Title of the Project: Bank Account Management System

Group Number: 11

Group Members:

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Introduction

- We have designed a system where a customer can enjoy different banking experiences through online safely and more comfortably.

Motivation

- Vice president of BRAC Bank, Mr. Mehmod was planning to shift his banking system to online so that he can offer easy and quick banking experience to his customers. Based on this we have planned an online bank account management system that will complete his plan.

System Description

Project Sponsor	Mr. Mohtasin Mehmod, Vice President, BRAC Bank
Business Need	1. Introduce online banking along with offline banking. 2. Decrease the cost and dependency on offline banking. 3. Reaching more customers. 4. Ensure more safety to the customers. 5. Better Banking experience and services. 6. Provide 24/7 services.
Business Requirement	1. User should be able to log in/register 2. User should be required to provide identification. 3. User should be able to credit amount, debit amount and check balance online. 5. User should be able to use different services. 6. System should be able to provide online customer service. 7. System should be able to give emergency service. 8. User should receive some special offers on online transaction. .
Business Values	1. Increase of new accounts 2 lakhs. 2. increase the ROE (Return on Equity) from 14.6% to 16.3% & ROA (Return of Assets) from 1.35% to 1.65%. 3. Increase NIM (Net Interest Margin) value by 5%. 4. Increase of earning 50 lakhs. 5. Decrease the cost of offline bank maintenance.
Special constraints	1. Strong marketing so that more people can know about this new system as well as make users aware of their account privacy. 2. Bangladesh Bank has issued BRAC Bank's Internet Banking a license for an interim period for 1 year. 3. Should maintain the standards to check the source of money and must keep the details of each transaction.

Requirement analysis

1. Functional Requirement:

1.1. The system will allow users to log in with their email and password.

1.2. The system will ask user to add NID number, Source of income, Nominee and introduction of a account holder along with photo for verification.

1.3. The system will allow user to credit amount, debit amount and check balance.

1.4. The system will allow users to use different services like insurance, loan, and bill payments.

1.5. The system will provide hotline services to the customer.

1.6. The system will show the nearest branch from the user for any emergency need.

1.7. The system will provide discounts on online payment.

2. Non-Functional Requirement:

2.1. Operational:

2.1.1. The system will run on smartphones (Android & IOS), tablet and PC.

2.2. Performance:

2.2.1. The system will allow 5lakh users to access at a time

2.2.2. The system will log out the user for 5 minutes of inactivity.

2.2.3. The system will allow users to log in within 2 seconds.

2.3. Security:

2.3.1. Different account for each user and admin account for the managers

2.3.2. The system will block account temporarily for attempting with wrong password for 3 times.

2.3.3. For each transaction the system will ask the user to enter password for verification.

2.3.4. One user can't access another user's account.

2.4. Cultural and Political:

2.4.1. Personal information's will be protected.

2.4.2. Server security will be highly maintained.

**2.4.3.** Should follow the terms and policies of Bangladesh Bank.

Design diagram

➢ **Use Case Diagram:** In our diagram, customer and bank system are the primary actors. Initially, the customer have to register for an account where the system will verify user NID and source and income. After that the customer will get the log in ID and pin. Using this account the customer can check his balance and apply for loan, insurance and bill pay where a customer can get some discounts. The bank system will verify the requests and approve them otherwise reject the request. Customer care will help the customers for any help.
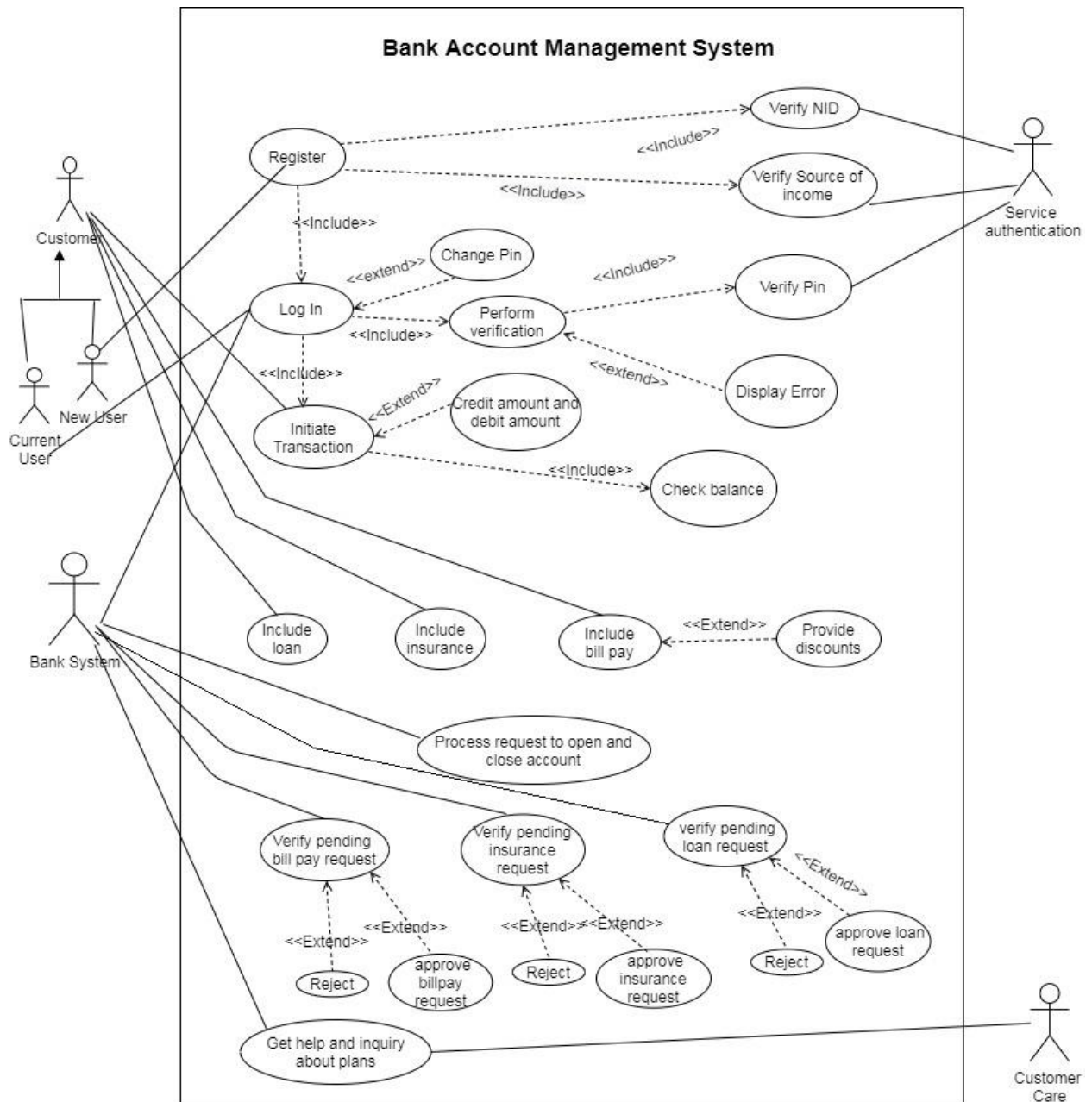
➢ **Class Diagram:** The following graph describe the Name, attributes, methods, visibility, multiplicity and relations among the classes to build the system. Here register and login class have composition relationship that means if the user don't register for an account, they will not be able to login However, new user and current user inherited from account class. A customer can register an account and they have multiplicity of 1..1, state that one customer can only have one account. Moreover, current user can login using id and pin. After that customers can take all the system advantages. Bank system will approve all the pending requests. Customer care will provide help to customers.
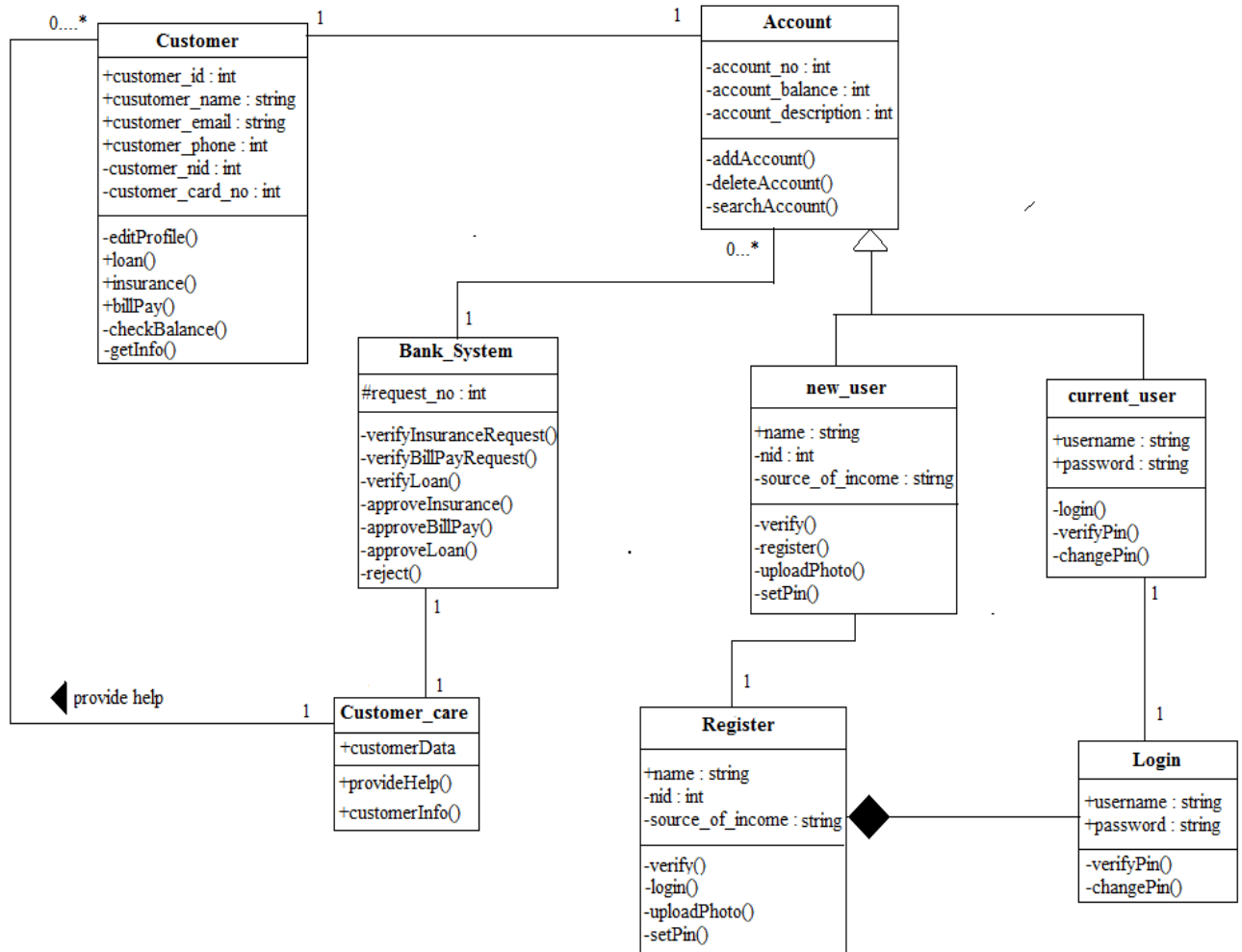
➢ **Sequence Diagram:**

Sequence Diagram.

This diagram show how a customer can pay bill using this system. Initially the user will request to pay bill and the system will ask for pin, If pin is incorrect, system will return incorrect pin and add this history to the database to keep the history of account, otherwise user will ask for the amount user want to pay. Then the system will verify if the user have sufficient balance or not. Insufficient balance will return insufficient balance error and add this history to the database, otherwise system will proceed the bill pay and add this transaction history to database.
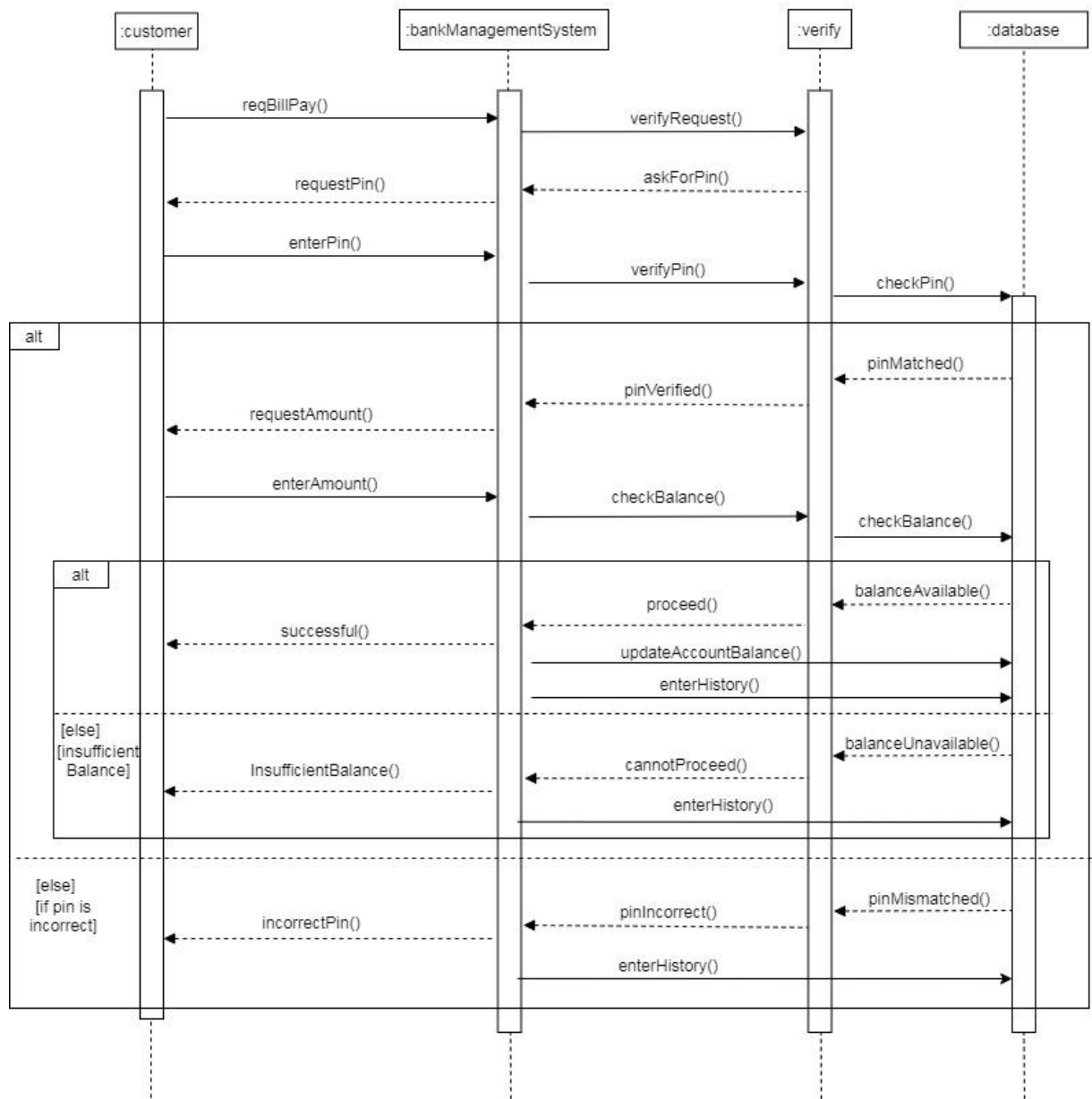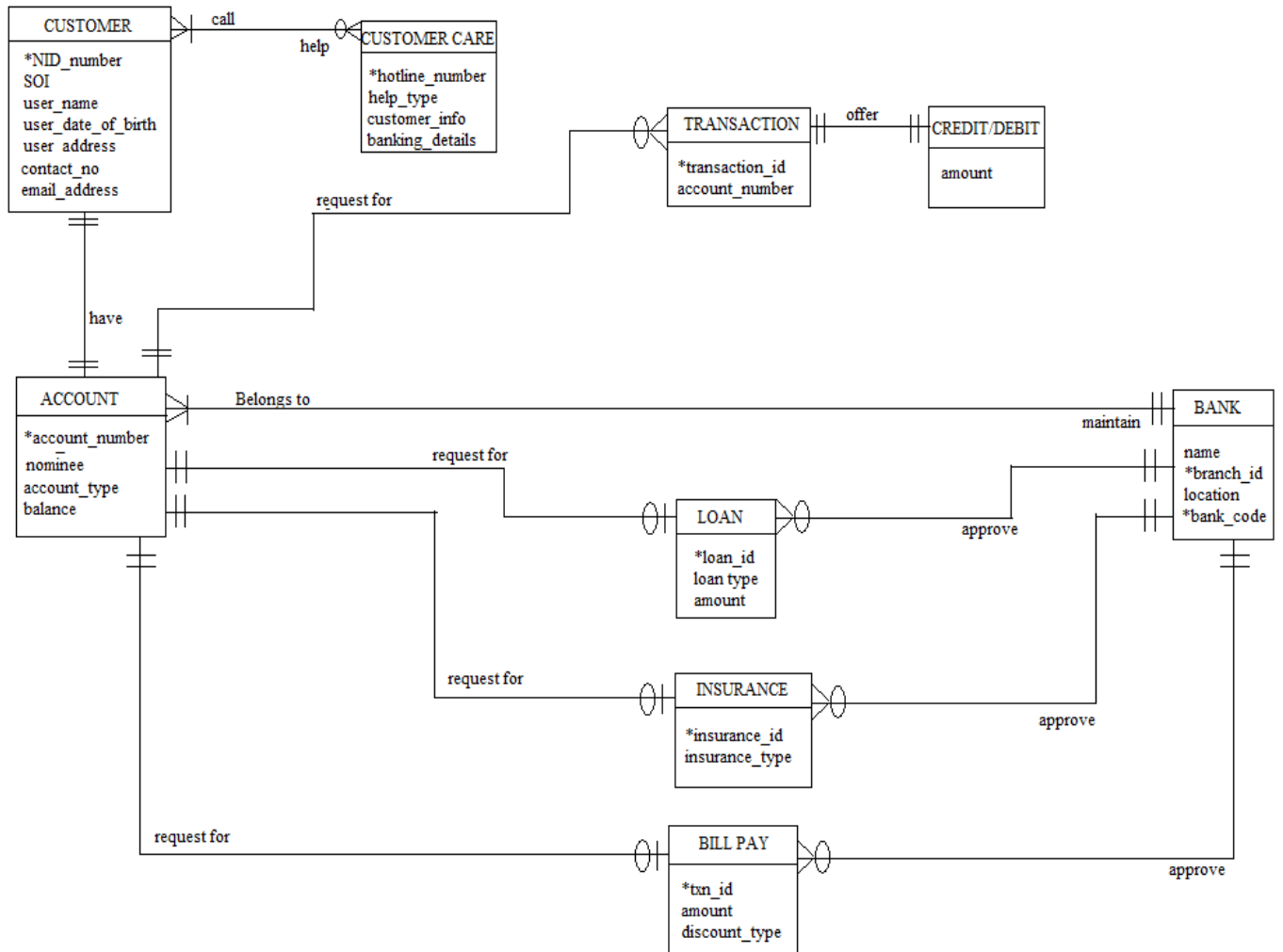
➢ **Activity Diagram:** The following diagram show how a customer can request for loan. The initial node started from customer where the customer will register into the system and Bank system will verify NID and source of income using a fork node. If not approved then the customer can apply again, otherwise user can log in using ID and pin. Secondly, the customer will request for loan and if the bank system approve the loan, the customer will receive the loan, otherwise the customer can apply for loan again also can take help from the customer care to get the information about the loan. Finally the final node will terminate the activities.
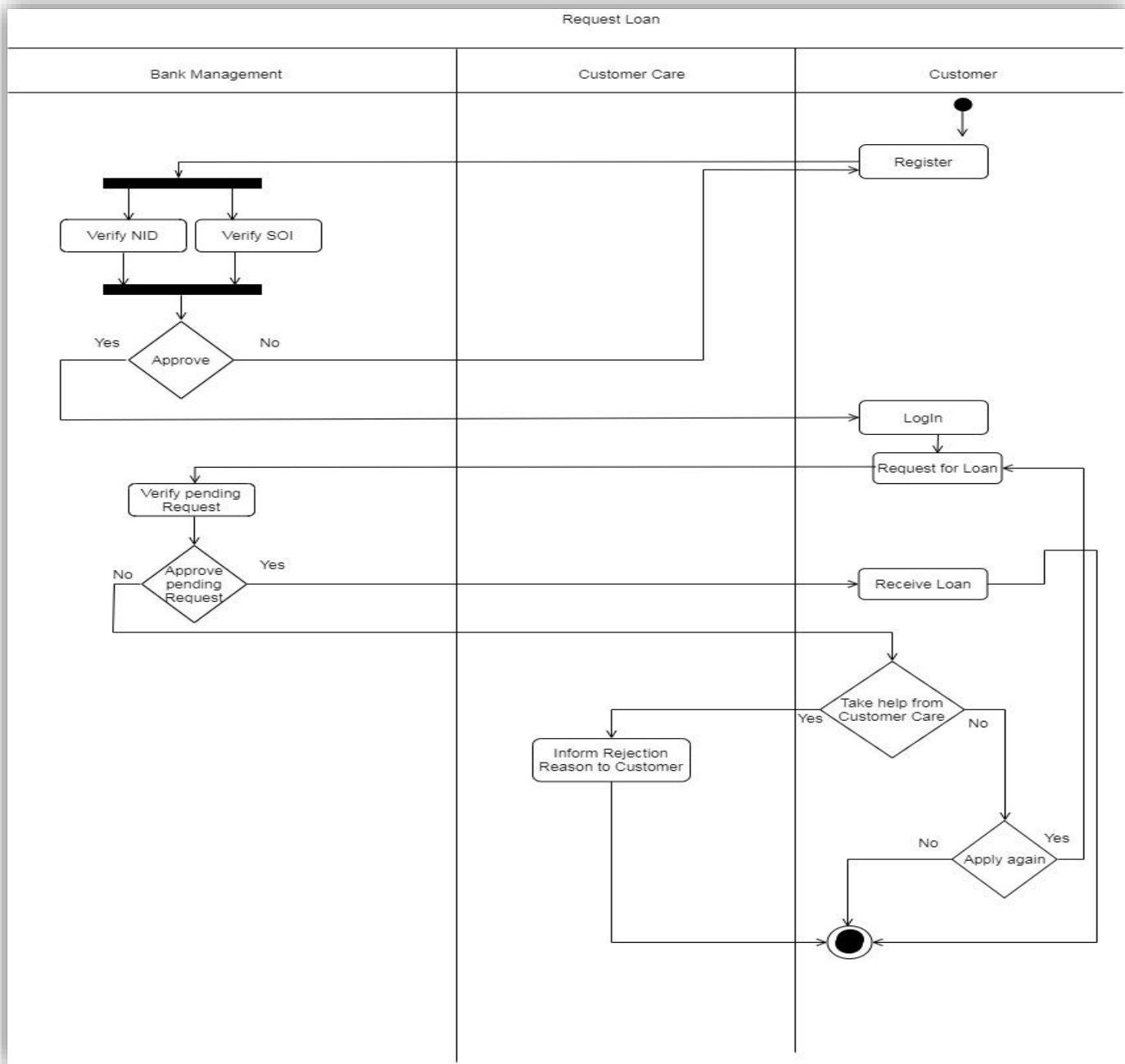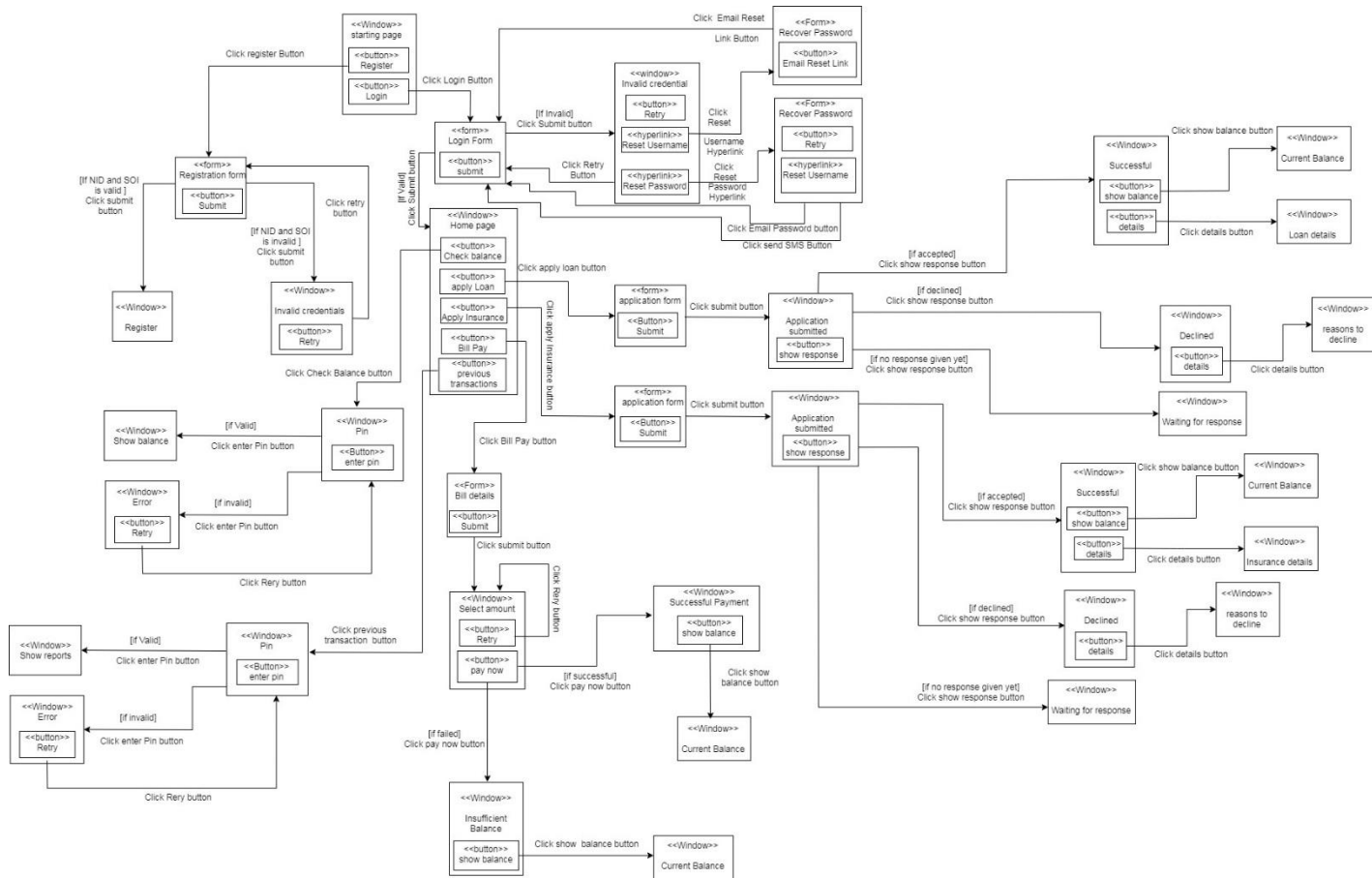
➢ **Entity Relation Diagram:** The following diagram show us the entities and attributes of the entities as well as cardinality and modality among the entities.

➢ **Window Navigation Diagram:** The following diagram shows the pattern of the pages of our system.

Conclusion:

In conclusion, our goal is to serve nation through excellent banking experience. Our system will decrease the dependency from cash money. The customer can use our system in any moment inside Bangladesh. However, one of the major drawback of our system is lack of safety awareness. But we strongly believe that proper advertisement will create the awareness among the people.