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College of Computer and Information Sciences
Information Technology Department

Course Title: Information Technology Systems

Course Code: IT 281

Course Instructor:

Project Title:	Al-Ahli Bank Application System
Section	171

Agreement:

- 1- It was me and my team members NOT external party who performed this project.
- 2- I participated with the group members to accomplish this project effectively and almost equally.
- 3- This project is totally free from copy and any type of cheating from other students' works and projects.
- 4- This project is free from illegal copy from any resources and intellectual property breaches.

Based on above I sign below, and I accept any corrective action taken in case I breach or don't fulfill the above commitments.

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Chapter 1: Introduction



1.1 Project Introduction

Al-Ahli Bank Application is a software to manage banking operations, help customers from Al-Ahli Bank to transfer funds to beneficiaries, pay bills, managing all accounts and credit cards, and view all the financial statements and more.

1.2 System Vision

1.2.1 Problem Description

Banks become an essential part of life, it facilitated performance transactions between people and made it much easier. But with the beginning of the millennial and today's era of unprecedented convenience and speed, consumers don't want to have to trek to a bank branch to handle their transactions.

Therefore, We detected a few problems that might interfere with the process during user experience.

In the beginning, the user might face difficulties entering the IBAN of the card, because the IBAN has 28 fields. hence typos are expected, and it might take a long time typing each number individually.

Furthermore, customer service is only reachable by phone number. Making a call is not always approachable for the use, hence why we think adding a live chat would improve the user experience.

Also, we found out that to activate a user status is only possible by phone call, which we explained previously, it is not the most efficient way.

Moving forward, since finding branches and ATMs is essential for the user, then we believe that by including a map would enhance the user experience and make it accessible at all times.

In terms of security, it is necessary to add a facial recognition feature to each customer.

In our view, a password is not the most secure option.

Adding extra features would not only enhance the user experience as we mentioned before but secure the client's information and privacy.



1.2.2 System Capabilities

- Add a scan reader for the IBAN number
- Add the nearest branches, ATM map.
- Activate a user status via SMS.
- Live chat customer service.
- Face ID Recognize.

1.2.3 Benefits

It's expected that of this system will provide the following business benefits to **Al-Ahli Bank Application:**

1. Scan reader would make it easier for the user to insert and handle his transactions and would take a short period. Which would improve each client's experience and minimize the chances of errors.
2. Live chat would make the customer service approachable at any time, where you can easily contact any client, and handle their problems faster.
3. to activate a client status, it could be more efficient to send the activation code via the phone number, unlike phone calls. Also, it is considered faster and much more attainable.
4. Live maps and locate the nearest branch or ATM are important, so the client would easily decide what kind of service does he need and where to find it.
5. As for the user identification feature through the face print, it would facilitate the process of logging into the system and shorten the time also because it is a security feature where no one can use the user's facial fingerprint except the user himself.
6. Adding extra features would not only enhance the user experience as we mentioned before but secure the client's information and privacy.



1.3 Project Plan

1.3.1 System Major Components

- **Bank subsystem information :**

In the bank subsystem, we have two main branches of the first branch, the features that are pre-existing in the system, such as transfers in their forms, list of beneficiaries' orders, account and its characteristics, and list of payments and payments in all their forms. As for the second branch, there are features and advantages that have been added to the system that will improve and develop it, help the customer, and facilitate everything. Some of the features that we suggested are utilities for a pre-existing system such as adding an IBAN scanner to the system to add beneficiaries. Also, add tools to the system such as the map that will show the closest branch to the customer by choosing it if it is male, female, or the nearest ATM. Also, an instant chat tool that would solve the customer's problems or answer his inquiries at any time during the day. In addition to adding a feature to the account system that would increase protection for the customer, which is the facial recognition feature. We also improved the system by activating the user via SMS, which is an addition to the beneficiary adding system.

1.3.2 Iterations

T1: will serve the customer on the options of the services of Al-Ahli Bank easily and securely.



1.3.3 Team Members and Responsibilities

Task	Responsibilities	Student Name
1 System Vision Document	Define Problem Description	Abdulrahman
	List the System Capabilities	
	List Business Component	
2 Project Plan	Define Major System Component	
	Define the Iterations and Their Function	
3 Preliminarily System Analysis	Describe (list) of Functional Requirements and Non- Functional Requirements	
	List of the use cases (name only) + use case diagram	
	List of classes (names only) No diagram	
4 Detailed System Analysis	Provide the main detailed use-cases descriptions (minimum 3)	
	Provide the main use-case workflow/activity diagrams (minimum 3)	
5 System Design	Provide the detailed Class diagram (attributes and methods)	
	Provide the Architectural Configuration diagram	
6 System Implementation & Testing	The corresponding system functionality in real-time	



Chapter 2: System Analysis



2.1 Preliminary System Analysis

2.1.1 Functional Requirements

1. The system should allow the customer to invest.
2. The system should allow the customer to pay the bills.
3. The system should allow the customer to view his information.
4. The system should allow the customer to review financial stats.
5. The system should allow the customer to create online banking account.
6. The system should allow the customer to transfer money to another beneficiary.
7. The system should allow the customer to transfer money to another beneficiary in different bank.
8. The system should allow the customer to transfer money between his accounts and his visa.
9. The system should allow the customer to scan IBAN number.
10. The system should allow the customer to view map of all near branches and ATMs.
11. The system should allow the customer to receive SMS message to active beneficiary.
12. The system should allow the customer to be able to use live chat customer service.
13. The system should allow the customer to be able to use face recognition.

2.1.2 Non-Functional Requirements

Usability

- The system should be user friendly .
- The system designed with an easy user interface.
- The system add a scan reader for the IBAN.
- The system can add nearest branch(F/M) and ATM.
- The system can active beneficiary vie SMS.

Availability and Performance

- The system available at all the time of the day.
- The system provides instant conversation throughout the day.

Operational

- The system can run on handheld devices

Security and Privacy

- The system must protect user information and privacy.
- The system should be protected from any hackers and attacks.
- The system has double-verification when the user transfer money.
- The system add face ID recognize check.



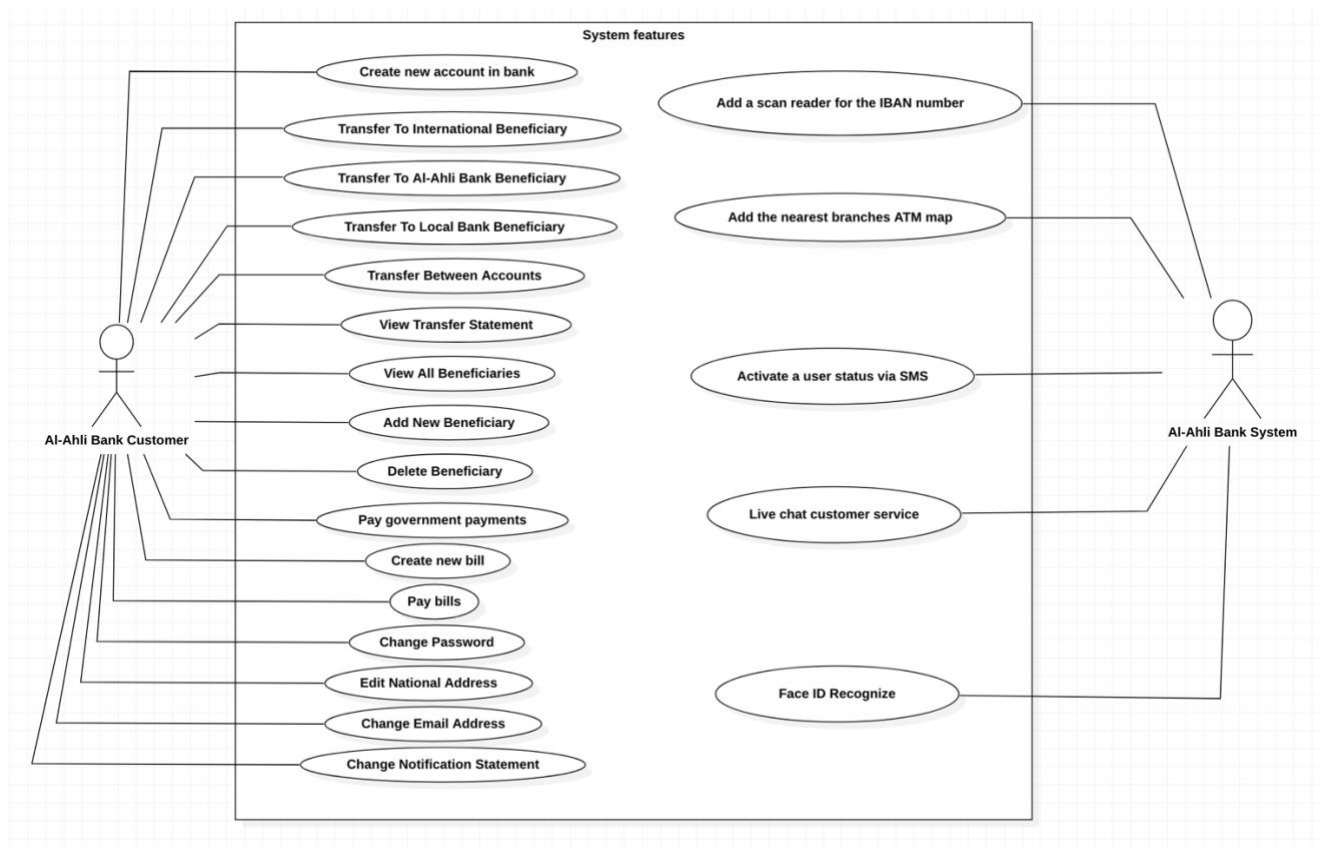
2.2 Use case

2.2.1 Use Case List

Subsystem: Original features Customer	Actor: Al-Ahli Bank
<ul style="list-style-type: none">• Create new account in bank.• Transfer To International Beneficiary.• Transfer To Al-Ahli Bank Beneficiary.• Transfer To Local Bank Beneficiary.• Transfer Between Accounts.• View Transfer Statement.• View All Beneficiaries.• Add New Beneficiary.• Delete Beneficiary.• Pay government payments such as traffic violations.• Create new bill.• Pay bills.• Change Password.• Edit National Address.• Change Email Address.• Change Notification Statement.	
Subsystem: New features System	Actor: Al-Ahli Bank
<ul style="list-style-type: none">• Add a scan reader for the IBAN number• Add the nearest branches, ATM map.• Activate a user status via SMS.• Live chat customer service.• Face ID Recognize.	



2.2.2 Use Case Diagram





2.2.3 Class List

Objects	Attributes
Tools	Branch_Number , Branch_Type , Branch_Location .
Credit	Credit_ID , Credit_Name , Credit_Type , Credit_Description , Date .
Account	Customer_Name , ID_Number , Balance .
Transfer	Bank_ID , Transfer_Number , Transfer_Name , Transfer_Type .
Customer	Name , ID_Number , CustomerNumber , Address , PIN_Number , Email , PhoneNumber .
Statement	No attributes .
Beneficiary	First_Name , Last_Name , Bank_Name , Account_Number , IBAN , Email , Date .



2.1 Detailed System Analysis

2.1.1 Use case description

- Use Case Name : Add a scan reader for the IBAN number

Scenario:	Add a scan reader for the IBAN number	
Triggering Event:	The customer wants to scan the IBAN number	
Brief Description:	The customer adds a new benefactor by scanning bank account IBAN to be able to scan the number with no errors.	
Actor:	Al-Ahli bank system.	
Related use cases:	Add New Beneficiary.	
Stakeholders:	Al-Ahli Bank, Al-Ahli bank customers.	
Preconditions:	The Al-Ahli bank customer must have IBAN to scan. The IBAN in the card must be clear and with no scarified.	
Postconditions:	The system notifies the customer with a tone that is scan complete.	
The flow of Activities:	Actor	System
	Al-Ahli Bank customers should go to the “Add Beneficiaries” field.	
	The customer must select the scan IBAN icon to scan it.	The System should open the camera to scan the IBAN.
	Perform the process.	The system performs the process after checking the IBAN scanned.
Exception Conditions:	The IBAN is scarified and the scan tool unable to scan.	



Use Case Name : Live chat customer service.

Scenario:	Live chat customer service.	
Triggering Event:	The customer wants to talk to the support or want to ask about something.	
Brief Description:	Al-Ahli bank customer want to talk to customer service and support to solve an issue or give an information to the customer.	
Actor:	Al-Ahli bank system.	
Related use cases:	None.	
Stakeholders:	Al-Ahli bank , Al-Ahli bank customer.	
Preconditions:	The customer must log in into the system. The customer must have an issue or something to ask about.	
Postconditions:	The system must serve the customer.	
The flow of Activities:	Actor	System
	Al-Ahli Bank customers log in to the system.	The system verifies information login of Al-Ahli bank customer
	The customer select 24/7 live chat icon .	The system must open chat and provide an employee to serve the customer.
	The customer explain the problem or ask about what he want.	The system must let the employee to solve the issue or help the customer.
	The customer exit after the system provides what he need.	
Exception Conditions:	Employee can't provide the information. Employee can't handle the problem.	



- Use Case Name : Add the nearest branches, ATM map.

Scenario:	Add the nearest branches, ATM map.	
Triggering Event:	The customer wants to know the nearest branches or ATM in the map.	
Brief Description:	The customer want to know where is the nearest branch whether for (F\M) or ATM so he/she don't waste any time.	
Actor:	Al-Ahli bank system.	
Related use cases:	None.	
Stakeholders:	Al-Ahli bank , Al-Ahli bank customer.	
Preconditions:	The customer must log in to the system.	
Postconditions:	The system must show the map to the customer.	
The flow of Activities:	Actor	System
	The customer must log in to the system.	
	The customer should select the map icon.	The system ask the user to choose whether he/she (F/M) and choose either branch or ATM.
	The customer see the map to select which branch or ATM he want to go to.	The system move him to google map to provide him/her with the location.
Exception Conditions:	There is no branches or ATM in the area.	



- **Use Case Name :** Pay government payments such as traffic violations.

Scenario:	Pay his/her traffic violations.	
Triggering Event:	The customer wants to pay traffic violations.	
Brief Description:	Al-Ahli bank customer login to his/her account then select my traffic violations then select application type and choose which account want payment from.	
Actor:	Al-Ahli bank customer.	
Related use cases:	None.	
Stakeholders:	Al-Ahli Bank, Al-Ahli bank customers, governments, businesses.	
Preconditions:	The Al-Ahli bank customer must have traffic violations.	
Postconditions:	The completion of the process must be verified. The system notifies the customer.	
The flow of Activities:	Actor	System
	Al-Ahli Bank customers log in to the system.	The system verifies information login of Al-Ahli bank customer
	Al-Ahli bank customers go to the payment list then select application type and violation type.	The system shows the customer list of application type and violation list.
	Al-Ahli bank customer select which account want payment from.	The system shows the list of his/her accounts.
	Perform the process.	The system performs the process after checking the information.



	Confirm it.	The system Confirm the process and send Message to the customer.
Exception Conditions:	Information of Al-Ahli bank customer isn't valid. The verification code isn't valid.	

Use Case Name : **Transfer to Al-Ahli bank beneficiary .**

Scenario:	Transfer money to Al-Ahli bank beneficiary	
Triggering Event:	The customer wants to transfer funds to the Al-Ahli bank beneficiary.	
Brief Description:	Al-Ahli bank customer transfer fund to an Al-Ahli bank beneficiary by entering basic information about the amount of money wants to transfer and choose the beneficiary then mention the reason for the transfer .	
Actor:	Al-Ahli bank customer.	
Related use cases:	None.	
Stakeholders:	Al-Ahli bank, Al-Ahli bank beneficiary, governments, individuals bank, businesses.	
Preconditions:	The customer must log in into the system. The beneficiary account must be added before and the beneficiary must be from the Al-Ahli bank.	
Postconditions:	The completion of the process must be verified. The system must notify the customers.	
The flow of Activities:	Actor	System
	Al-Ahli bank customers must go to the transfer list and choose the amount, currency, and reason for the transfer.	The system shows the customer currency is available.



	Al-Ahli bank customer select which account want a transfer from.	The system shows the list of his/her accounts.
	Al-Ahli bank customers must select beneficiaries.	The system shows a list of beneficiaries.
	Perform the process.	The system performs the process after checking the information.
Exception Conditions:	Information on Al-Ahli bank customers isn't correct. Information about Al-Ahli bank customers didn't add any beneficiary. The information isn't complete.	

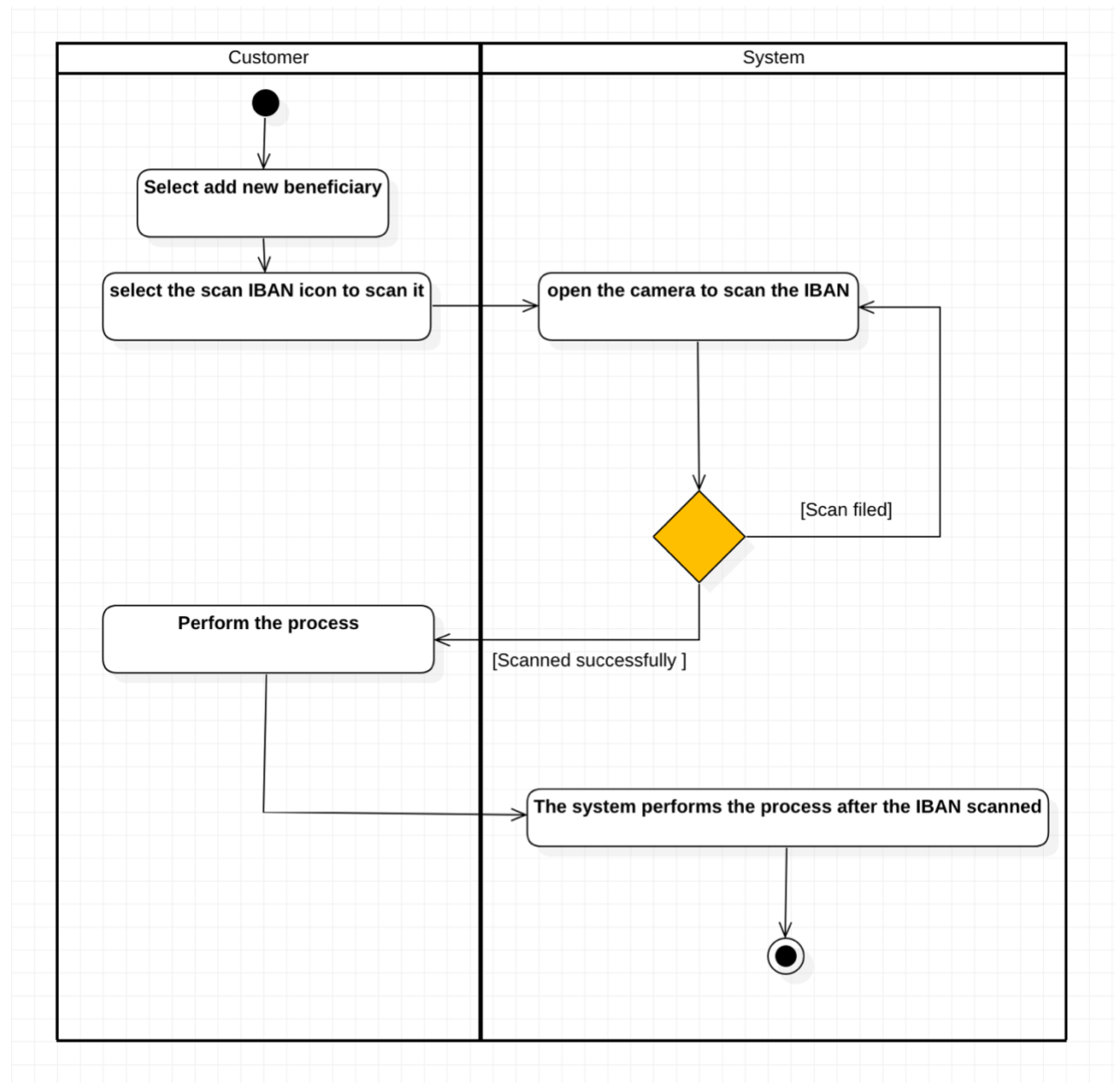
- Use Case Name : Add New Beneficiary.

Scenario:	Add New Beneficiary.	
Triggering Event:	The customer wants to add new beneficiary.	
Brief Description:	The customer adds a new benefactor by entering his bank account number and the name of the benefactor, and it is activated via a phone call.	
Actor:	Al-Ahli bank customer.	
Related use cases:	None.	
Stakeholders:	Al-Ahli bank, Al-Ahli bank beneficiary, individuals bank .	
Preconditions:	The customer must log in to the system. The customer must have the bank account number to be added and the name of the beneficiary.	
Postconditions:	The system must notify the customer if the beneficiary has been added.	
The flow of Activities:	Actor	System
	Al-Ahli Bank customers should go to the "Add Beneficiaries" field.	
	The customer should enters the account number and the	The system records the information, then the bank will automatically contact the



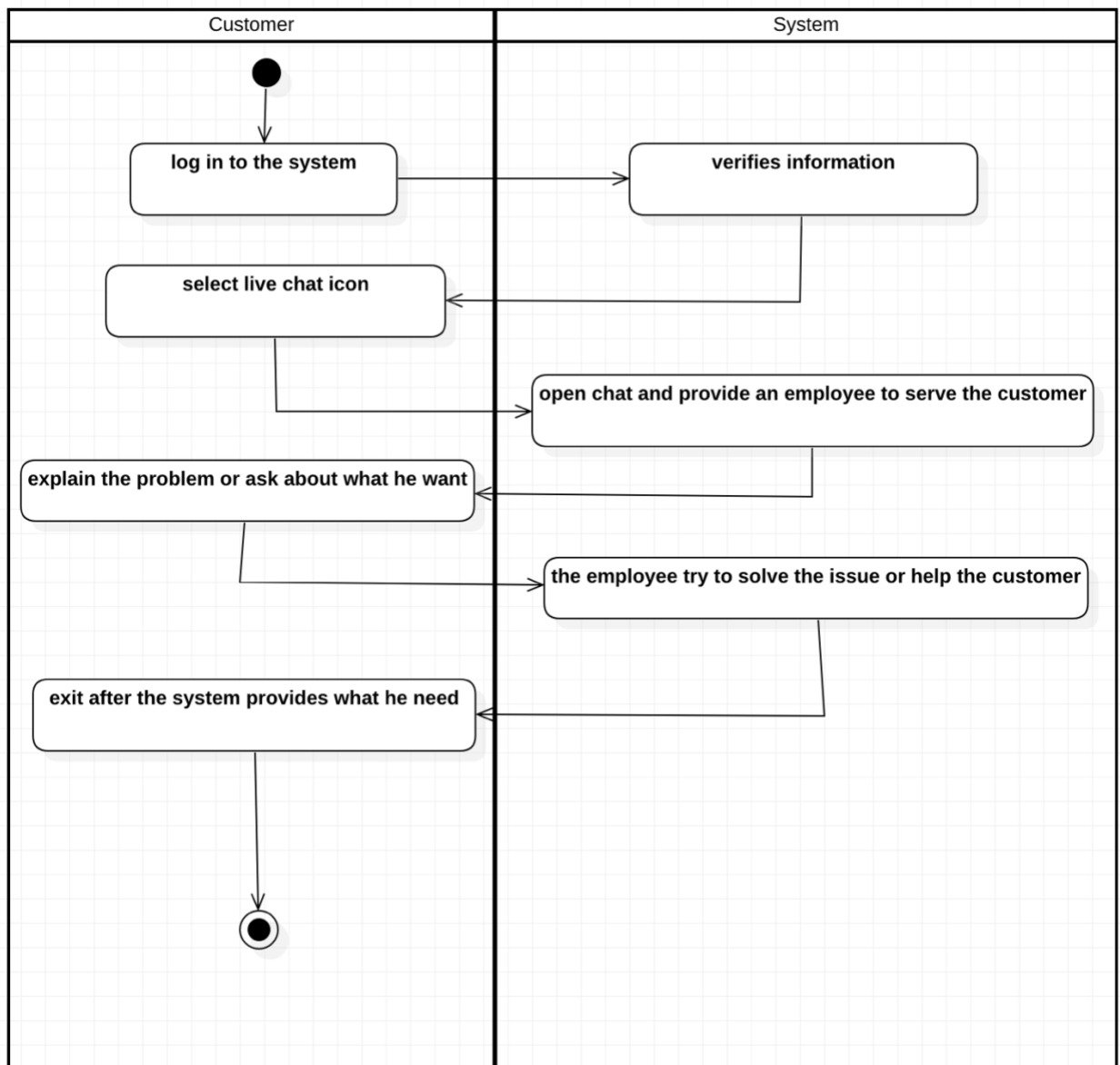
	name of the beneficiary to be added.	customer on his registered mobile phone to complete the activation process.
	The customer should receive an SMS to the registered mobile phone to successfully complete the beneficiary activation process, including details.	The system adds the beneficiary to the client's list of beneficiaries.
Exception Conditions:	Information on AlAhli Bank customers is incorrect. The beneficiary information is incorrect. The information is not complete.	

Scan reader for the IBAN number .

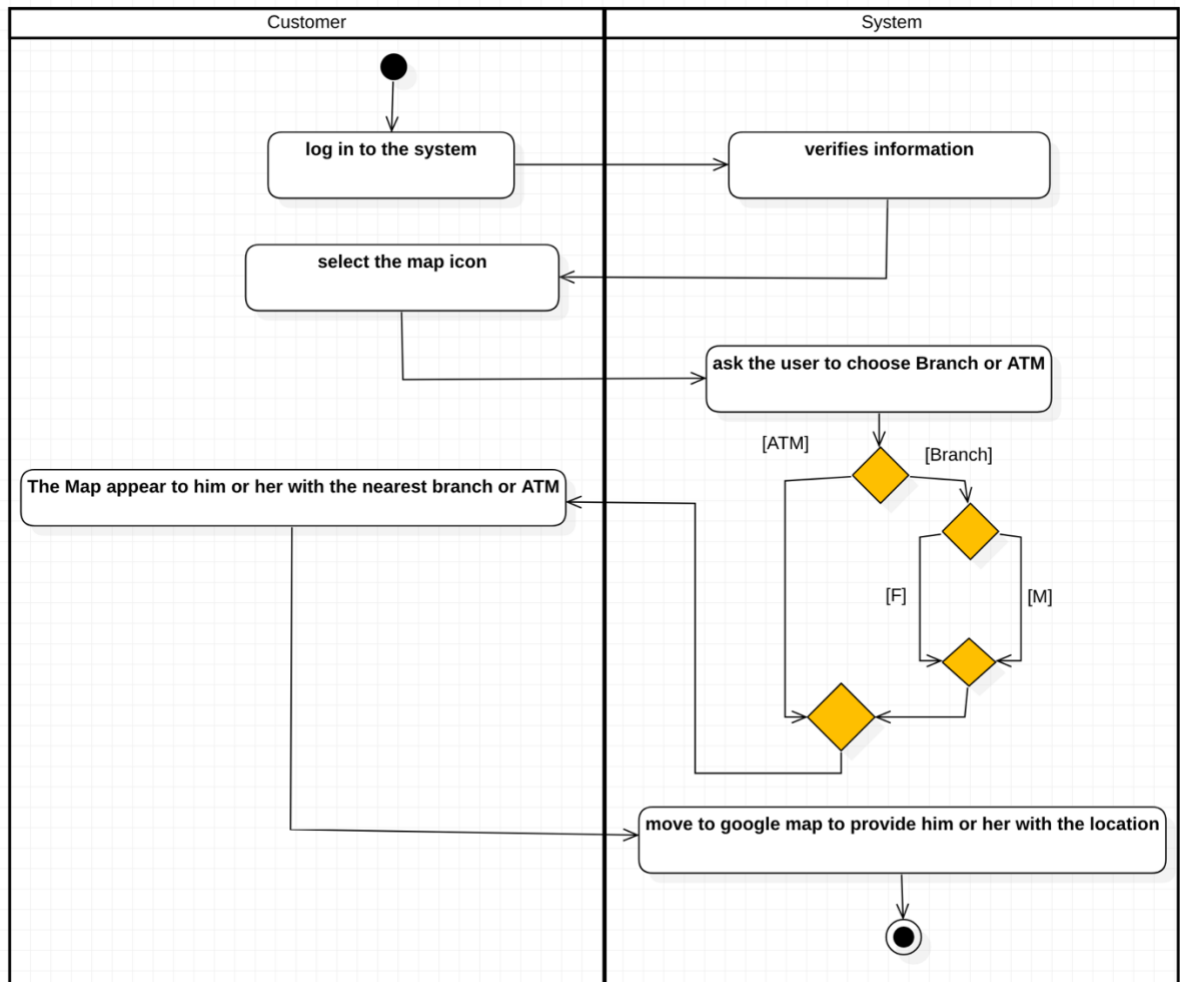


Live chat customer service

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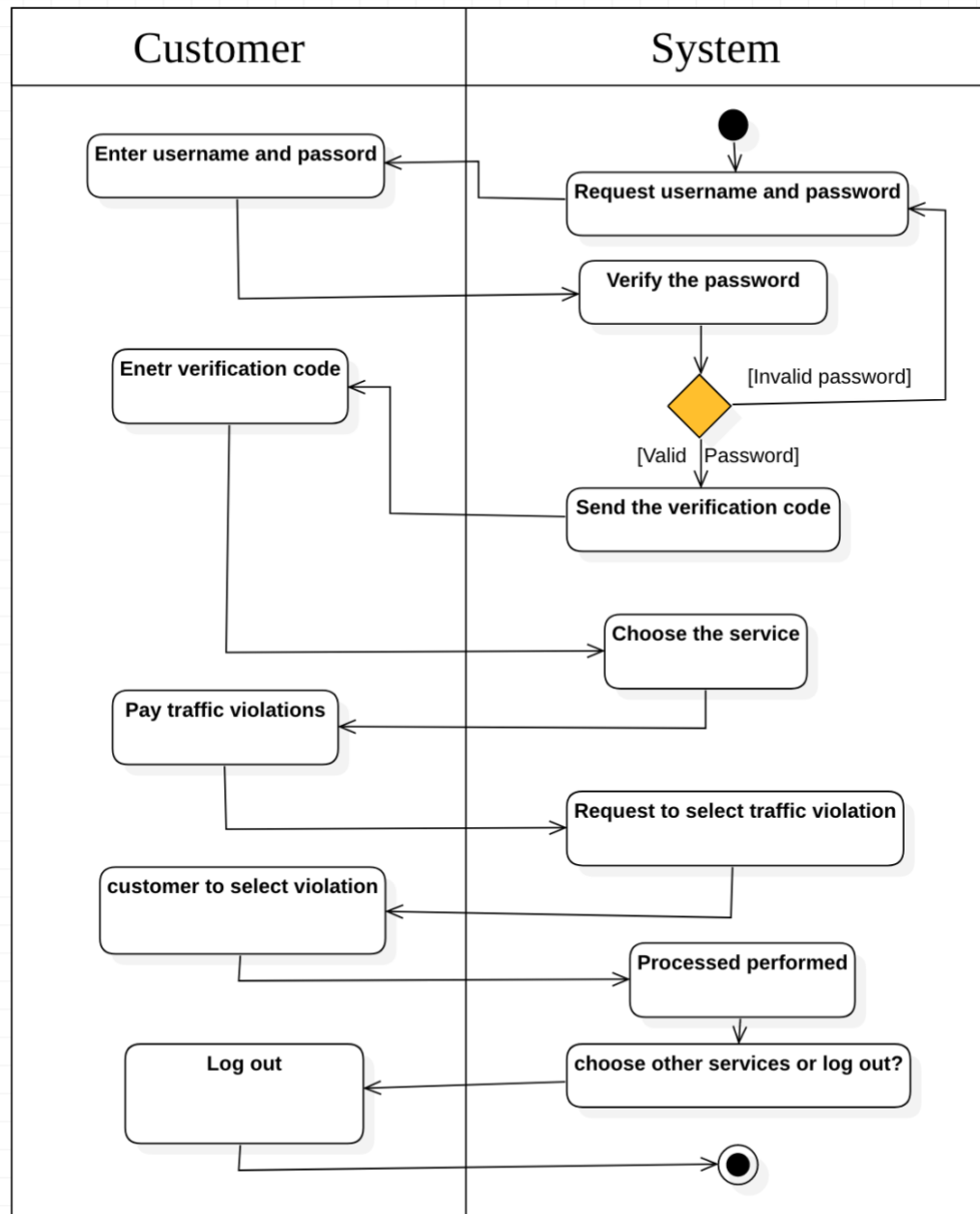
Live Map .



Pay government payments such as

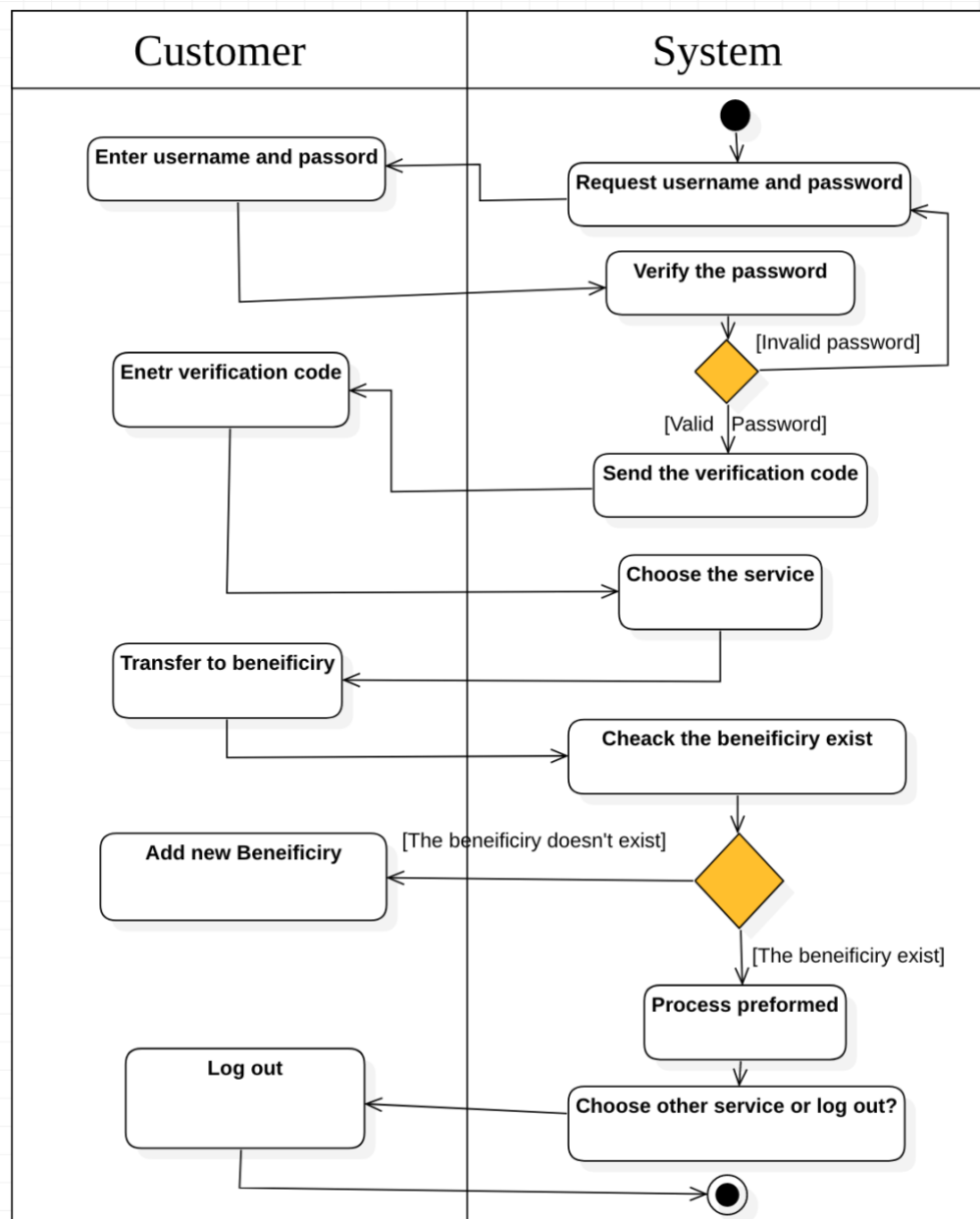


“ traffic violations ”



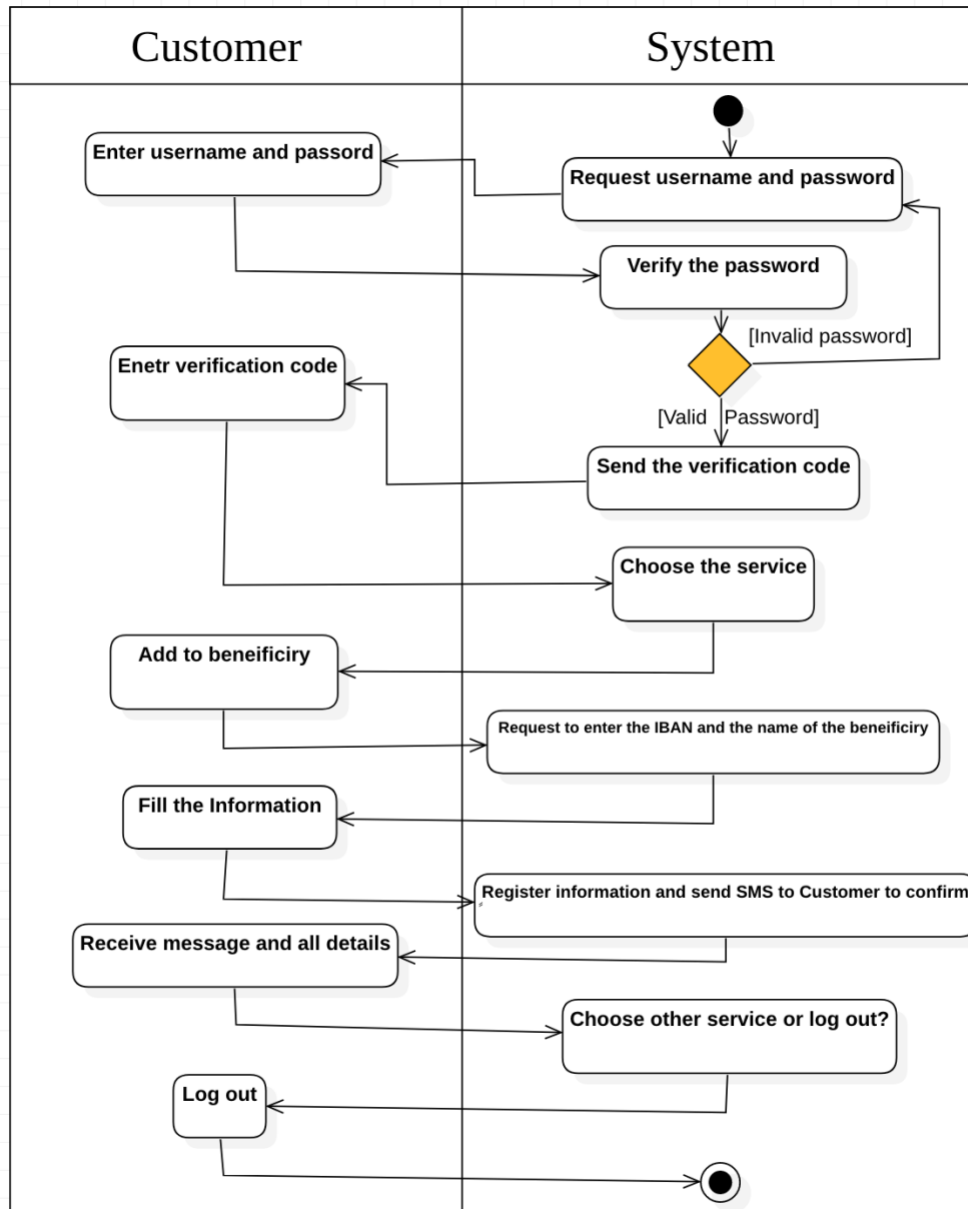


Transfer to Al-Ahli bank beneficiary .





Add New Beneficiary.



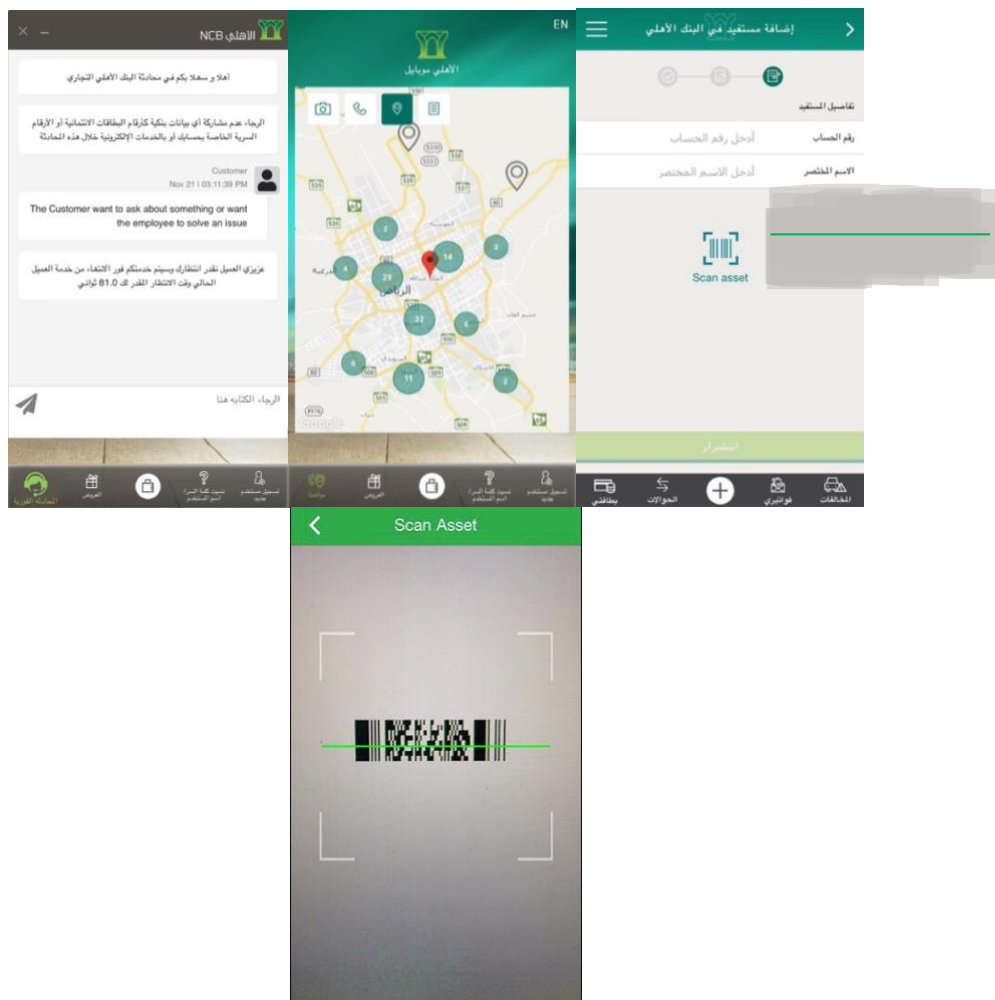


Chapter 3: System Design



3.1 User Experiences

NewFeatures Subsystem



Live Chat

The customer selects the Live chat tool to talk to customer service and support to solve an issue or ask for an information.

Live Map

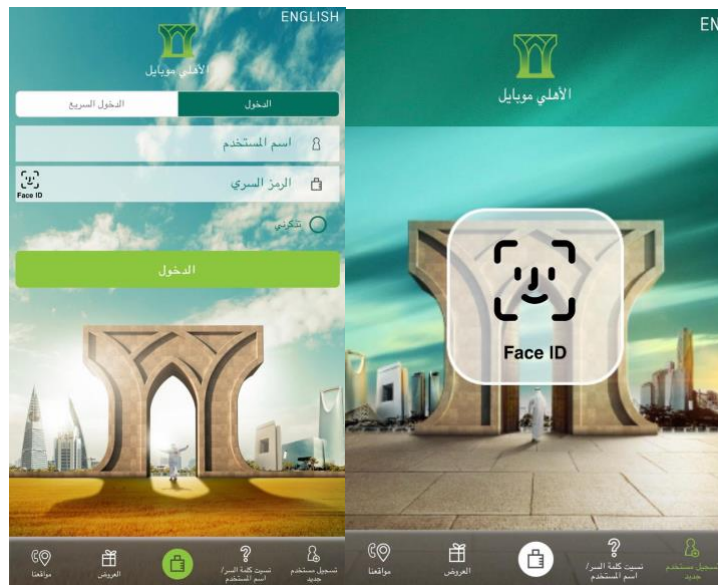
The customer selects the Live Map tool to talk to Locate the nearest branch or ATM .

Scan Redder

The customer use this tool when he/she want to add new beneficiary so he/she can avoid any error.

Scan Redder

What it look like when you try to scan.



Face ID
The customer want to log in into the system then when he enter his password, he must also use the face ID.

Face ID
What it look like when you use the face ID.

Register Subsystem



EN

الأهلي موبايل

الرجاء إدخال رقم الهوية

الرجاء إدخال رقم الهوية

رقم مرجع التسجيل 179752

بالاستمرار أنا أوافق على شروط وأحكام الخدمات الإلكترونية

استمرار

مواقعنا العروض اسم المستخدم نسيت كلمة السر/ اسم المستخدم تسجيل مستخدم جديد

Register

The customer will create an account by entering national ID , card number, card pin number and account number.



Transformation Subsystem

Transformation List

The customer selects the list of remittances to review all types and choose from them.

Transfer to Al-Ahli Bank Beneficiary

The customer will be able to transfer funds to the (added beneficiary) after entering the transfer data.

Transfer to Charity

The customer will be able to transfer funds to known charities.



Transformation Subsystem



Add Beneficiaries The customer will be able to add a new beneficiary, whether from Al-Ahli Bank beneficiary, local banks beneficiary, or international banks beneficiary by entering the required beneficiary information.	View Beneficiaries This page will display all beneficiaries that have been added by the customer before.	Delete Beneficiaries The customer will be able to delete the added beneficiary.
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Payments Subsystem



Add Bill

The customer will be able to add bill by choosing the type of bill and entering the required information.

Pay Added Bills

The customer will be able to pay the bill that has been added before or after .

Pay Traffic Violations

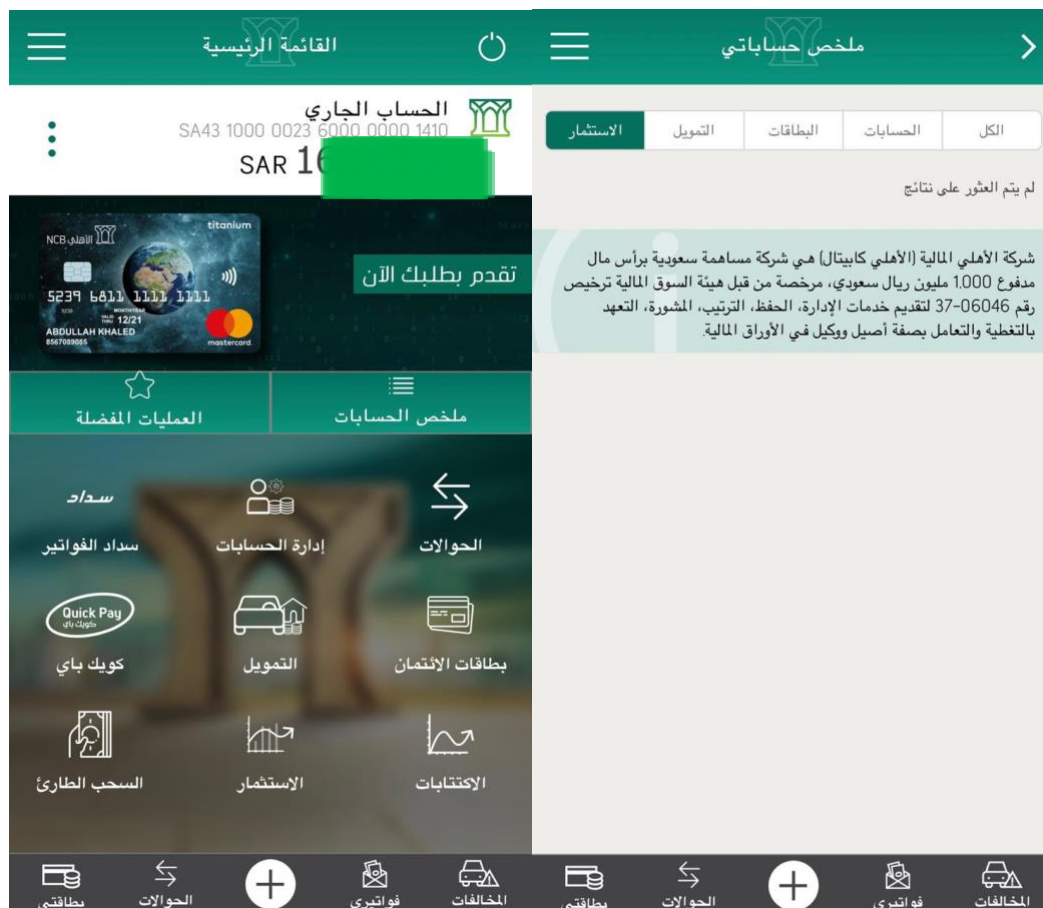
The customer will be able to pay and view his/her traffic violations.



Account Settings Subsystem



Financial Statement Subsystem



View Accounts

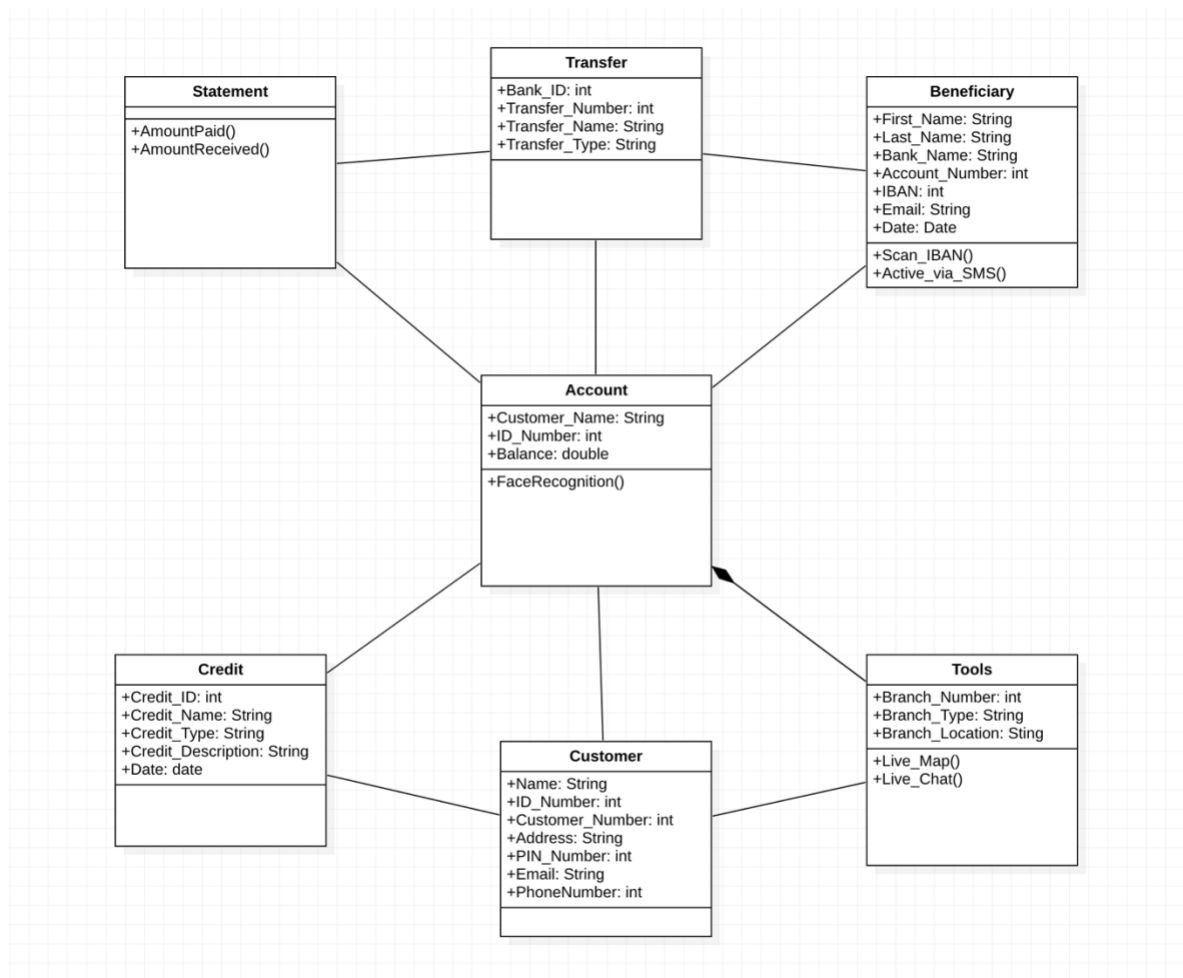
This page will show all accounts information like the amount of money in main account and services .

View Finance

This page will view all the finance that customer taken .

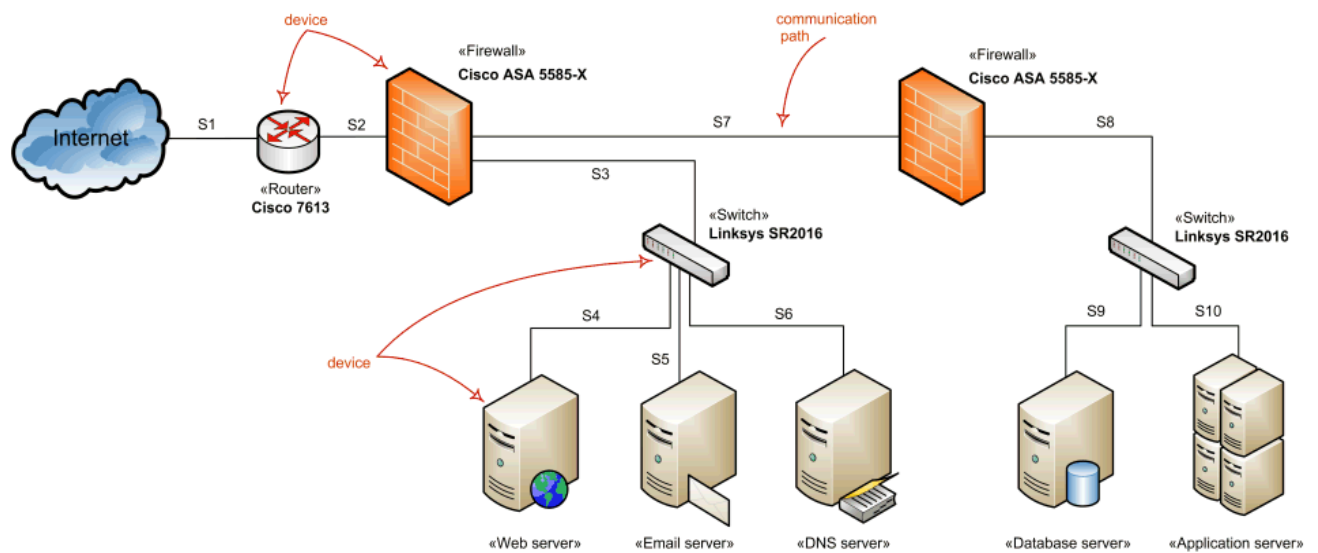


3.2 Detailed Class Diagram





3.3 Architectural Configuration Diagrams





Conclusion

In this project, we present the system development life cycle (SDLC) of Al-Ahli Mobile Bank with the most important basic processes in conclusion, and through our analysis of this system from scratch we discovered many distinctive features in it and the method of information and processes flow through it and we enjoyed the analysis, design, and scrutiny of the details of this system and concluded That if the additional features we mentioned at the beginning of the project are added, this will improve and facilitate the customer experience.



References

Internet Banking | Al-Ahli Bank, 20