is not valid

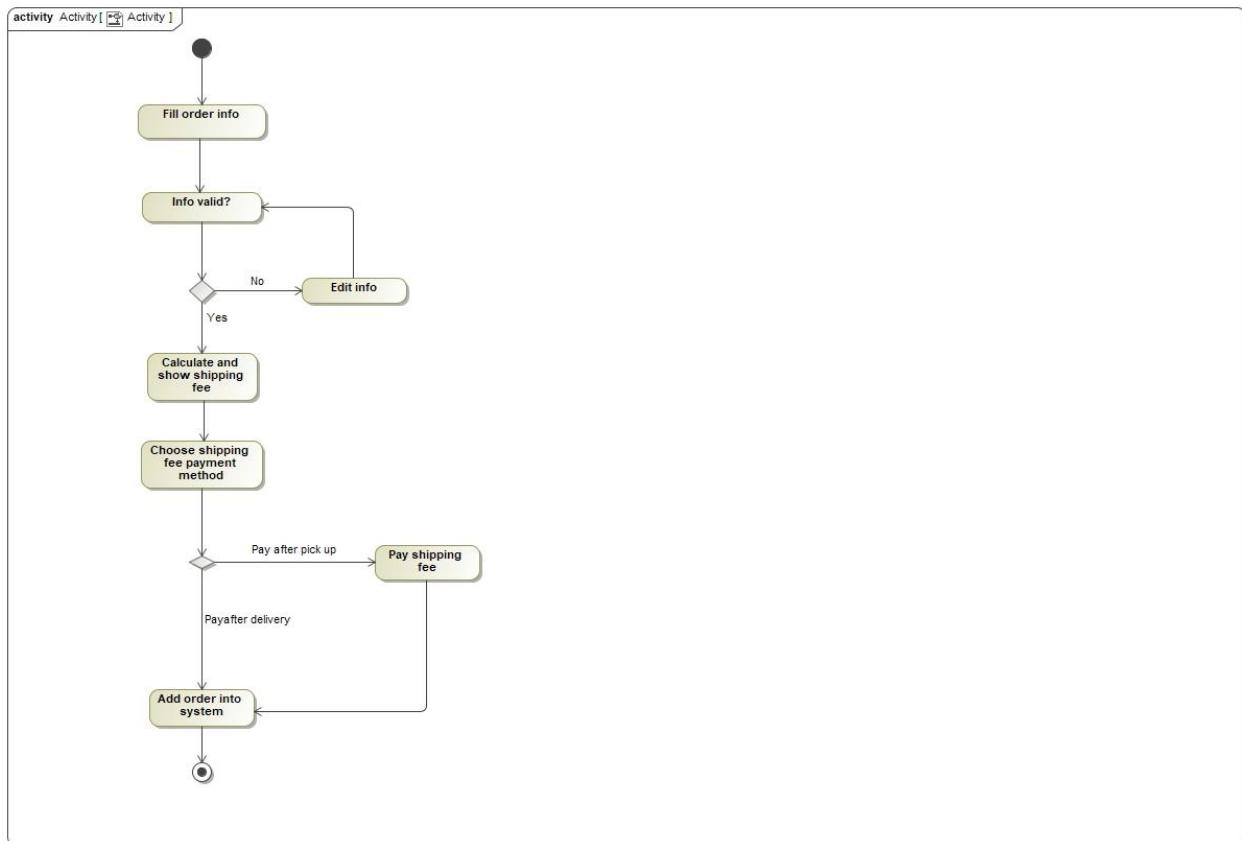
1. System informs customer that the information is not valid
2. Customer fills out the form again and re-submit
3. This continues as step 3 of the basic flow

Postconditions: The order information is re-submitted and valid to be placed onto the system

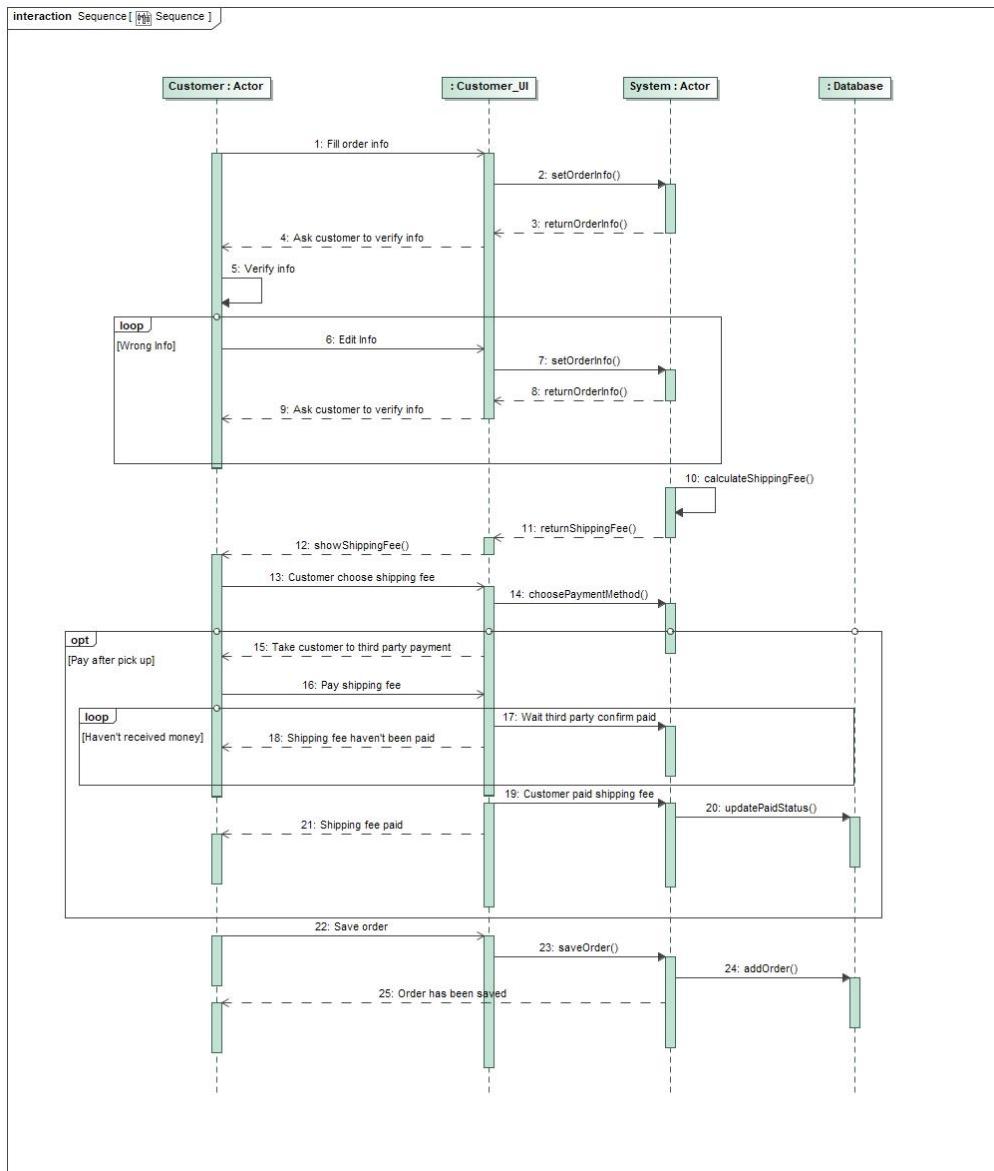
5.4.1.2 UML Diagrams



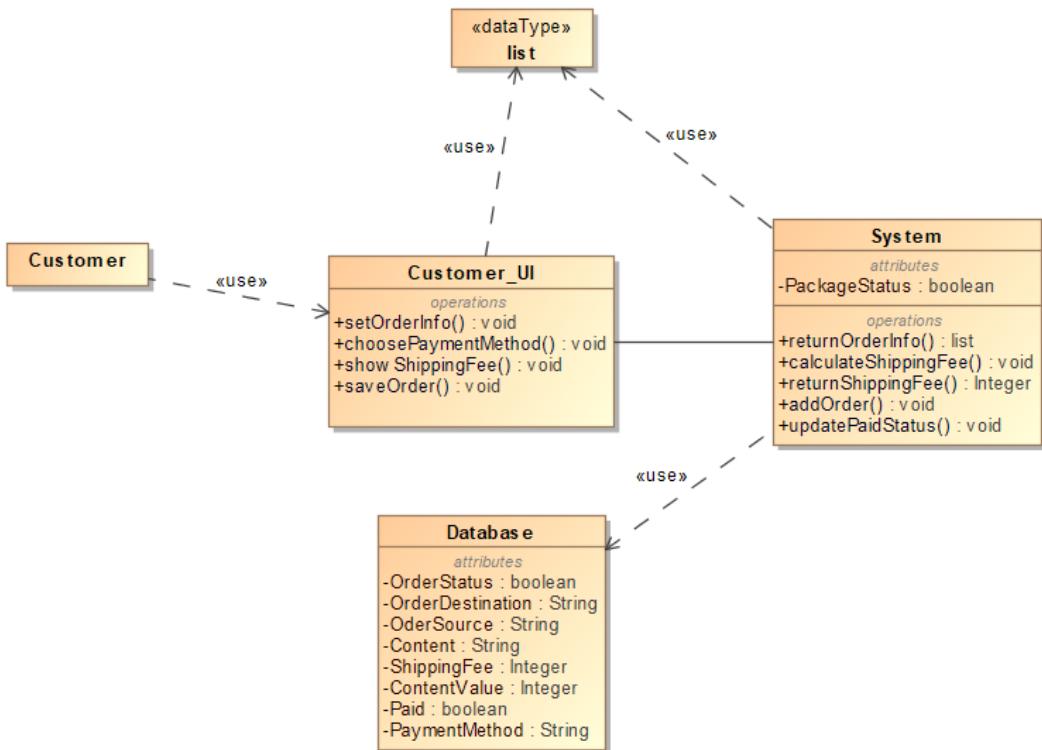
Use Case Diagram



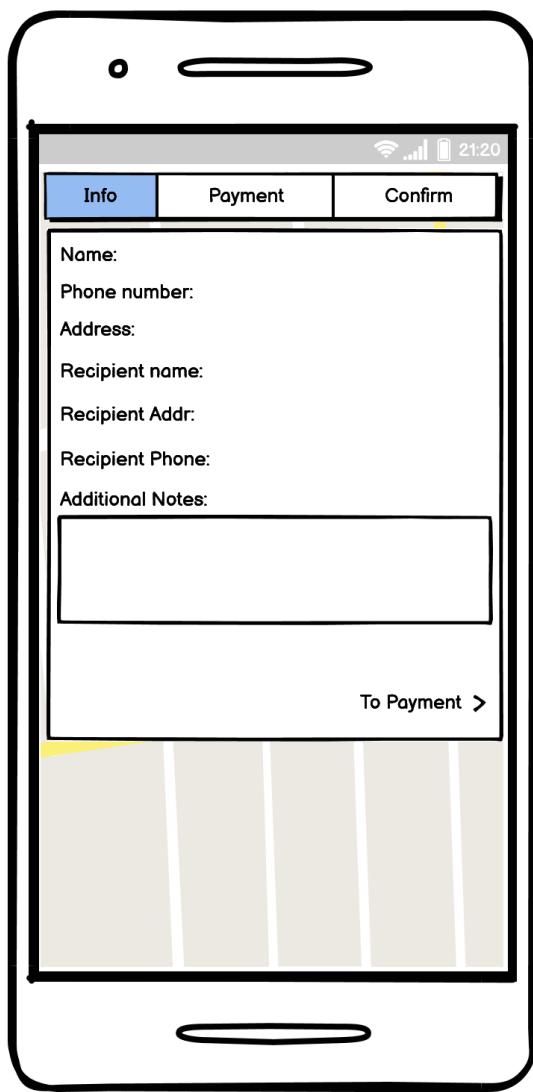
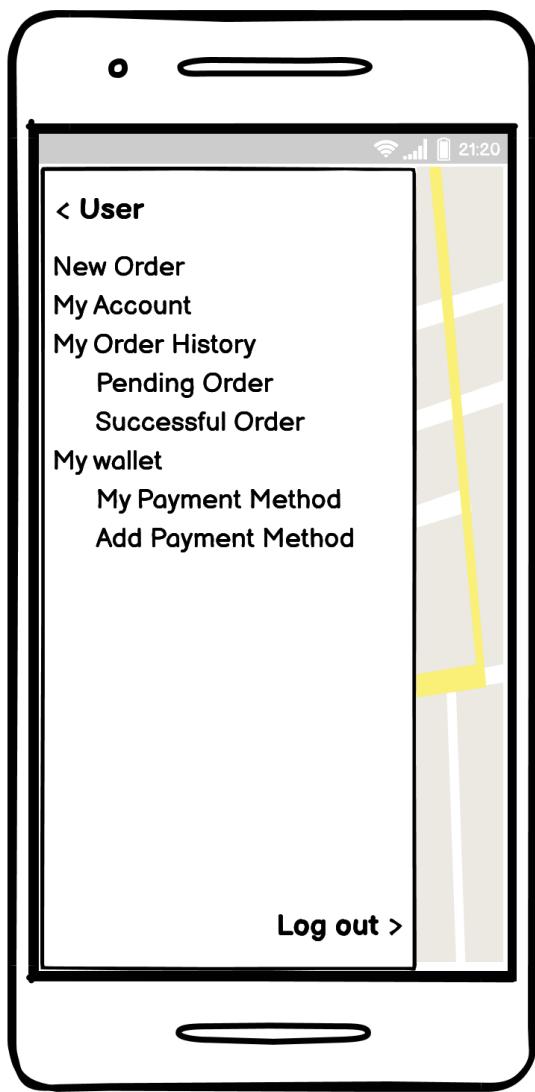
Activity Diagram

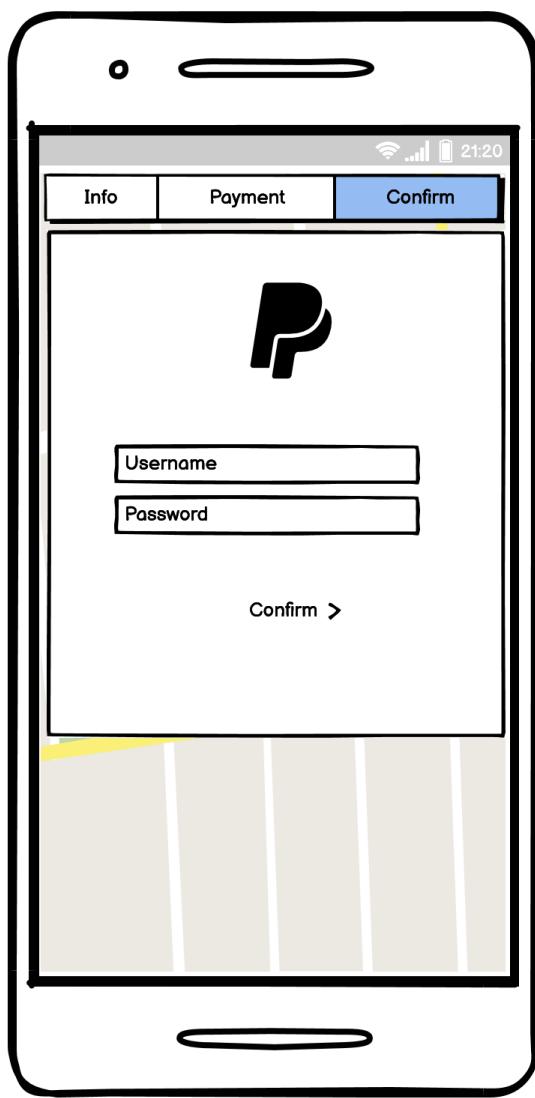


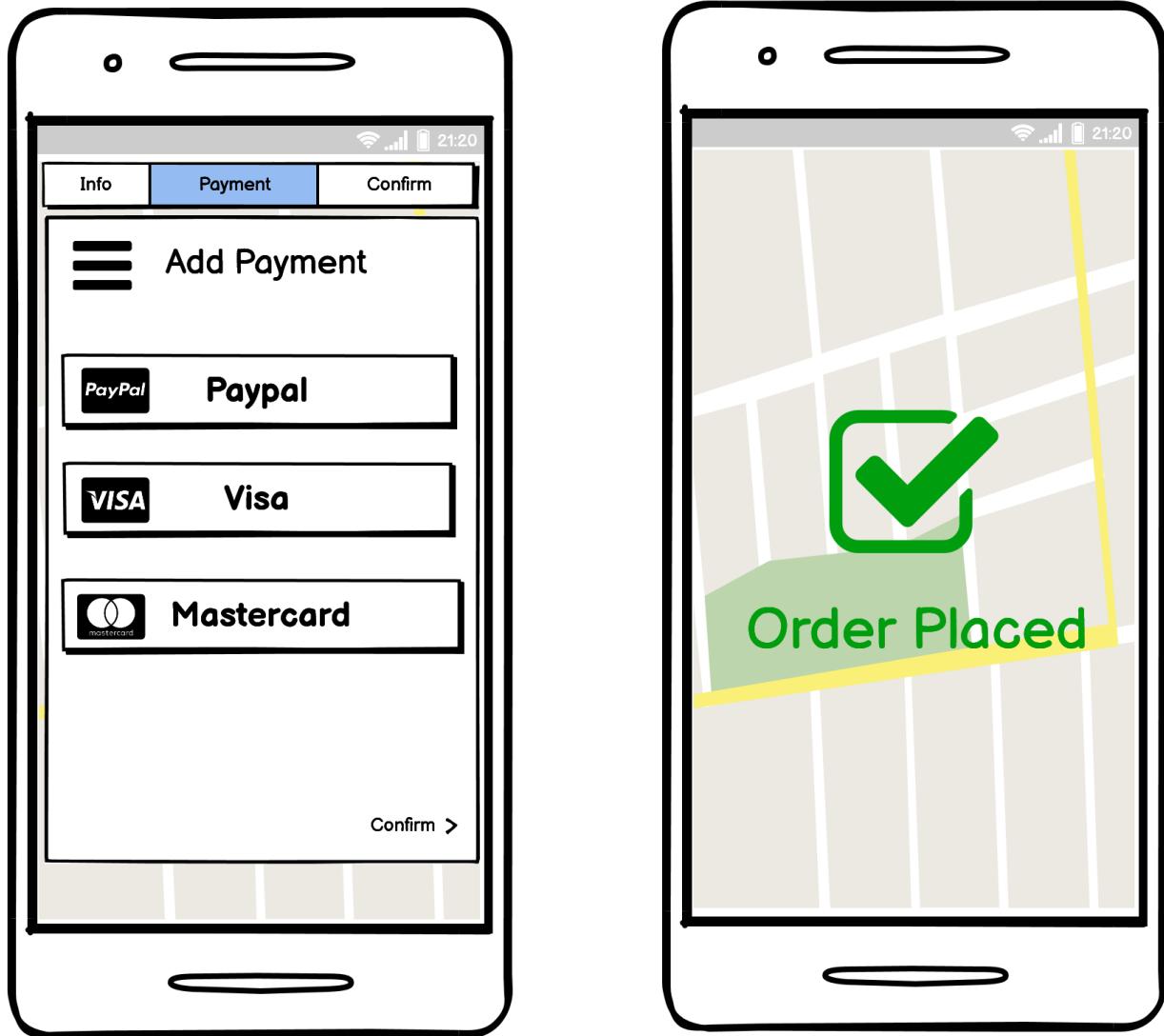
Sequence Diagram



Class Diagram







User Interfaces

5.4.2 Contractors picking up orders

5.4.2.1 User Case Description

- **User Case Description**

Contractor has the option to view and choose one from currently available orders to deliver

Actors: Contractor, customer and the management system

Preconditions: Contractor has already logged into the system

Customer has updated order(s) onto the system

Basic flow:

1. Contractor uses registered account to search for any available orders in the system that has not yet been accepted by other contractors.
2. Contractor can view the information of the orders.
3. Contractor selects and accepts to perform one order
4. The system adds the order to contractor's task
5. The system notifies customer of the contractor's information and delivery time
6. Contractor travels to customer's location and pick up the order
7. System informs customer that contractor has picked up the package(s)
8. The schedule, navigation and package's information are sent to contractor

Postconditions: Contractor picks up the package(s) from the customer and ready for delivery.

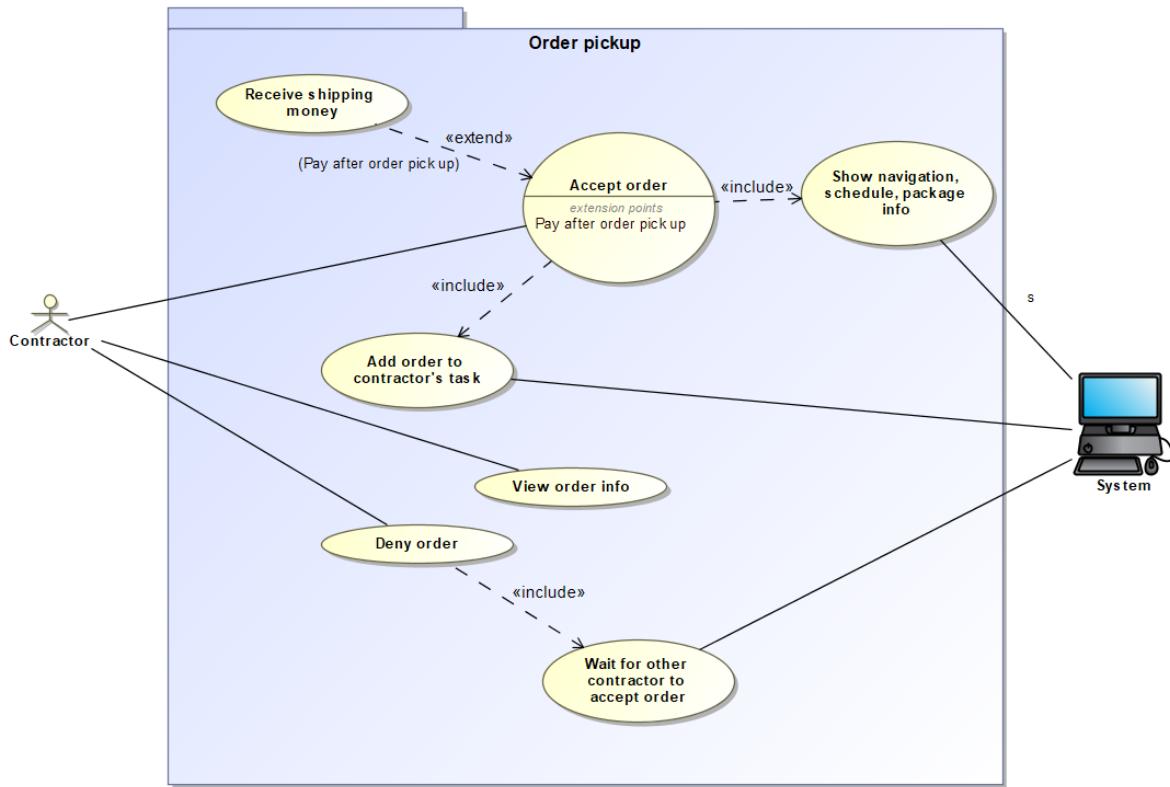
Alternative 3A:

This illustrates the situation where contractor refuses to select the order

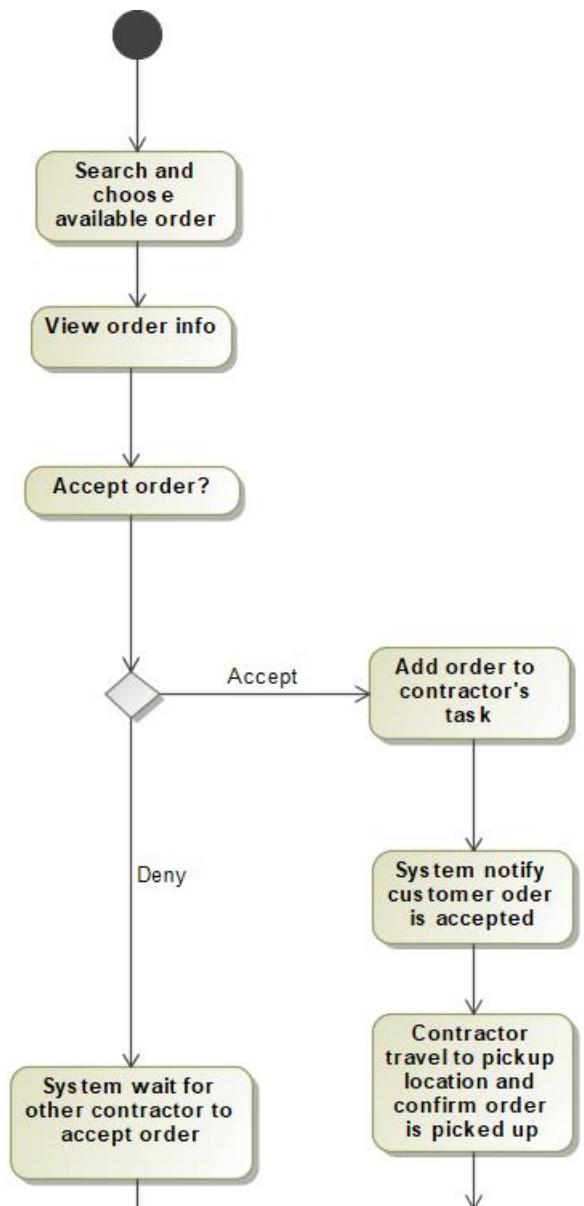
1. System informs customer that no contractor has accepted the order yet
2. System waits for other contractor to select the order

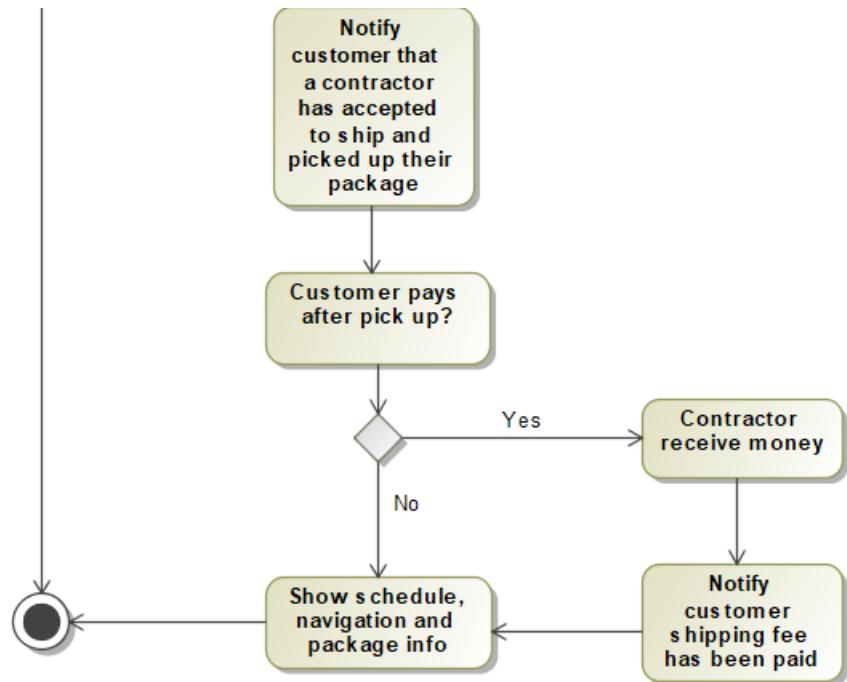
Postconditions: Customer is notified that the order has not been chosen and the system will wait for other contractors to accept

5.4.2.2 UML Diagrams

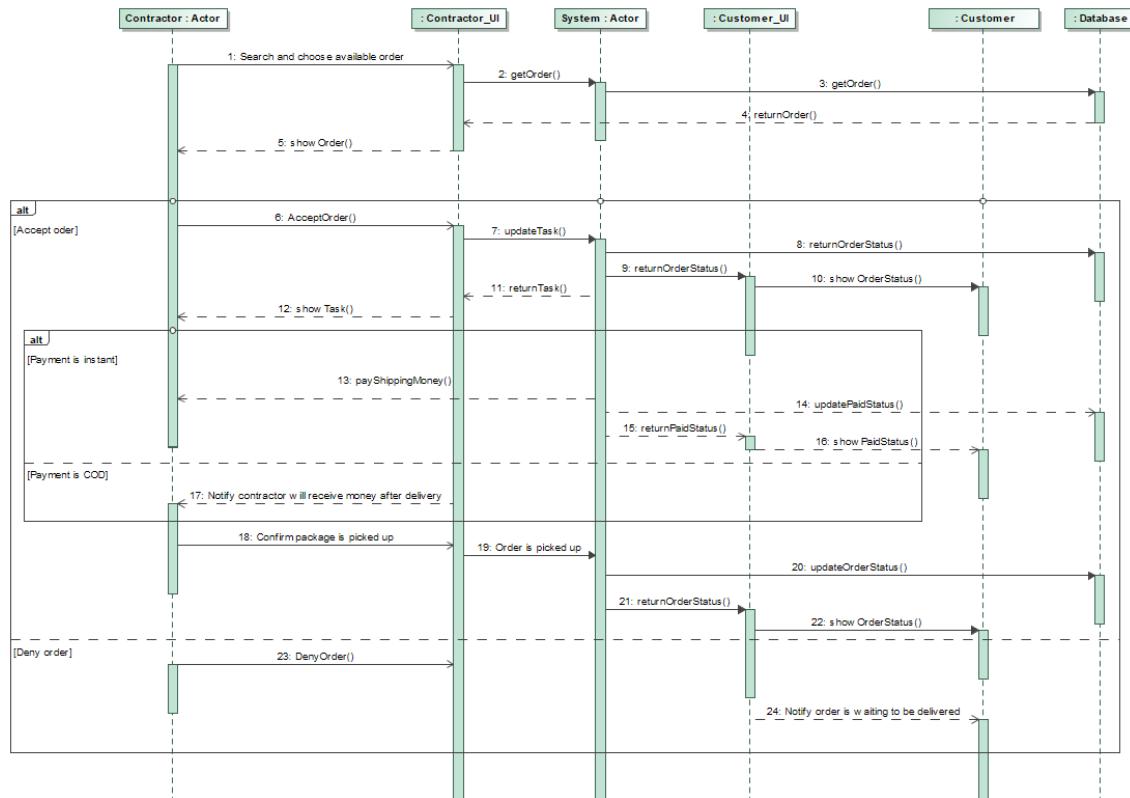


Use Case Diagram

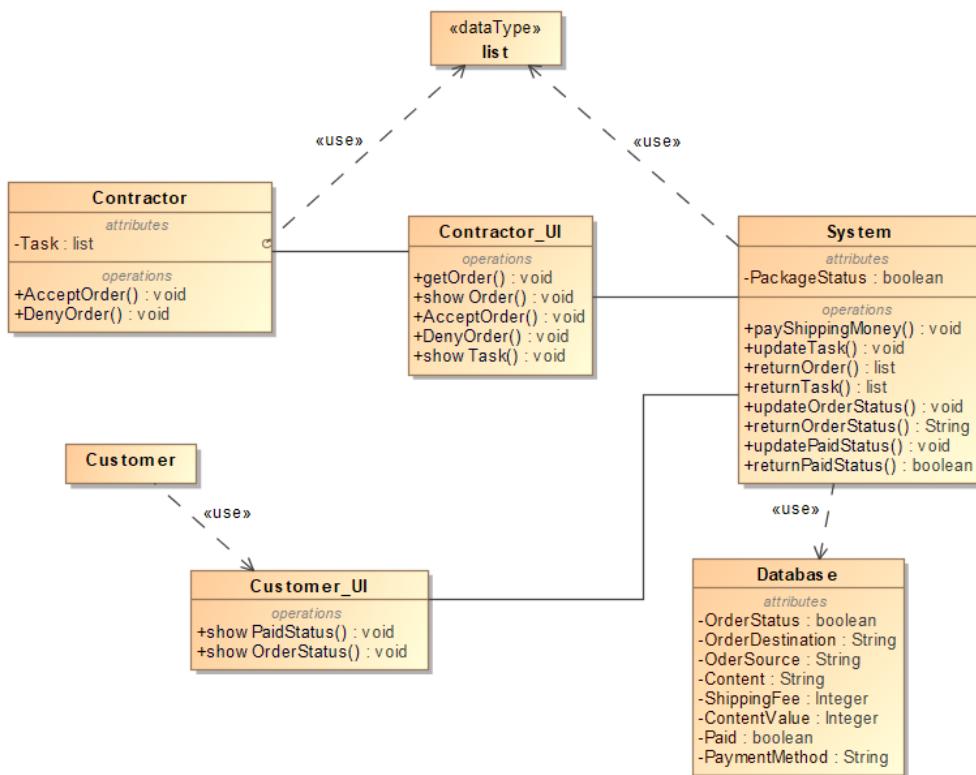




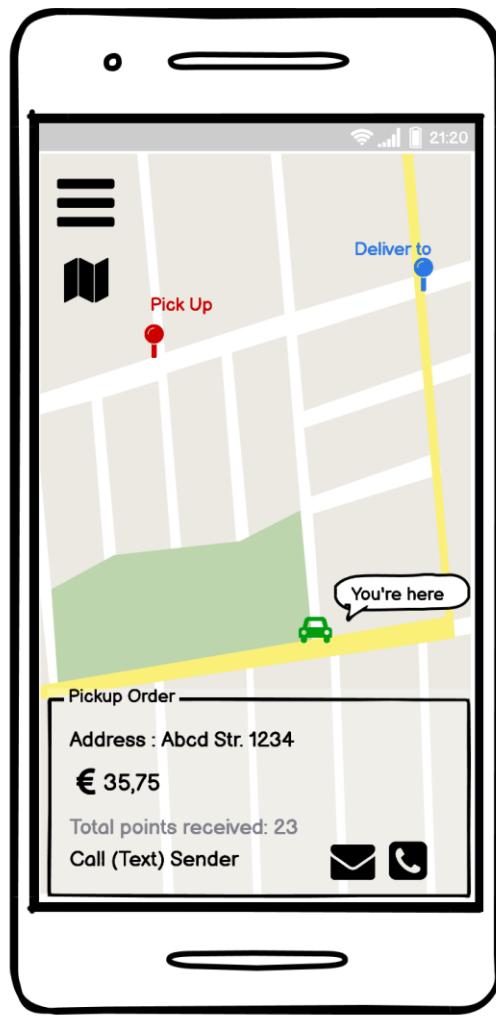
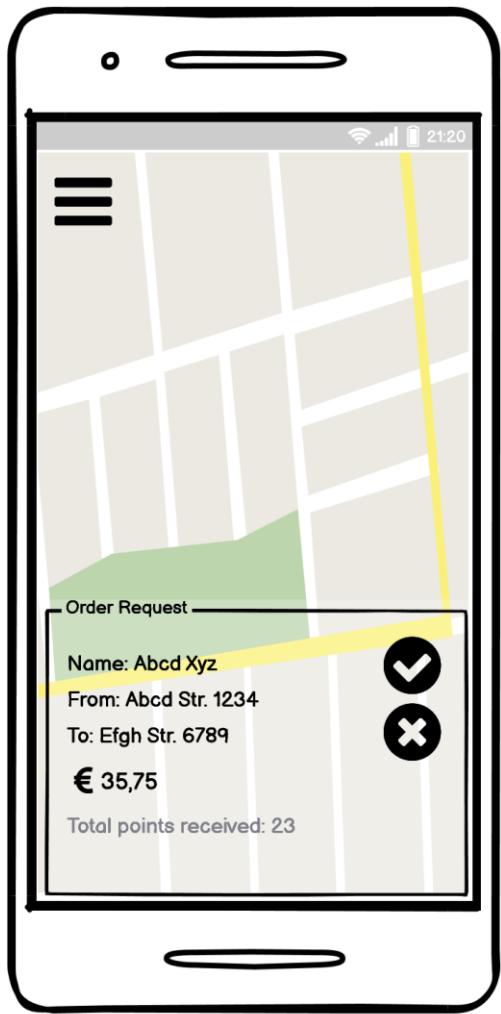
Activity Diagram

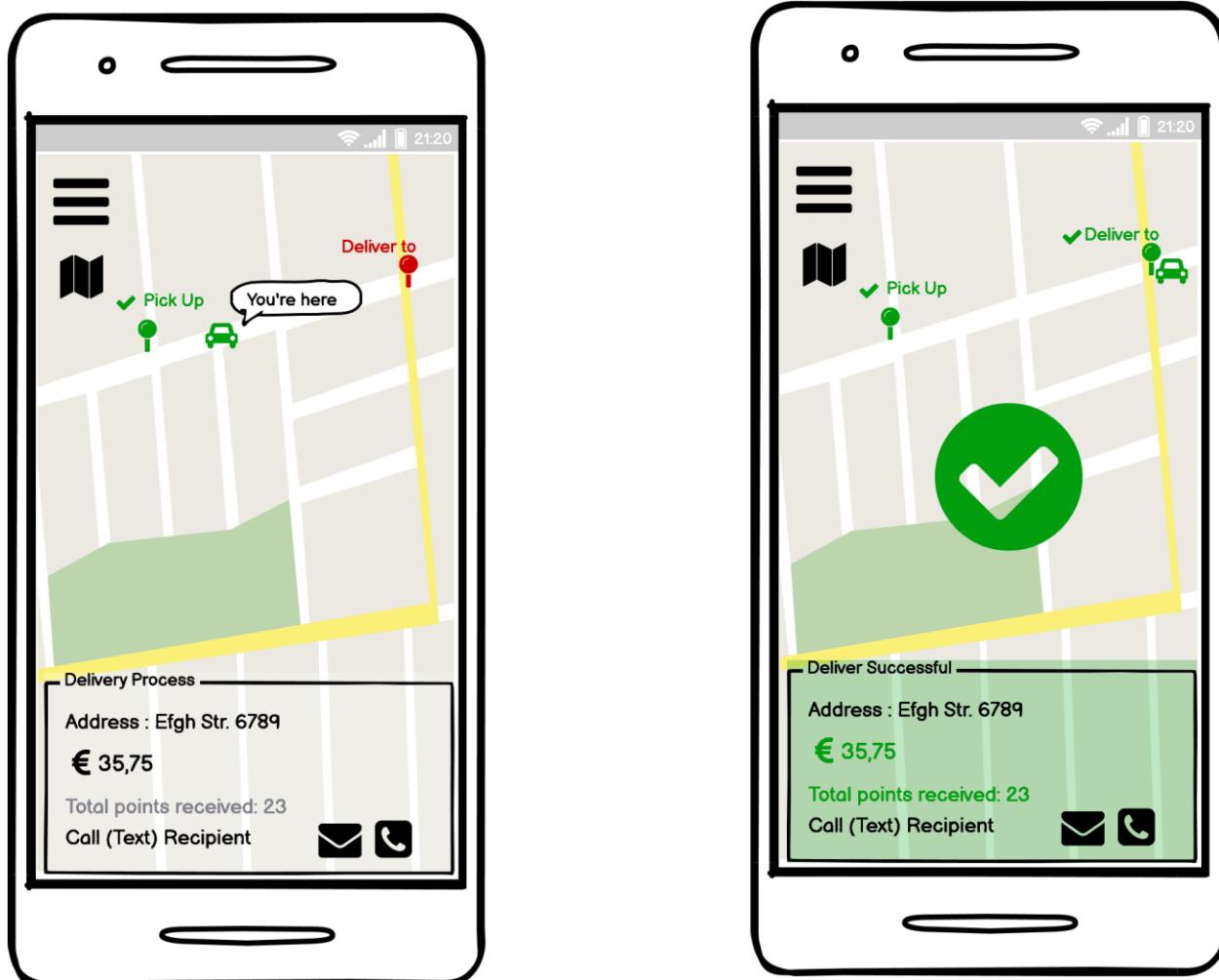


Sequence Diagram



Class Diagram





User Interfaces

5.5 Tracking of contractors during delivery

5.5.1 User Case Description

- **User Case Description**

The system records and keeps track of delivery status from contractor and updates to customer if there has been new changes made to the process.

Actors: Contractor, customer and the management system

Preconditions:

1. Contractor has accepted a valid order from the customer.
2. The payment method has been processed.
3. Customer has prepared and confirmed that package was picked up by contractor
4. Contractor confirms that package is ready for delivery.

Basic flow:

1. Contractor informs the system that the order has been loaded onto vehicles and about to be shipped.
2. System records and updates contractor's progress and any further instructions.
3. System notifies customer of contractor's delivery status.
4. Customer is immediately informed when the order has been delivered successfully.

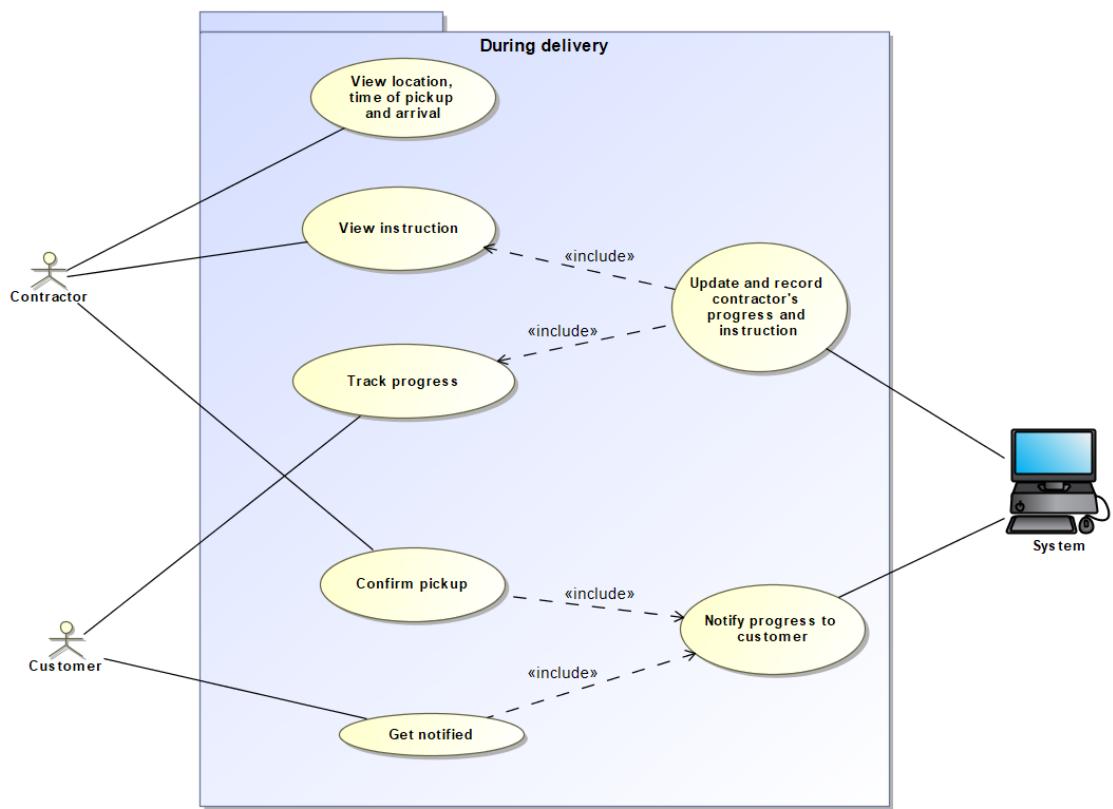
Alternative 4A:

This describes the situation when the order has yet arrived in scheduled time.

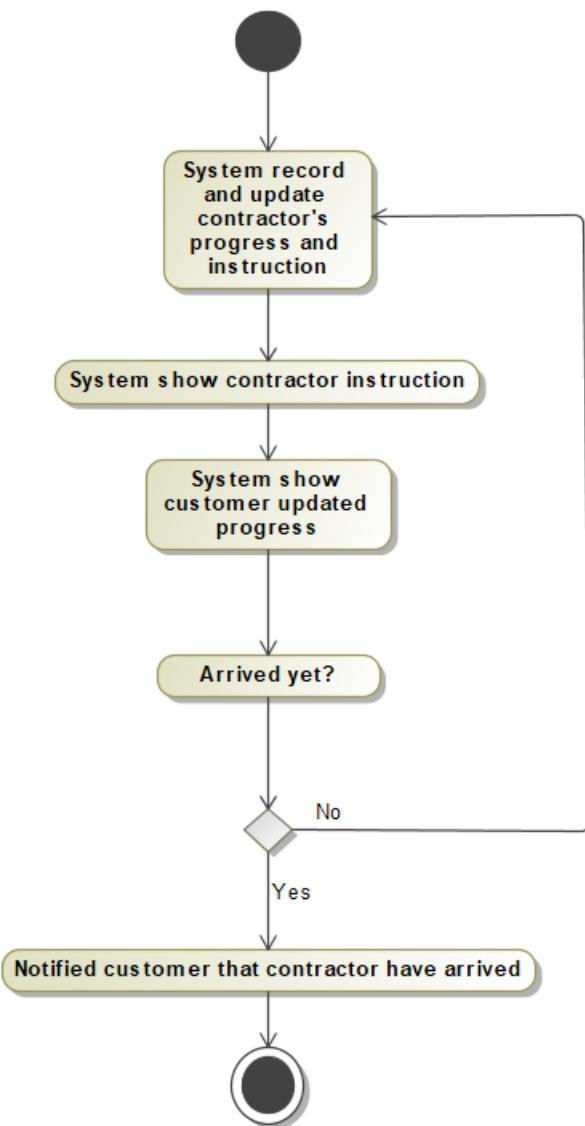
1. The system keeps update about the contractor's status.

Postconditions: The customer is notified if the contractor has not delivered the order in scheduled time.

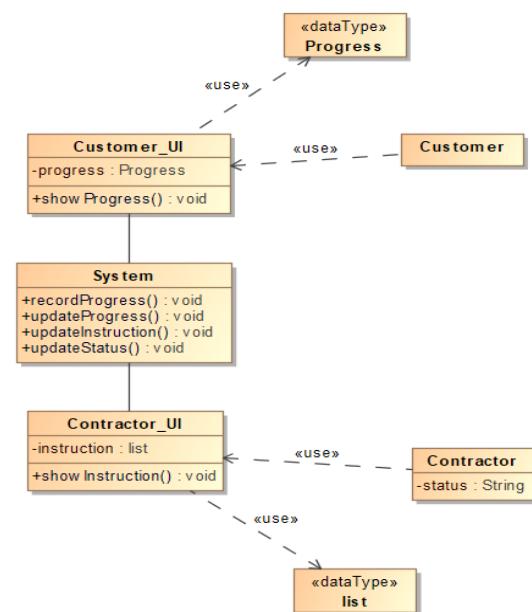
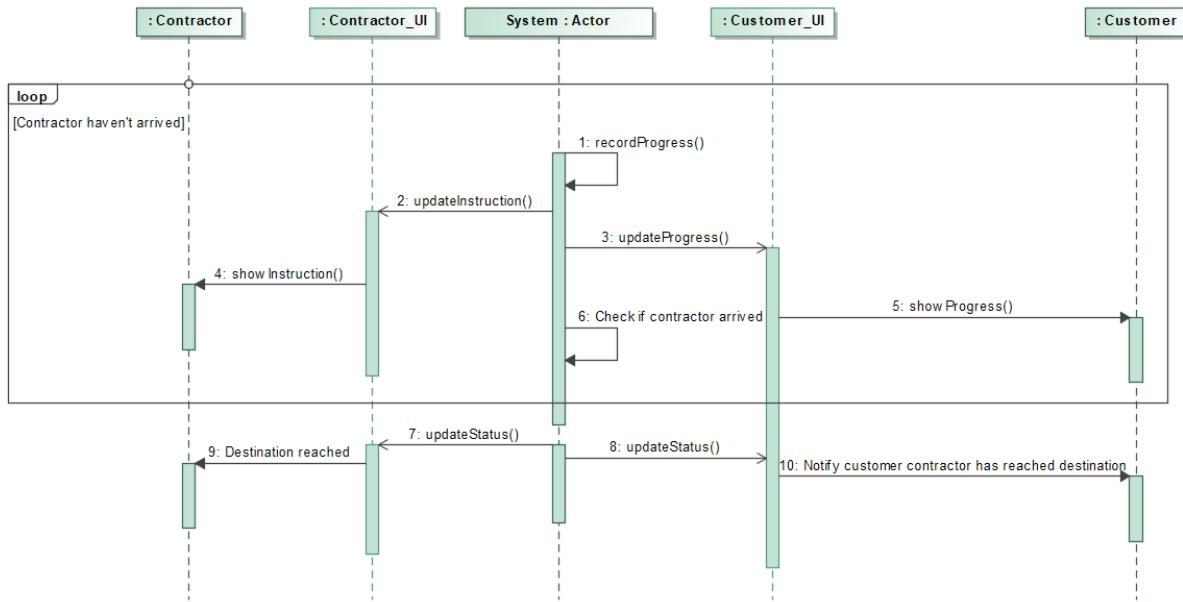
5.5.2 UML Diagrams



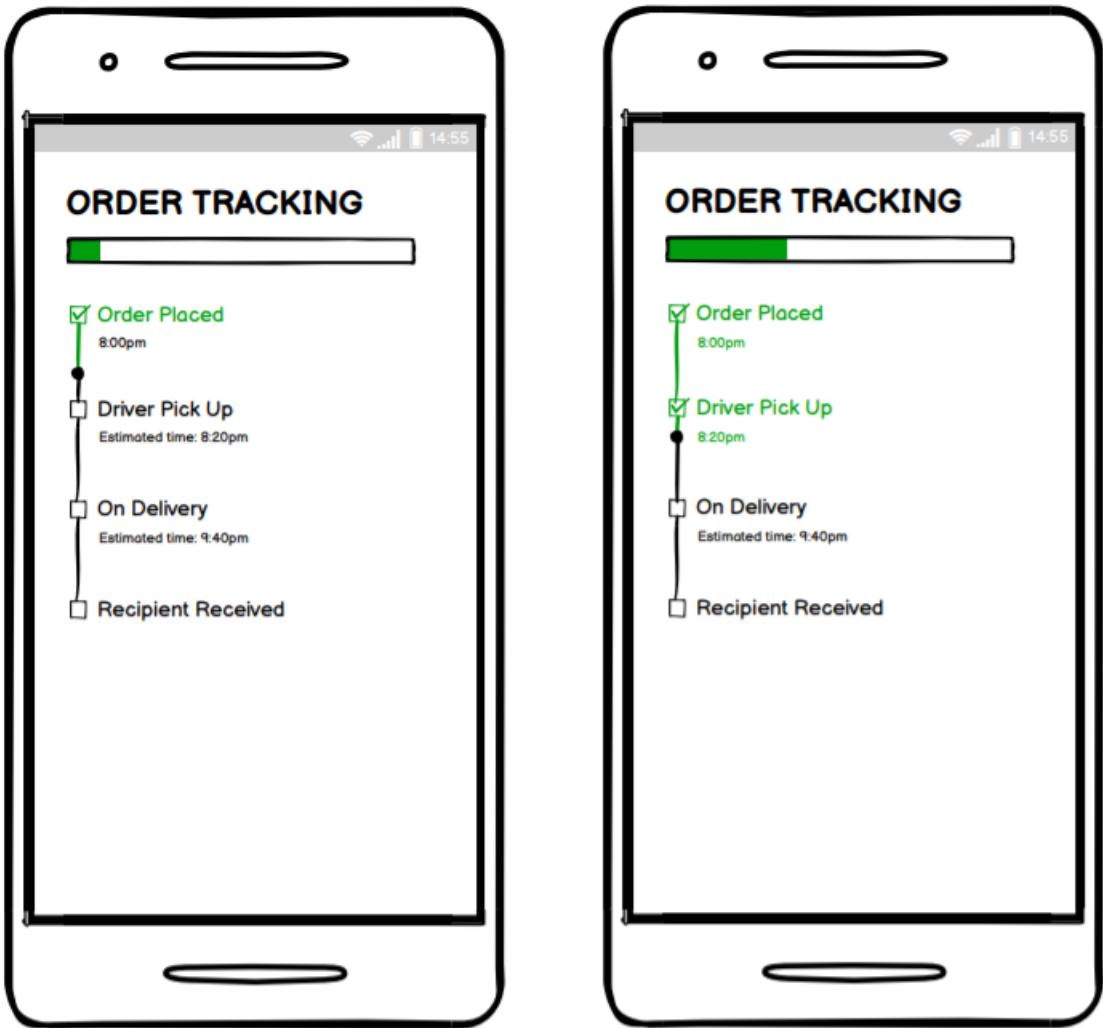
Use Case Diagram

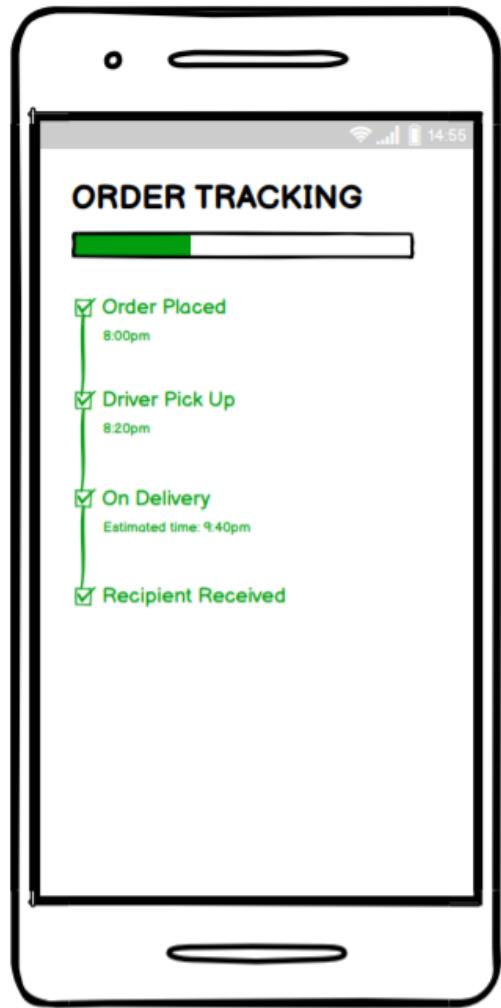
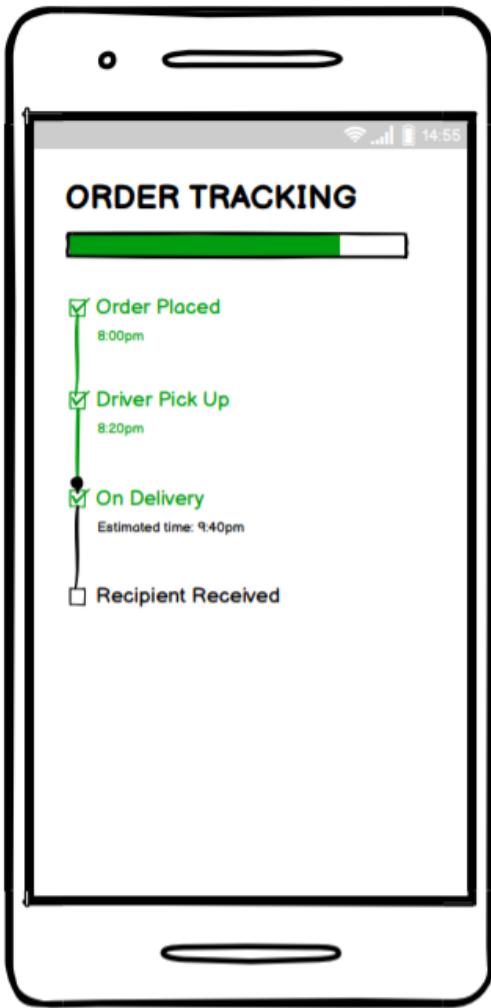


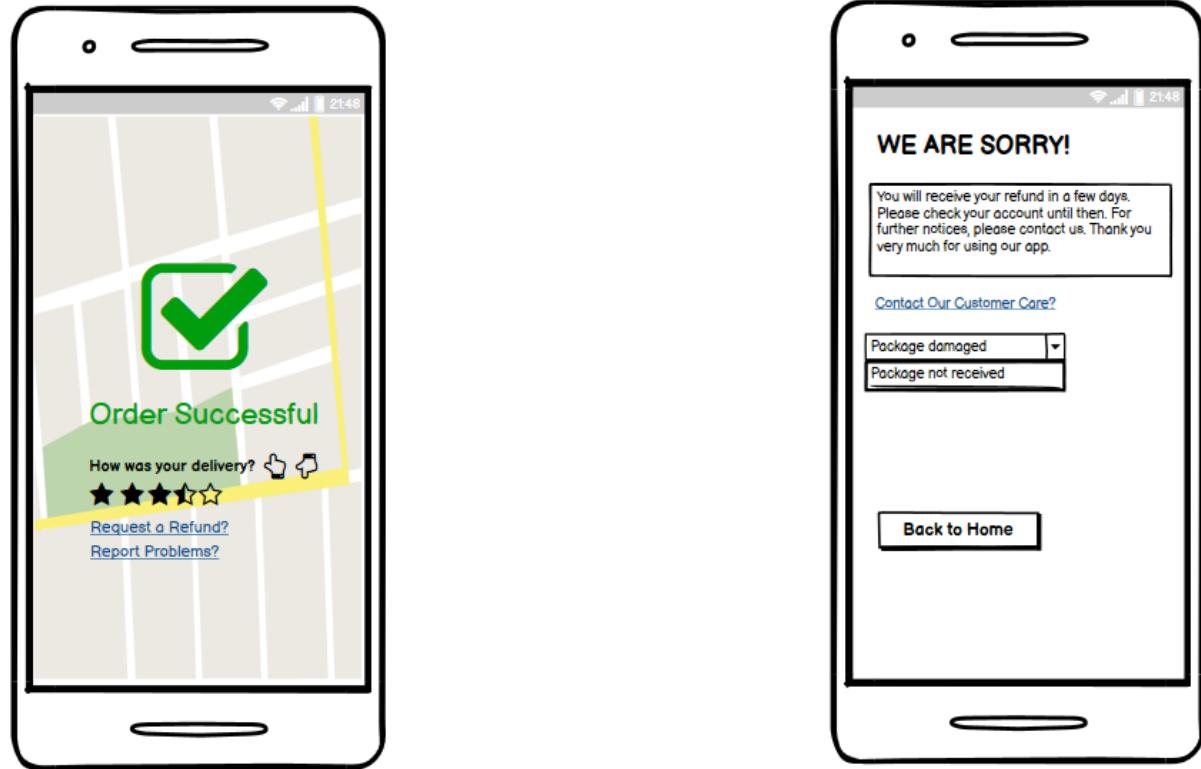
Activity Diagram



80







User Interfaces

5.6 Post Delivery

5.6.1 User Case Description

- **User Case Description:**

The customer and contractor can view the information of the delivery after it has been executed.

Actors: Customer, Contractor and the management system

Preconditions: Customer and contractor have valid accounts

Customer and contractor are logged into the system

The contractor has completed the delivery.

Basic flow:

1. The contractor confirms the delivery is accomplished
2. The system notifies the customer
3. Customer has paid contractor the shipping fee
4. Contractor obtains the amount
5. Customer rates contractor's work
6. Contractor receives the rating and comment
7. The system adds the rating to contractor's profile and the delivery into shipping history

Postconditions: Customer has given rating based on the contractor's performance and the rating is added to contractor's profile to reflect his/her reliability

Alternative 1A – 3A:

This describes the result of contractor's failed delivery because of his/her faults and the payment method is pay after pick up:

1. The system notifies the customer
2. Customer and contractor can view the report of the situation
3. The system refunds the shipping fee from contractor's wallet to customer's payment platform
4. Customer and contractor are notified of the situation

Postconditions: The customer's shipping fee has been returned and contractor can view the failure report

Alternative 1A – 3B:

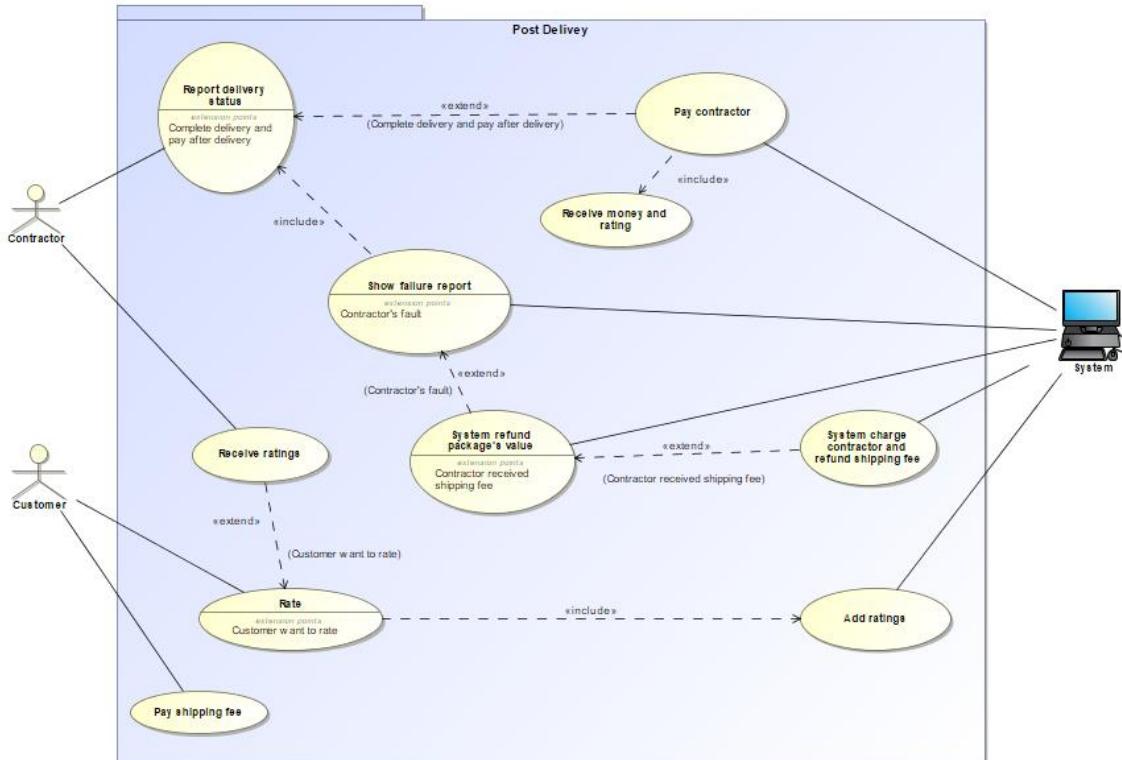
This describes the result of contractor's failed delivery because of other reasons and the payment method is pay after delivery:

1. The system notifies the customer

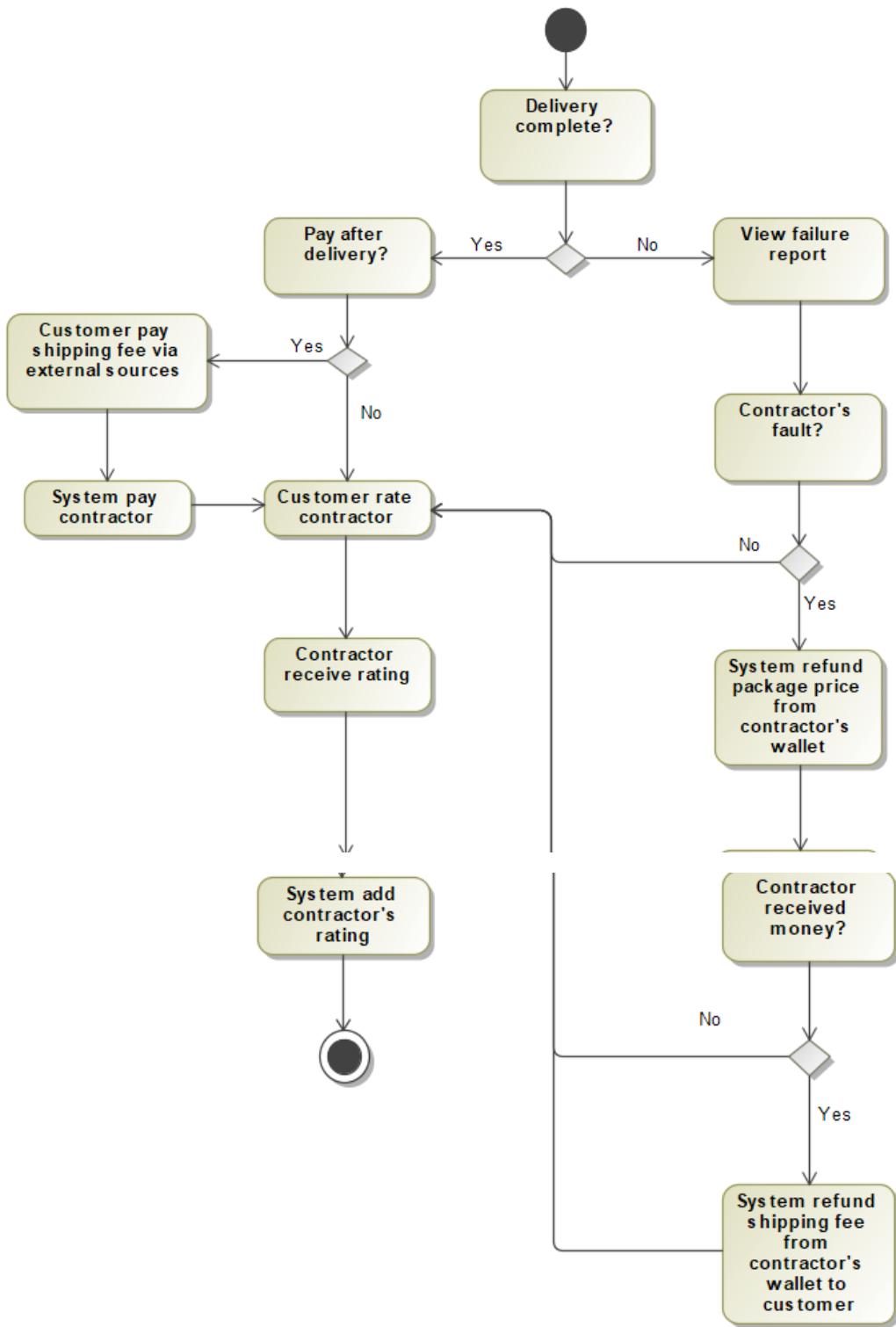
2. Customer and contractor can view the report of the situation
3. The system returns the on-hold payment back to customer
4. Customer and contractor are notified of the situation

Postconditions: The customer's shipping fee has been returned and contractor can view the failure report.

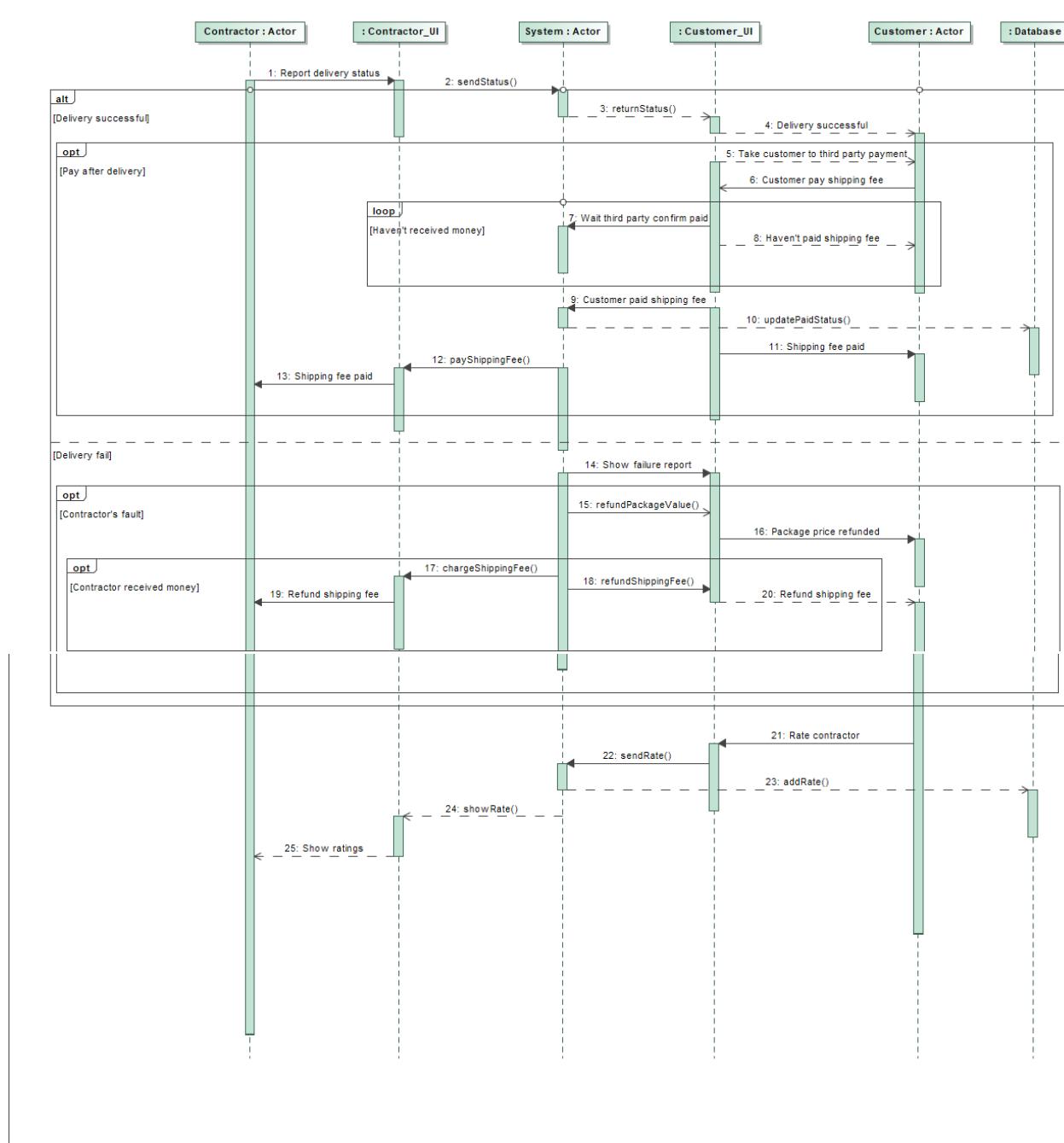
5.6.2 UML Diagrams



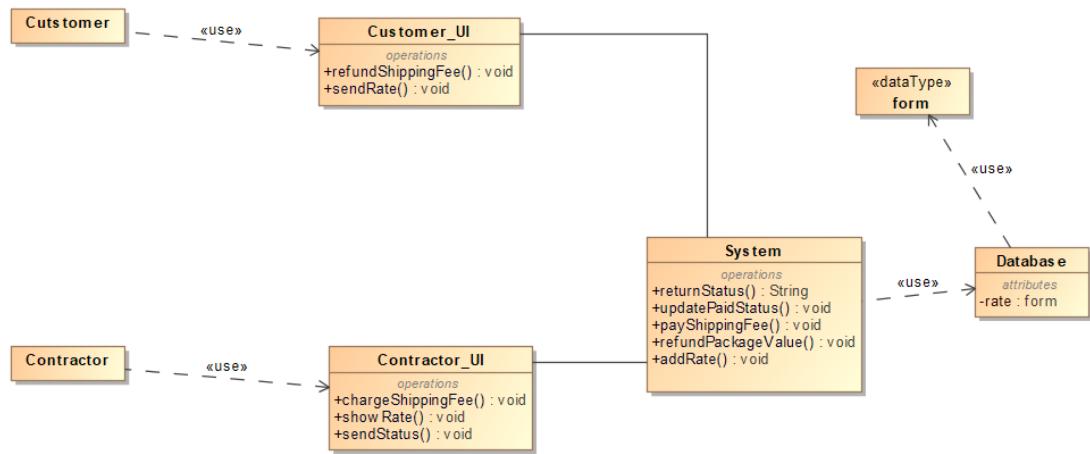
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram

5.7 Contractors Rating System

5.7.1 User Case Description

- **User case description:**

The customer wants to give a rating and/or comment to a specific contractor.

Actors: Customer and the management system

Preconditions:

1. Customer is logged into the application.
2. Contractor has finished shipping out the customer's package(s).

Basic flow:

This shows the steps that customer wishes to rate the contractor.

1. The customer chooses to rate that contractor.
2. System checks that contractor account is existed in the database.
3. The customer now can rate and give comments about the contractor.
4. The system adds that rating request to the system and to that contractor rating's list.

Postconditions:

1. The customer now can perform further actions on the applications.
2. The contractor's rating information has been updated.

Alternative 1A:

This describes the step that customer refuses to rate that contractor after the completed order.

1. System redirects customer to the homepage.

Postconditions: The customer can now perform other actions or find that contractor to rate at different time.

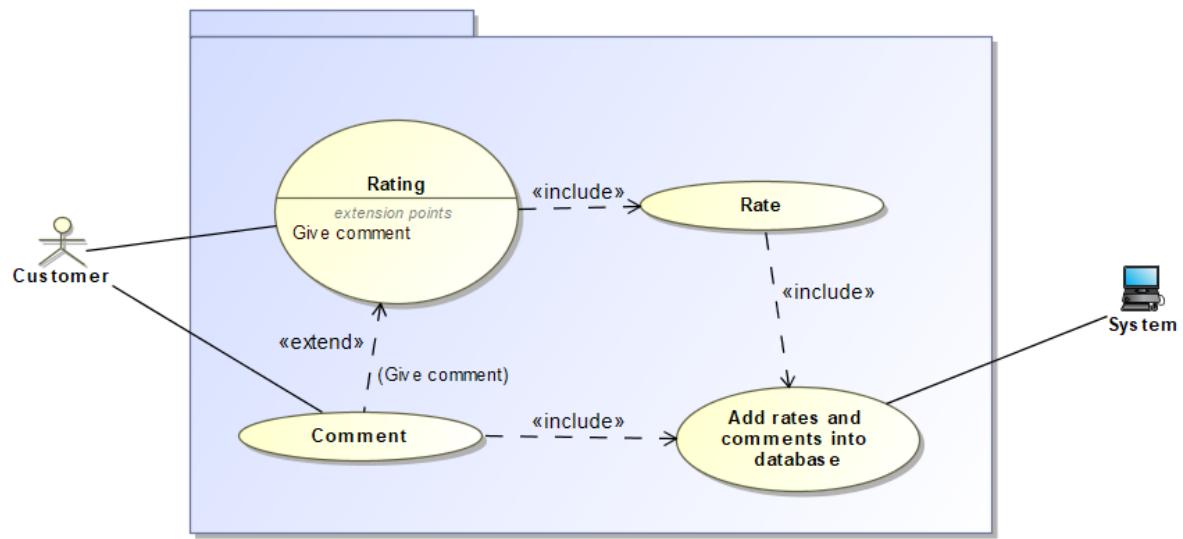
Alternative 2A:

This describes the step that the contractor, whom customer wishes to rate, cannot be found in the database due to some errors.

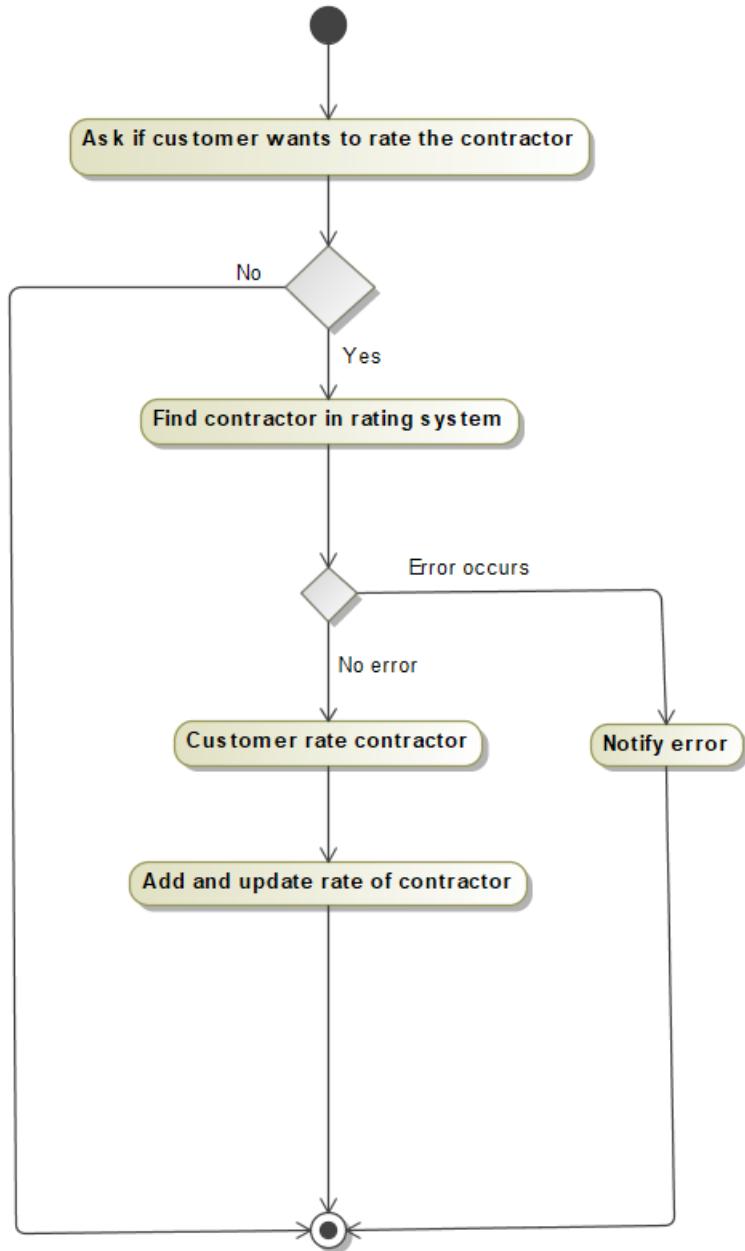
1. The system notifies the error to the customer.
2. The system redirects customer to the homepage.

Postconditions: The customer can now perform other actions or try to rate that contractor later.

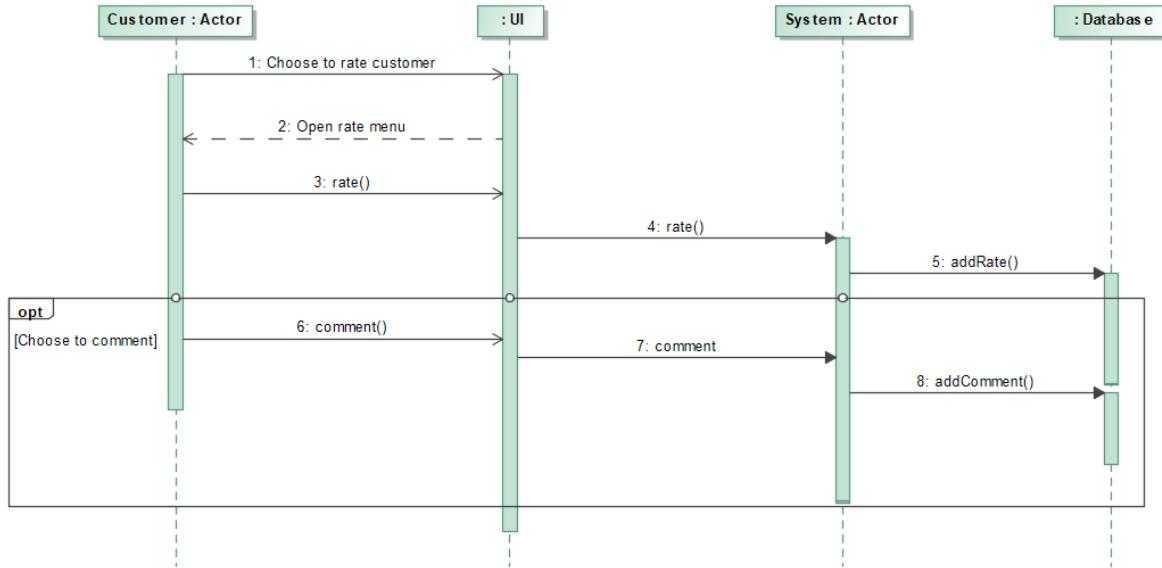
5.7.2 UML Diagrams



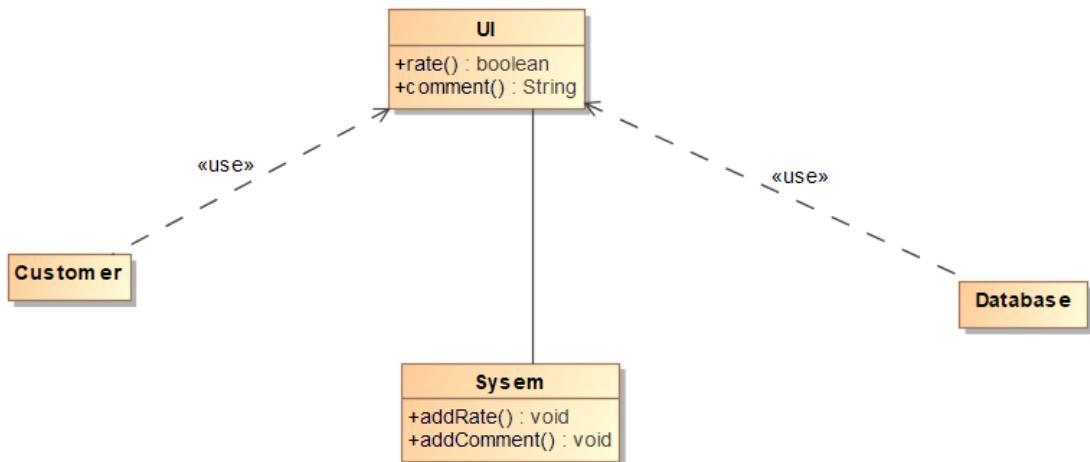
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram

5.8 Collecting surveys about experience using the delivery service

5.8.1 User Case Description

- **User case description:**

The customer and/or contractor want to send their feedbacks to the system in order to help improve the application.

Actors: Customer/Contractor and the management system

Preconditions: Customer and/or contractor with valid accounts and they have used the application for a period of time.

Basic flow:

This illustrates the steps that user send a survey from to the system.

1. The user requests the survey form from the system.
2. The user fills in the form.
3. The user submits the form.
4. The system adds the form into database.
5. The system successfully adds the filled form into database.

Postconditions: The user has sent a survey form and can request to send another or perform other actions on the application.

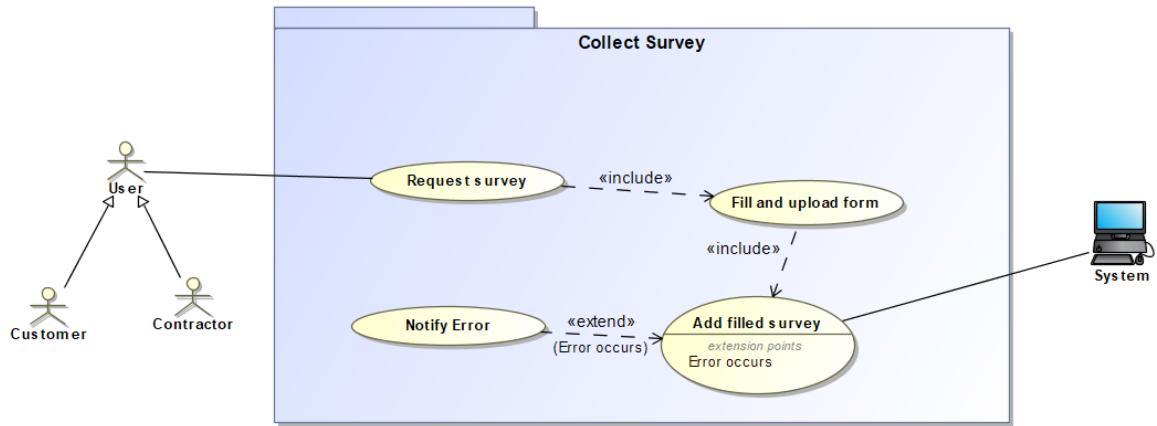
Alternative 4A:

This describes the steps that system fails to append the form into a list of forms.

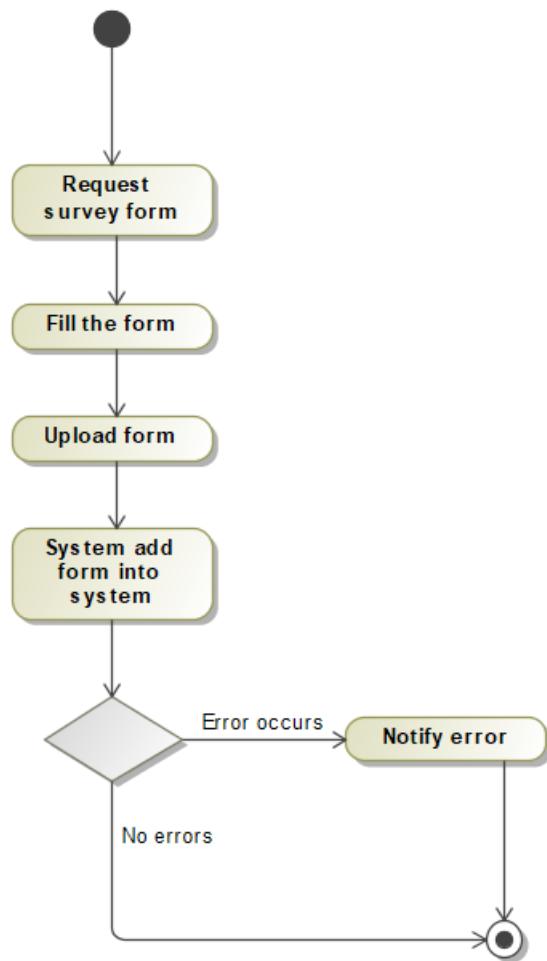
1. The system is unable to add the form into database.
2. The system notifies error to the user.

Postconditions: The user now can request another the form or perform other actions on the application.

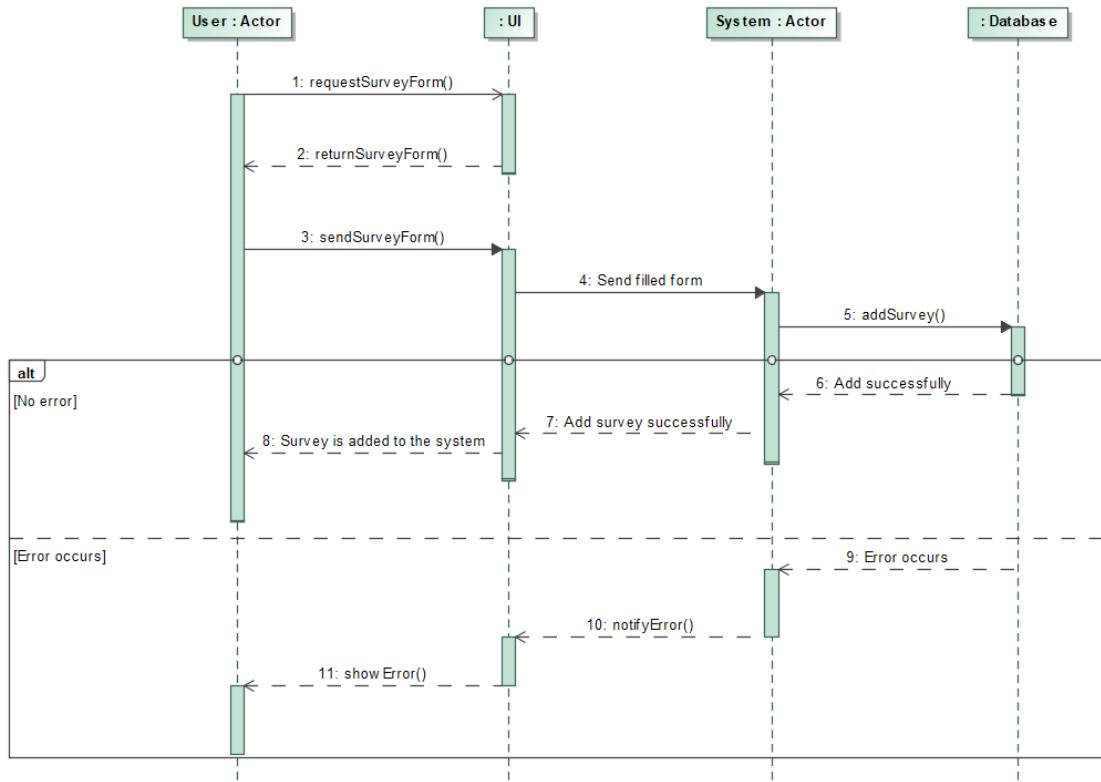
5.8.2 UML Diagrams



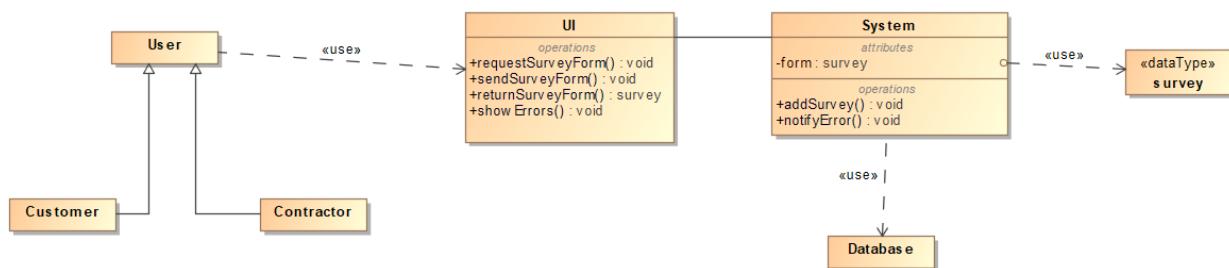
Use Case Diagram



Activity Diagram



Sequence Diagram



Class Diagram

5.9 Check monthly or annual revenue of customers or contractors

5.9.1 User Case Description

- **User case description:**

The customer or contractor wishes to check his/her monthly or annual revenue after a period of time using the application.

Actors: Customer/Contractor and the management system

Preconditions: Customer or Contractor is logged in and has been using the application for at least one month.

Basic flow:

This shows the steps of user retrieving his/her revenue report.

6. The user chooses to get report.
7. The user has an option to generate monthly or annual revenue.
8. System checks whether the report can be generated.
9. The system displays the selected report to user.

Postconditions: The user has a monthly or yearly report for further information.

Alternative 2A:

This describes the step in which user inquires the monthly revenue

1. User sends request to generate a monthly report.
2. This continues as step 3 in the basic flow.

Postconditions: User is able to view his/her monthly report.

Alternative 2B:

This describes the step that user has chosen to generate yearly report,

1. User sends request to get yearly report.
2. This continues as step 3 in the basic flow

Postconditions: User is able to view his/her annual report.

Alternative 3B:

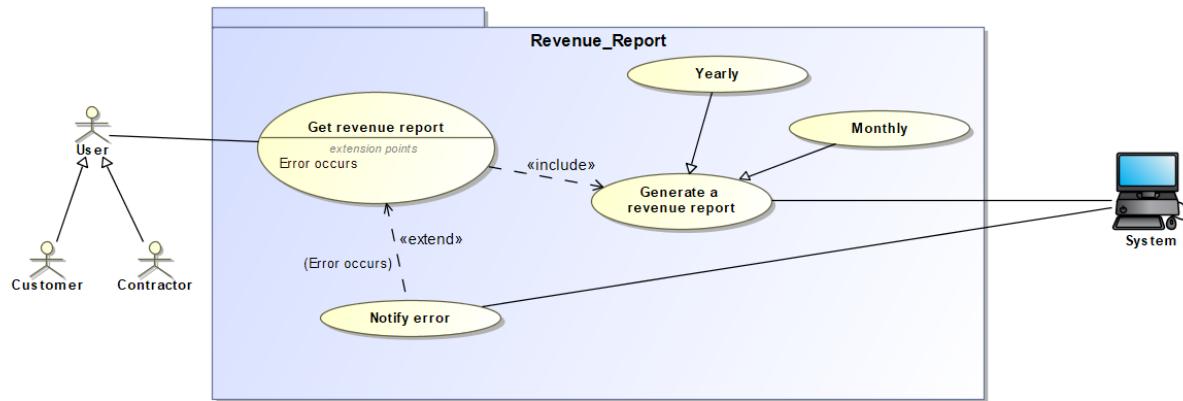
This describes the result that system fails to generate the report.

1. System notifies user that the requested report cannot be generated.

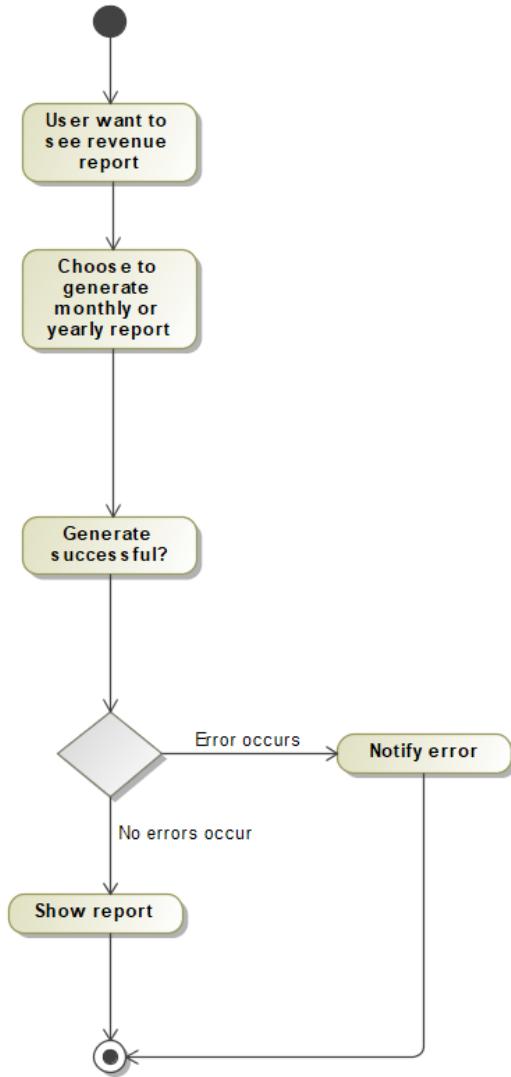
2. System redirects user to the homepage.

Postconditions: User now can try to request a report again or perform other actions on the application.

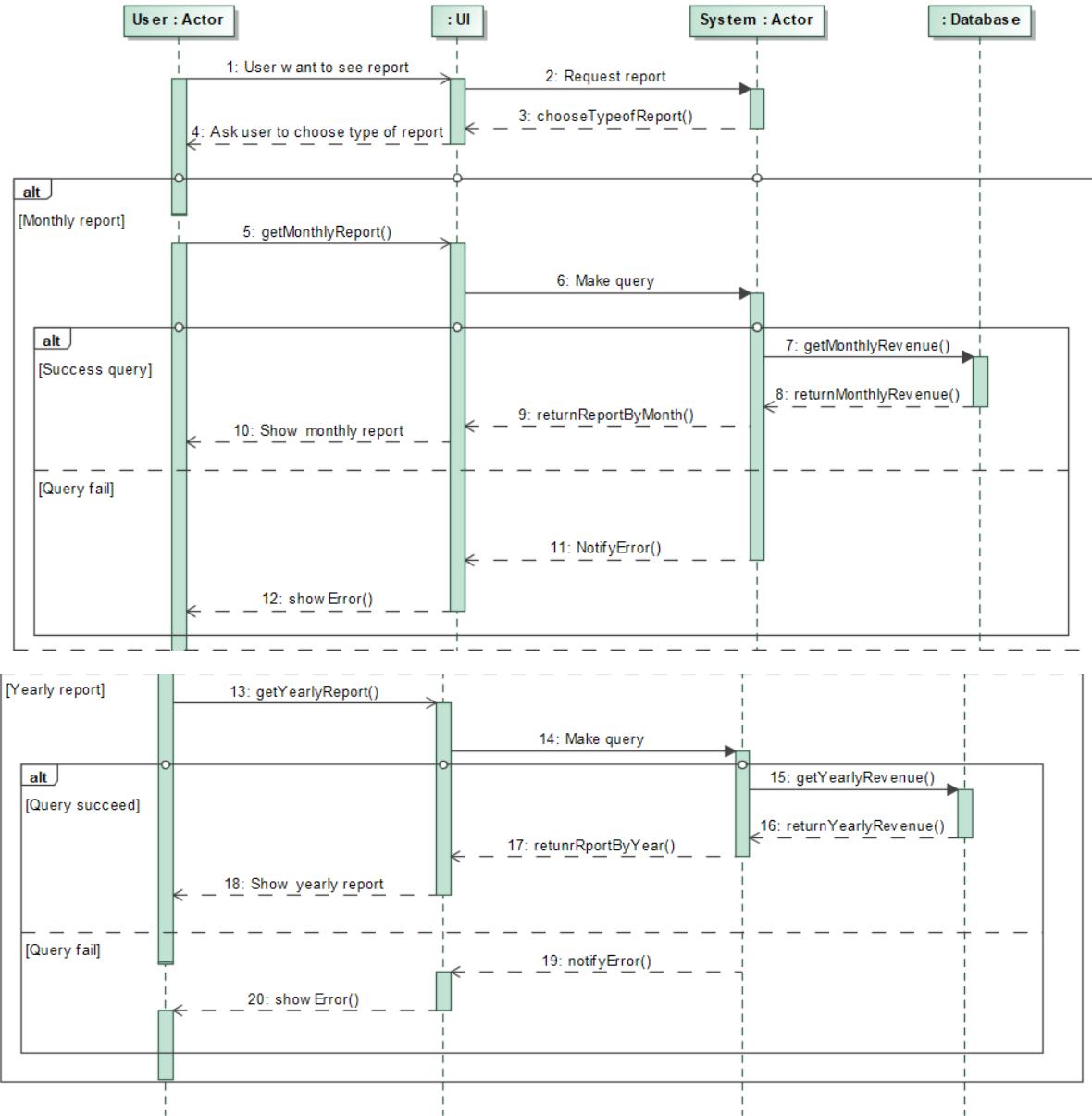
5.9.2 UML Diagrams



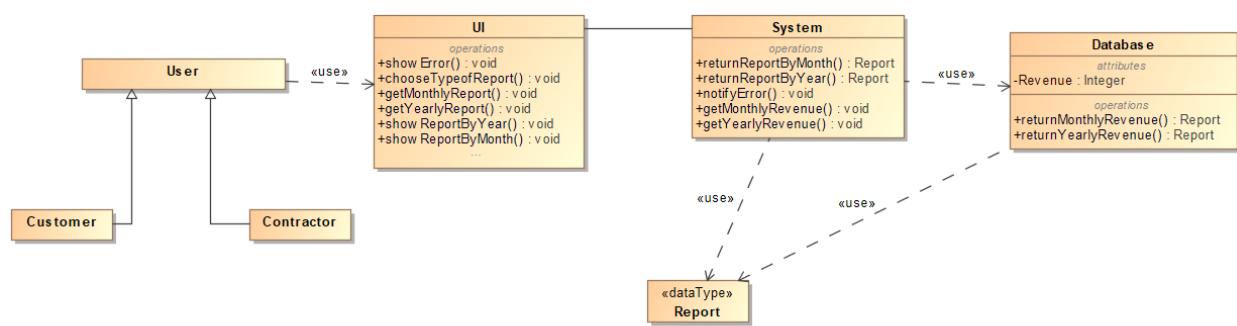
Use Case Diagram



Activity Diagram



Sequence Diagram



6 Conclusion

The project brought a great opportunity for us to practice teamwork skills and software analytical skills. Our goal is to build a delivery platform which helps businesses in need of logistics solution to cope with problems caused by coronavirus pandemic. Our team has learned the process of analyzing and planning to build a software concept. During the process, some problems about the requirements arose and we, therefore, had to re-analyze and adjust them to fully develop the idea of SuperGO. Eventually, we were able to work together and came up with a detailed plan of the project. Finally, it would be our pleasure to receive feedbacks in order to modify and boost the performance and reliability of our application.