University of Sadat City
Faculty of Computers and Artificial Intelligence (FCAI)
Course: System Analysis and Design-1 Lab Exam

Student Name أحمد محمد صلاح سرور عمر	
Team Name	Diakilogram
Project Title	ATM System

Activity:

- Write the following.
  1. System Request
  2. Functional and Non-Functional requirements
- Draw the following Diagrams.
  1. Functional Diagram (FD)
  2. Use Case Diagram
  3. DFD Context Diagram
  4. DFD Level-0 Diagram
  5. DFD Level-1 Diagram
  6. Entity Relationship Diagram (ERD)
  7. Mapping Diagram (Schema)
- **Tool used. (All Diagrams)**

  StarUML or EdrawMax

  Site online: https://erdplus.com/

Role No.	Role Name
1	System Request DFD Level-0 Diagram
2	Mapping Diagram (Schema)
3	Functional Diagram (FD) DFD Context Diagram
4	Functional and Non-Functional requirements DFD Level-1 Diagram
5	Entity Relationship Diagram (ERD)
6	Use Case Diagram

In case 5 student (role #2 and role #6)

No.	Student Name	Role
1	سيف الدين أيمن محمد محمد عنيو	1
2	أمنية محمود سعيد محمد	4
3	أحمد محمد صلاح سرور عمر	5
4	عمرو خالد أبو زيد	6-2
5	أحمد السيد خليل	3

Goal of project

The goal of the ATM system project is to allow users to conduct secure and convenient financial transactions without human interaction.
Users can initiate transactions in two ways, with or without physical cards by using mobile banking applications or other secure authentication methods. ATMs are also designed to interact seamlessly with mobile wallets allowing users to transact using their smartphones instead of physical cards.

Problem Definition

An ATM system is a tool that offers end customers assistance in managing their finances and saving money.
This system is to make money transactions simple and safe. Once you place your personal VISA card into the scanner and input your PIN, the system verifies the data you have provided. If it is accurate, you may access your account.
All the accessible transactions, including making deposits, withdrawals, and balance checks, will be possible for you to do.
To verify the card's authenticity, the system determines if the expiration date has passed, whether it has been lost or stolen.
With the addition of this technology, non-card services in ATMs may be implemented completely and securely.

Project Management (How to distribute roles and manage the team, contain project timeline and milestone)

In this project, we used the "**Waterfall**" methodology:

- First Phase: Preparing a suitable plan to complete the project efficiently.
- Second Phase: Analyzing the project to determine the best approach and requirements.
- Third Phase: Starting the designing process and the beginning of shaping the system.
- Fourth Phase: After finishing the design phase, it's time the project saw light.
  This is the final phase, which means the project is now ready to be implemented and used.

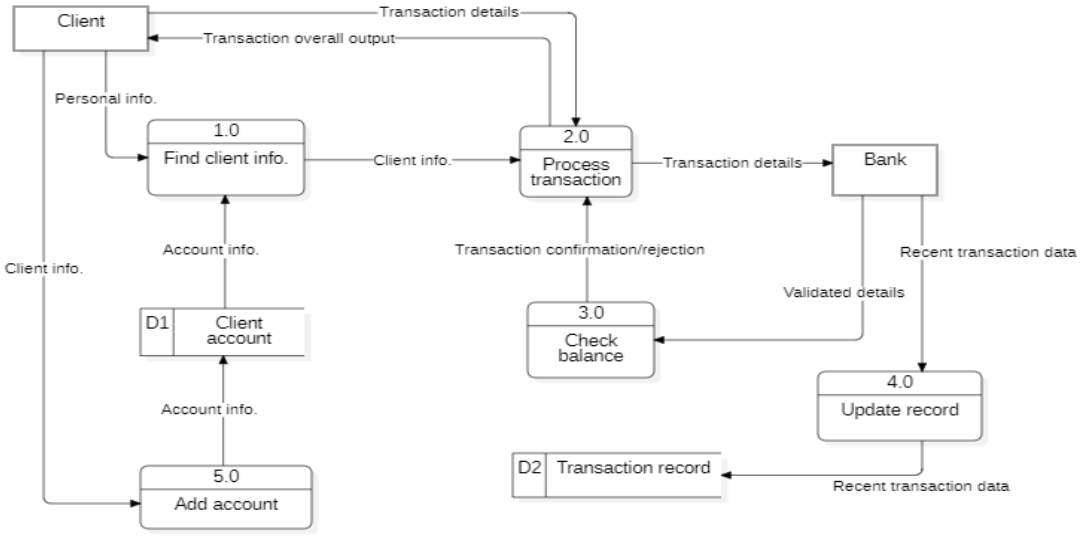
Every member's field of expertise was considered while assigning the roles for this project to ensure fair distribution.

Role #1

1- System Request:

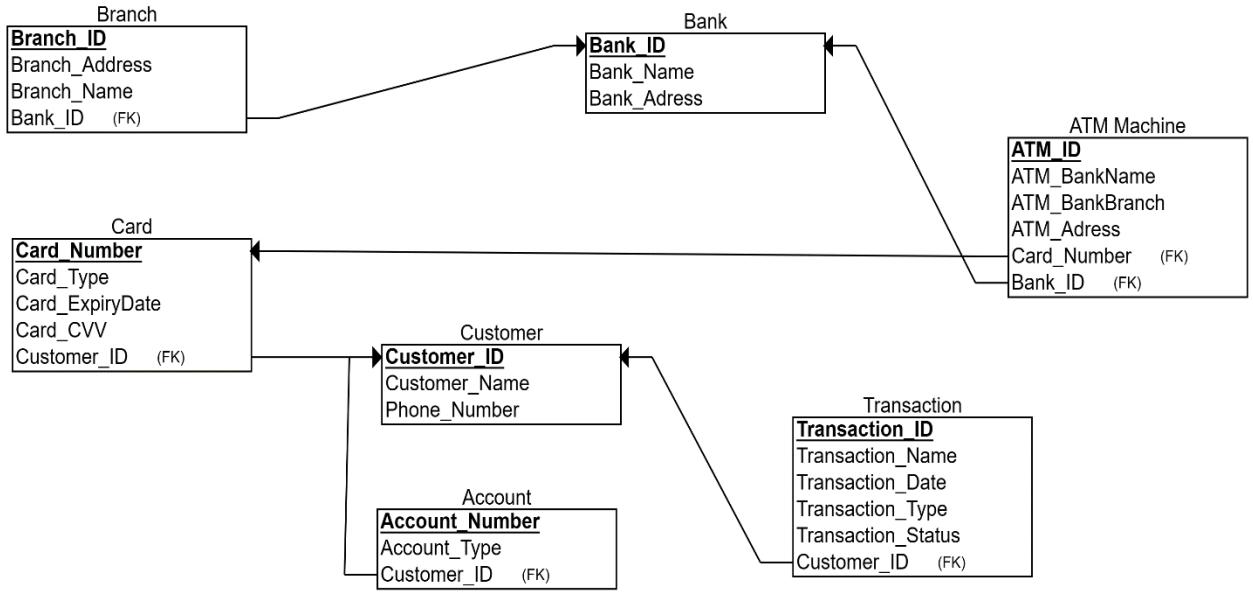
System Request		
Project Name:	ATM System	
Project Sponsor:	NAME	Banque du Caire and Mastercard
	Dept.	Management, Finance
	Phone	+20222646401 / +20222648401
	E-mail	abdelhamid.mortagy@bdc.com.eg
Business Need:	To improve performance, Increase banking transactions with the sponsor. Ensure a convenient and seamless experience for clients. Adding the use of modern technology in online transfers and online payments.	
Business Requirement:	Non-functional requirements	-Security -Reliability -Interoperability -Performance -Usability.
	functional requirements	-PIN Management -Transaction Authorization -Billing and Payment Processing -Card Issuance -Visa Approval/Denial -Payment Processing -Visa Application Form
Business Value:	Increase the number of customers by 25% annually, speed up withdrawal and deposit transactions, improve customer satisfaction, and be more secure	
Special issues or constraints	The system must be in place within the next 2 months. The system should be executed within a specified budget	

2- DFD Level 0:



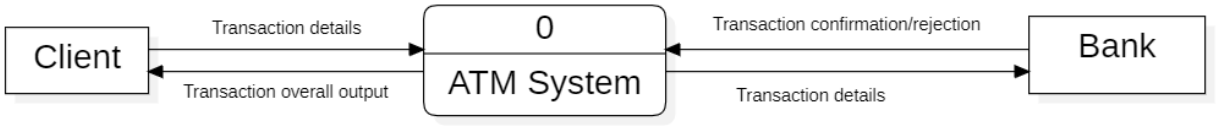
Role #2

Schema:

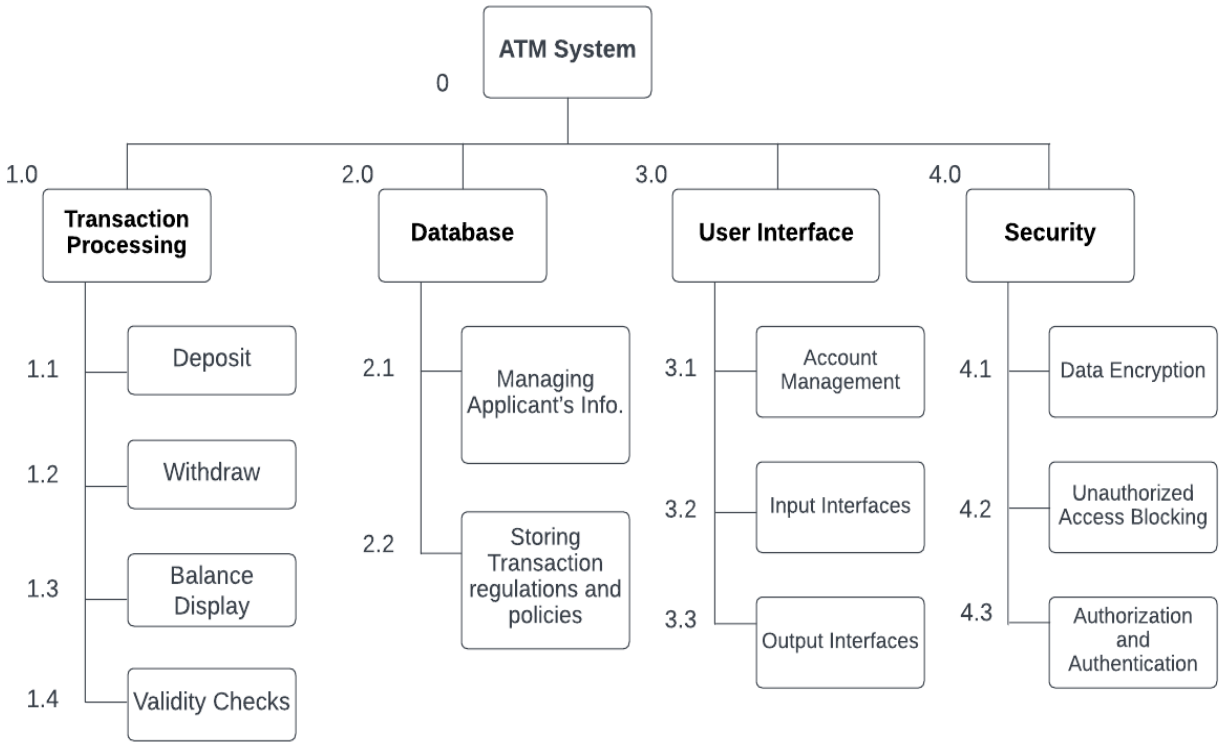


Role #3

1- Context Diagram:



2- Functional Diagram:



Role #4

1- Functional and Non-Functional Requirements.

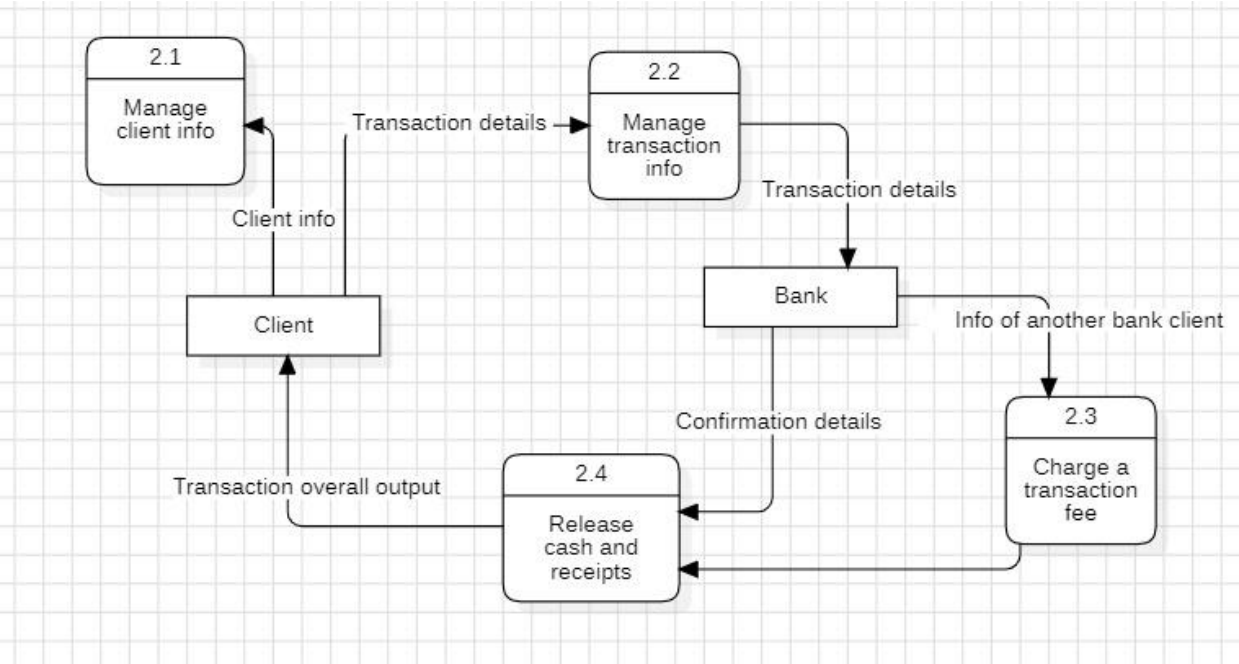
Functional Requirements:

-PIN Management -Transaction Authorization -Billing and Payment Processing
-Card Issuance -Visa Approval/Denial -Payment Processing -Visa Application Form

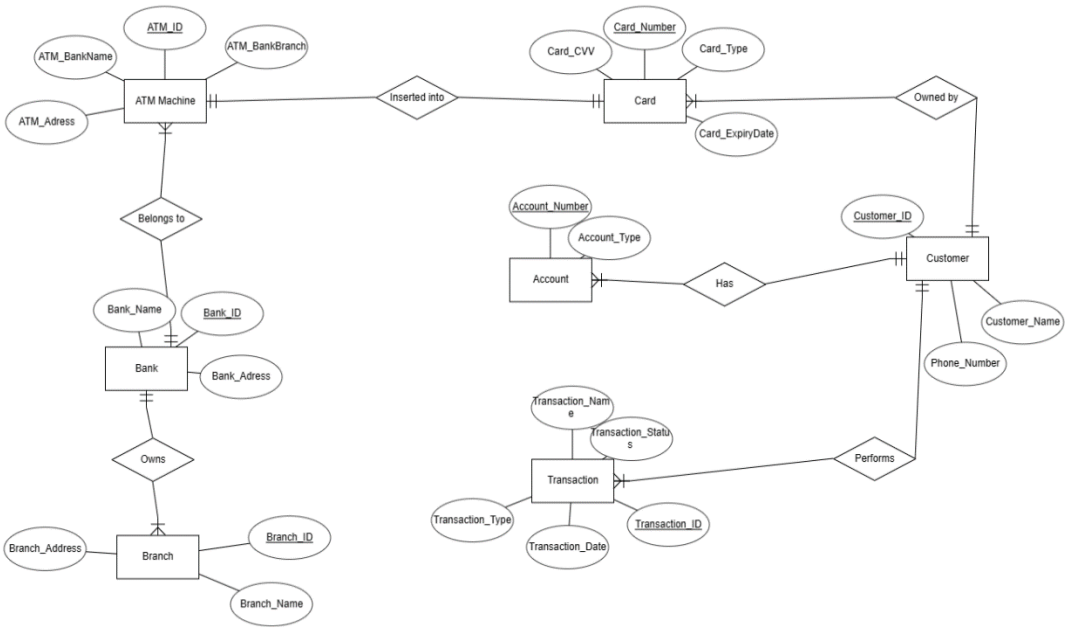
Non-Functional Requirements:

-Security -Reliability -Interoperability -Performance -Usability.

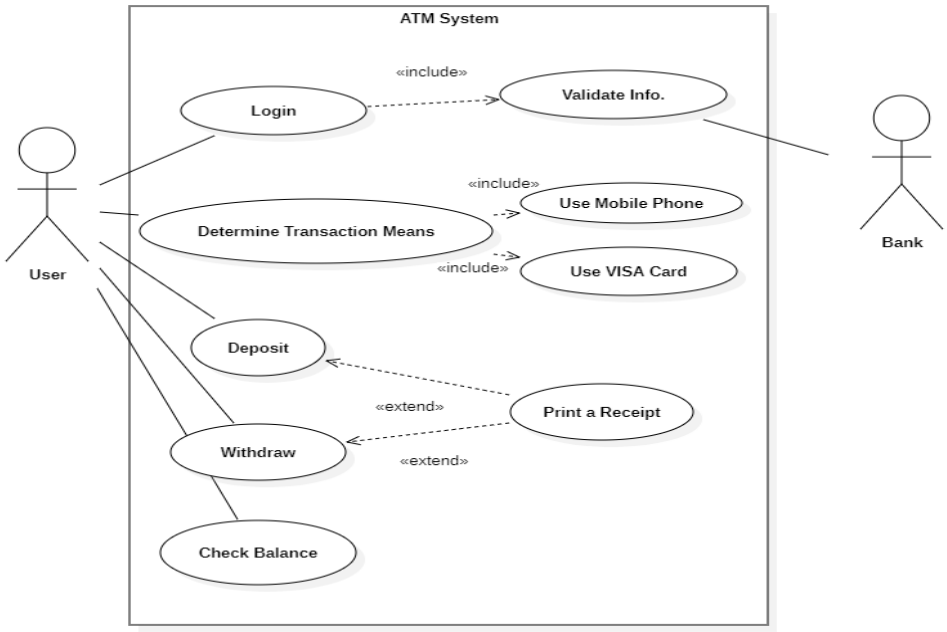
2- DFD Level-1:



Role #5


ATM_ID
ATM_BankName
ATM_BankBranch
ATM Machine
ATM_Adress
Inserted into
Card_Number
Card_CVV
Card_Type
Card
Card_ExpiryDate
Owned by
Belongs to
Account_Number
Account_Type
Account
Has
Customer_ID
Customer
Customer_Name
Phone_Number
Bank_Name
Bank_ID
Bank
Bank_Adress
Owns
Transaction_Name
Transaction_Status
Transaction
Performs
Transaction_Type
Transaction_Date
Transaction_ID
Branch_Address
Branch
Branch_ID
Branch_Name

Role #6


ATM System
«include»
Login
Validate Info.
«include»
Use Mobile Phone
Determine Transaction Means
«include»
Use VISA Card
Deposit
«extend»
Print a Receipt
Withdraw
«extend»
Check Balance
User
Bank

Future Direction (How to enhance our model in the future)

There are different ways in which we can improve our model, such as:

1- Adding the ability to pay bills through the ATM machine directly.
2- Enhancing security measures.
3- Increase integration with mobile devices.
4- Improving the user interface to make it more visually pleasing and easy to use, which means more loyal customers due to the sense of advancement.
5- Raise the limit for deposit and withdrawal transactions to allow more money to be conducted.

Conclusion

An ATM system is a tool that offers end customers assistance in managing their finances and saving money.

In this showcase we viewed the overall functionality, all the features this system has to offer, ideas on how to enhance the system and make it adaptive with modern technology, and how every member contributed to complete the project.

This project was brought to you after dedicated time, effort, and passion from everyone in the team to help make this project come to life, we hope for the best experience for our dear clients.