

# **PROJECT REPORT**

*Submitted by*

**K B KRISHNA PRAVIN [RA2211026010364]**

**KEERTHIVASAN R [RA2211026010424]**

*Under the Guidance of*

**Dr. V. V. RAMALINGAM**

**Associate Professor**

**Department of Computing Technologies**

*In partial satisfaction of the requirements for the degree of*

## **BACHELOR OF TECHNOLOGY in COMPUTER SCIENCE ENGINEERING**



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KATTANKULATHUR-603203**

**BONAFIDE CERTIFICATE**

Certified that this Project Report titled **“BANK MANAGEMENT SYSTEM”** is the bonafide work done by **K B KRISHNA PRAVIN [RA2211026010364] AND KEERTHIVASAN R [RA2211026010424]** who completed the project under my supervision. Certified further, that to the best of my knowledge, the work reported herein does not form part of any other work.



**SIGNATURE**

Dr. V.V.Ramalingam

**OODP – Course Faculty**

**Associate Professor,**

Department of C Tech

SRMIST



**SIGNATURE**

Dr. M. Pushpalatha

**Head of the Department**

Department of C Tech,

SRMIST



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## **Problem statement:**

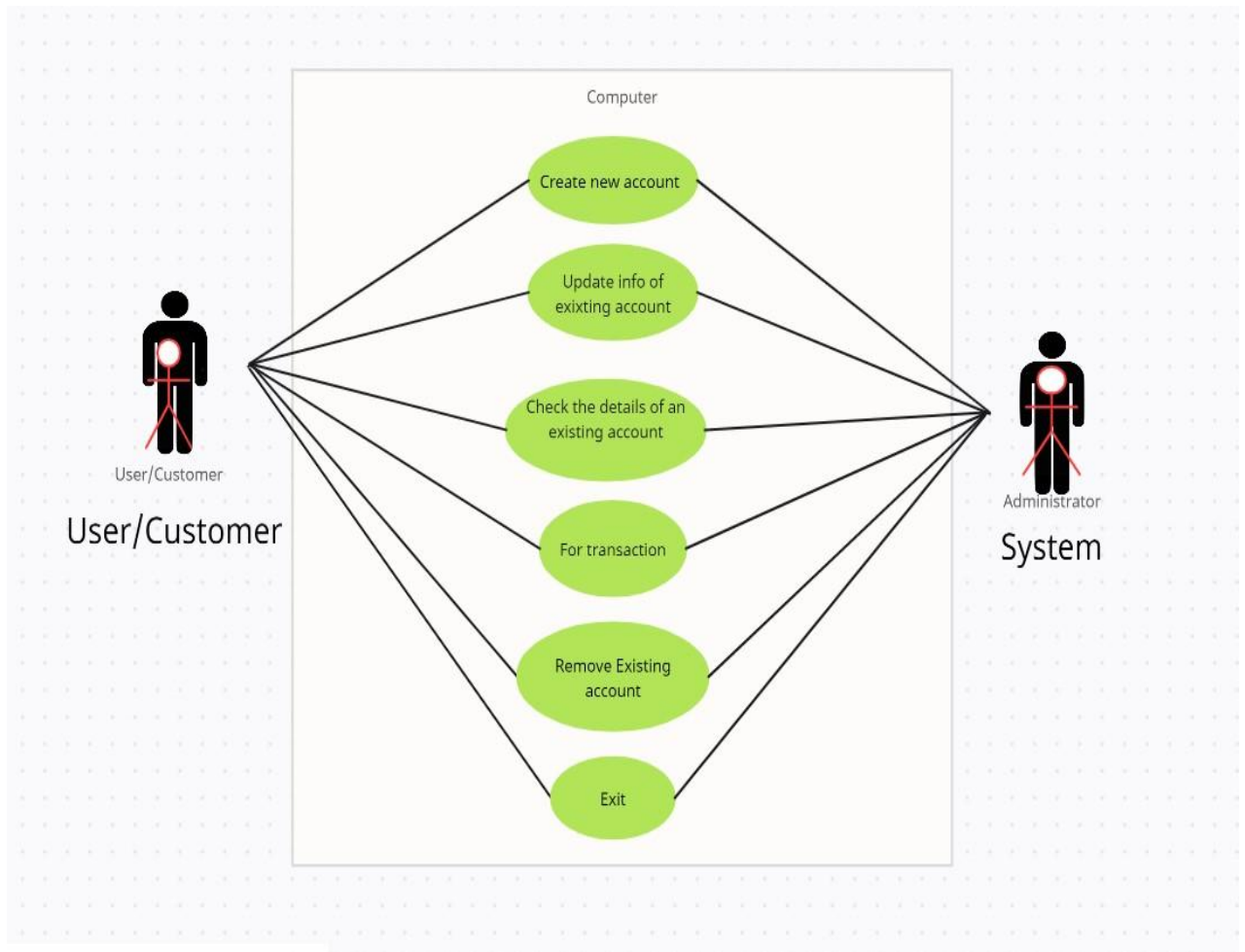
**To Develop a console-based Bank Management System program that allows users to create, update, remove, and view customer accounts. The program should be able to store and retrieve customer information, including name, last name, phone number, email, username, password, and transaction details. Users should be able to create multiple accounts at once and should also be able to update and view the details of an existing account by entering the correct username. Additionally, the program should allow users to remove an existing account and view a list of all customer accounts. The program should provide a user-friendly interface and use appropriate functions to achieve the desired functionality.**

## **Modules of the Project:**

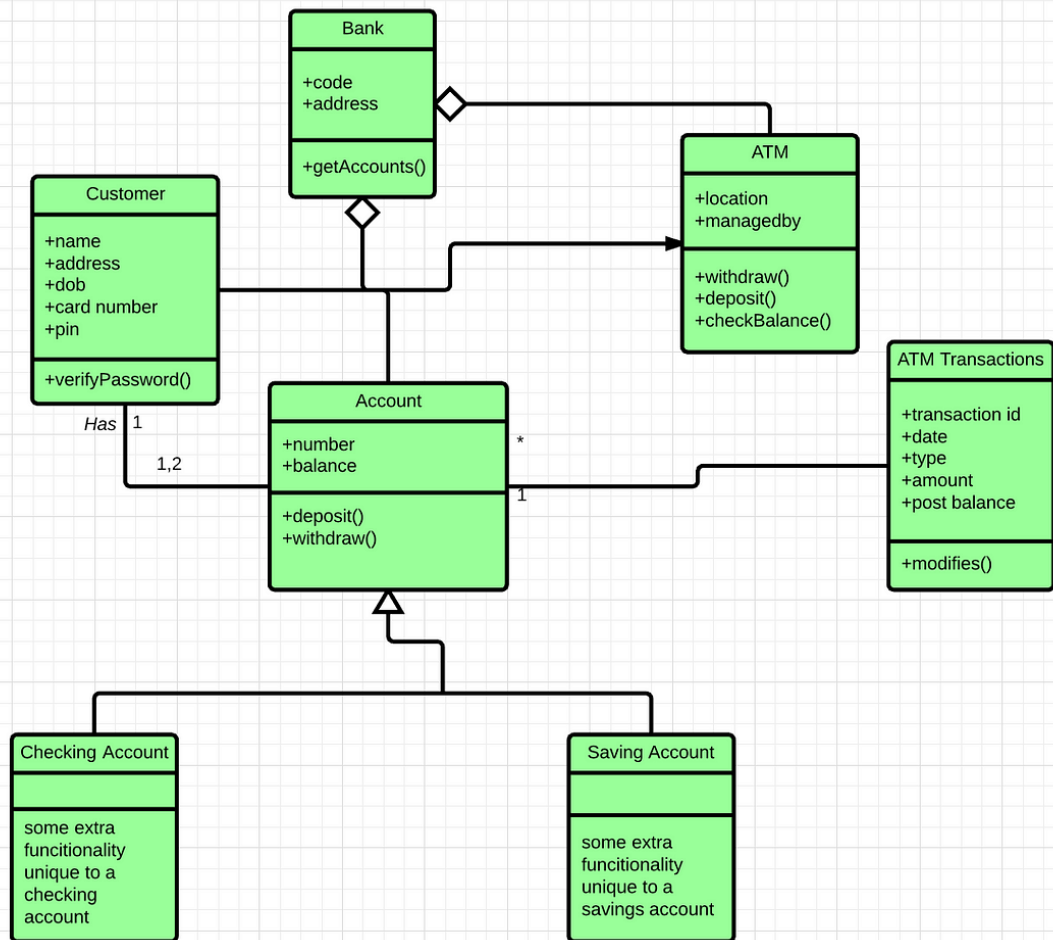
- 1. Creating the bank account for the customer**
- 2. Deposit amount for the customer**
- 3. Withdraw the amount for the customer**
- 4. Balance Enquiry by the customer**
- 5. Show the account holder's full detail**
- 6. Closing or terminating a bank account**
- 7. Updating the bank account**

## UML Diagrams:

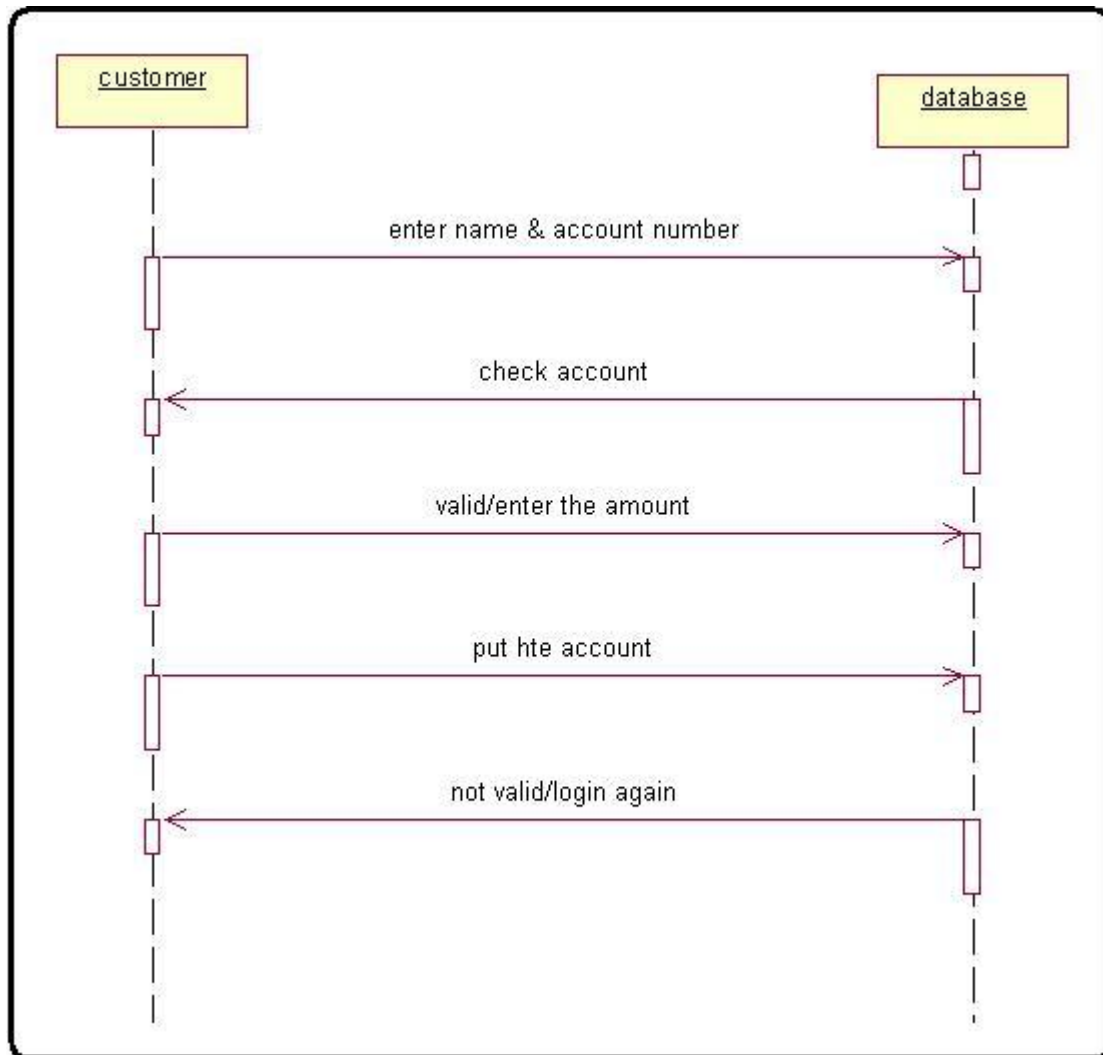
### a) Use Case Diagram



### b) Class Diagram:

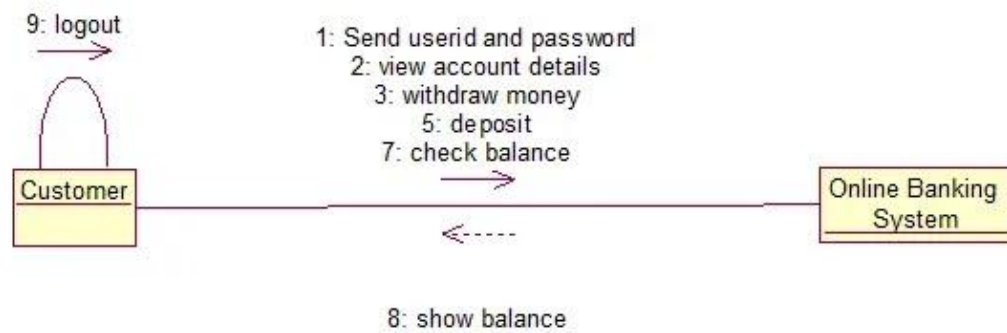


### c) Sequence Diagram:

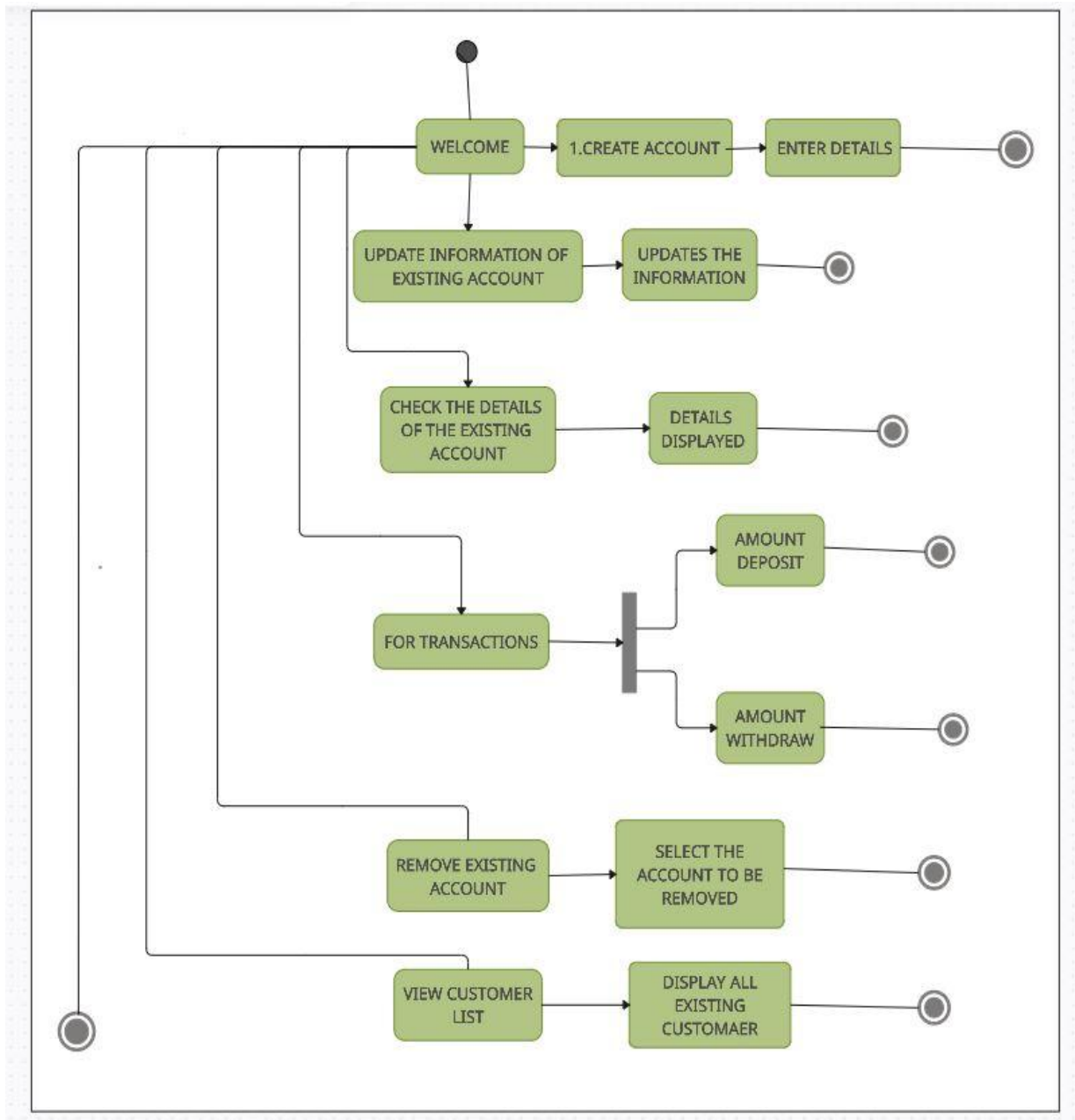




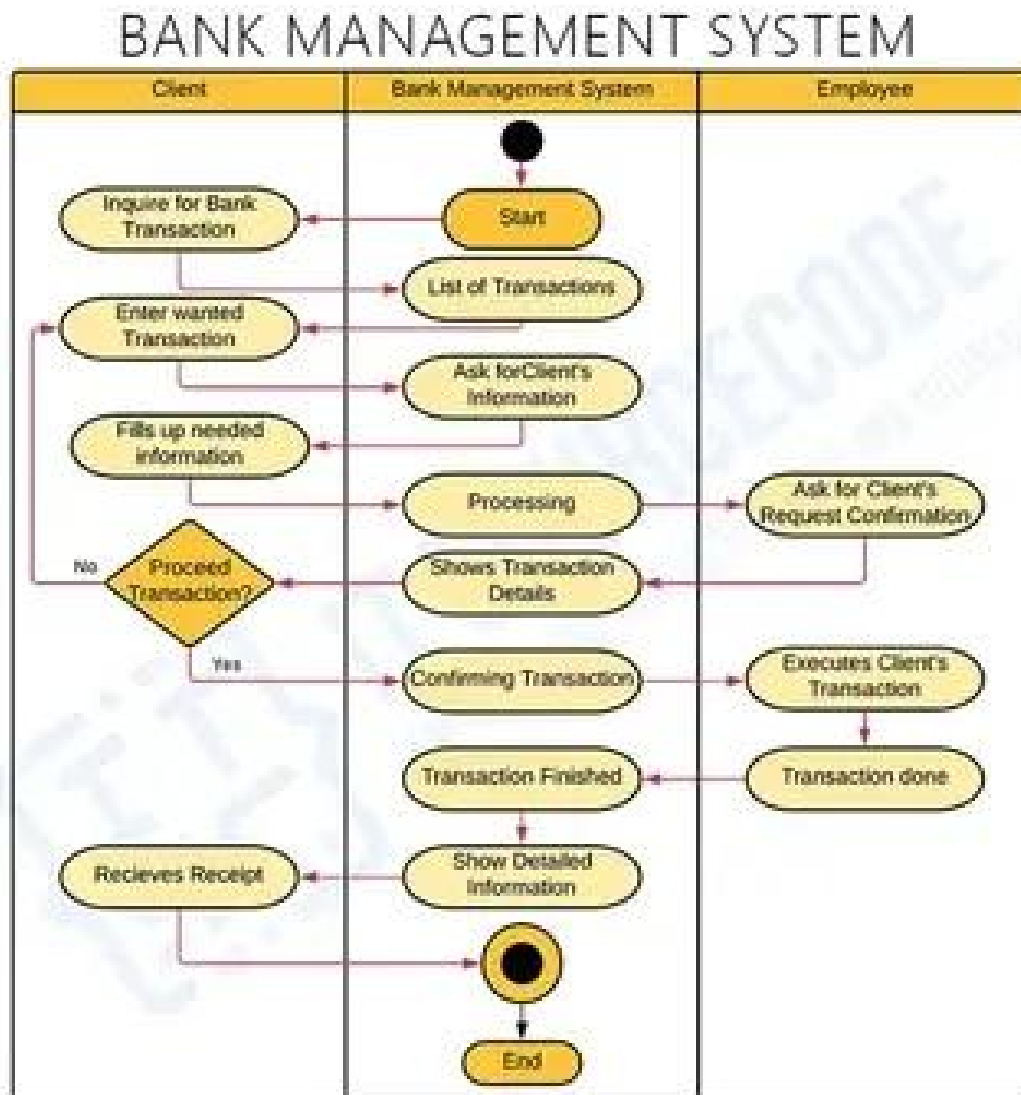
#### d) Collaboration Diagram:



## e) State Chart Diagram

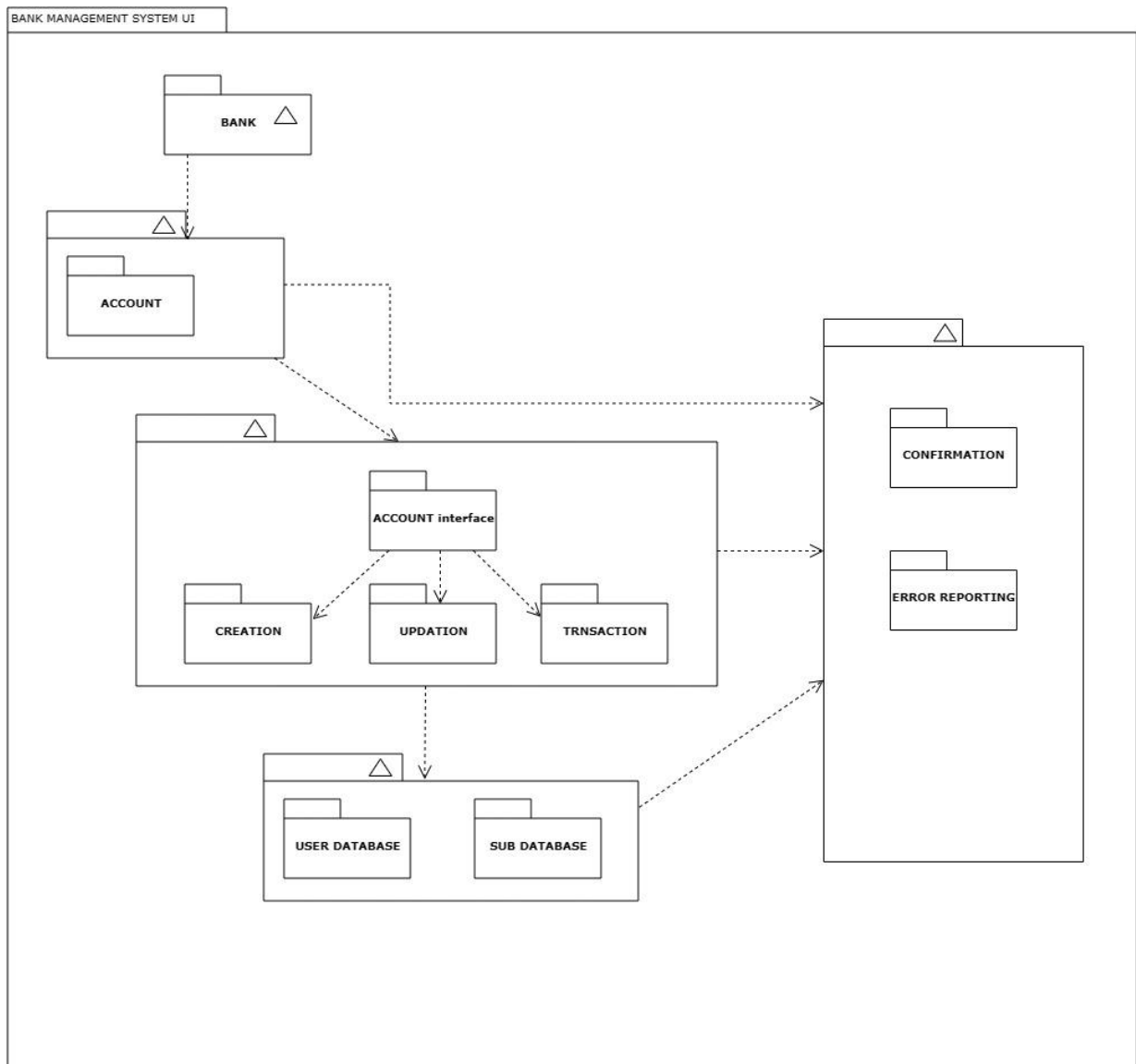


f) Activity Diagram:

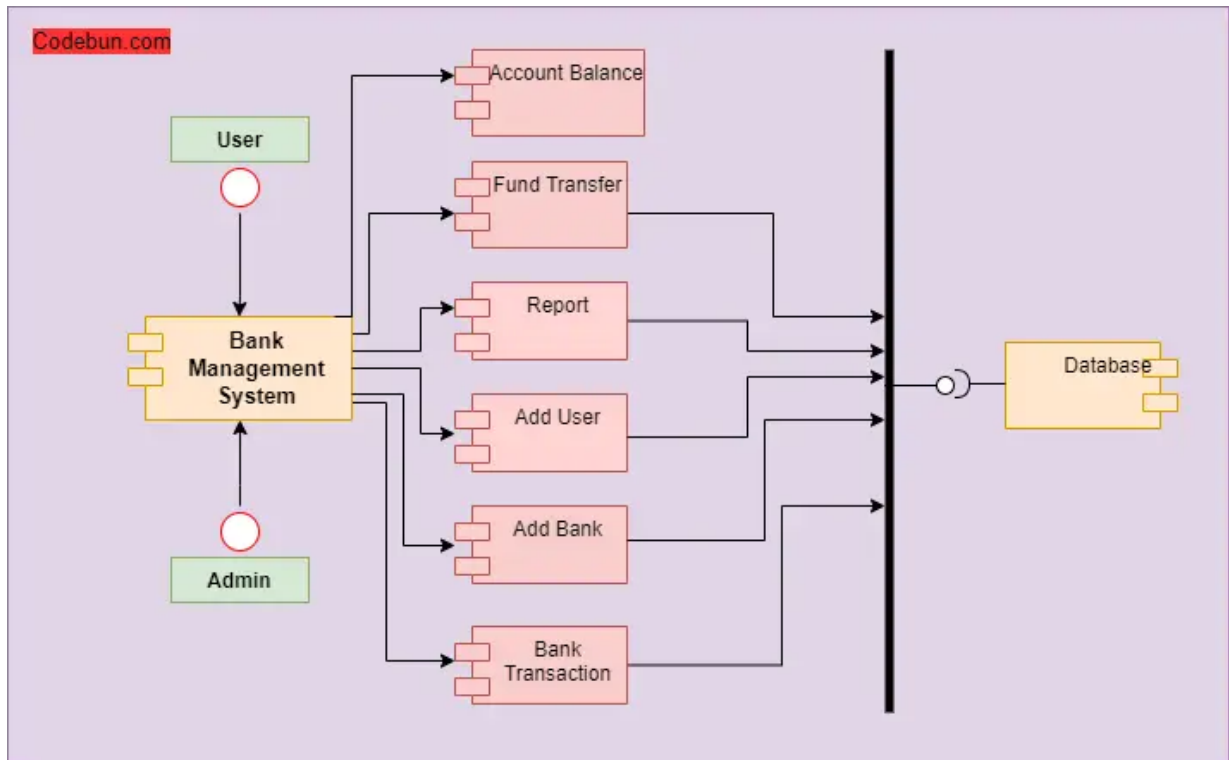


ACTIVITY DIAGRAM

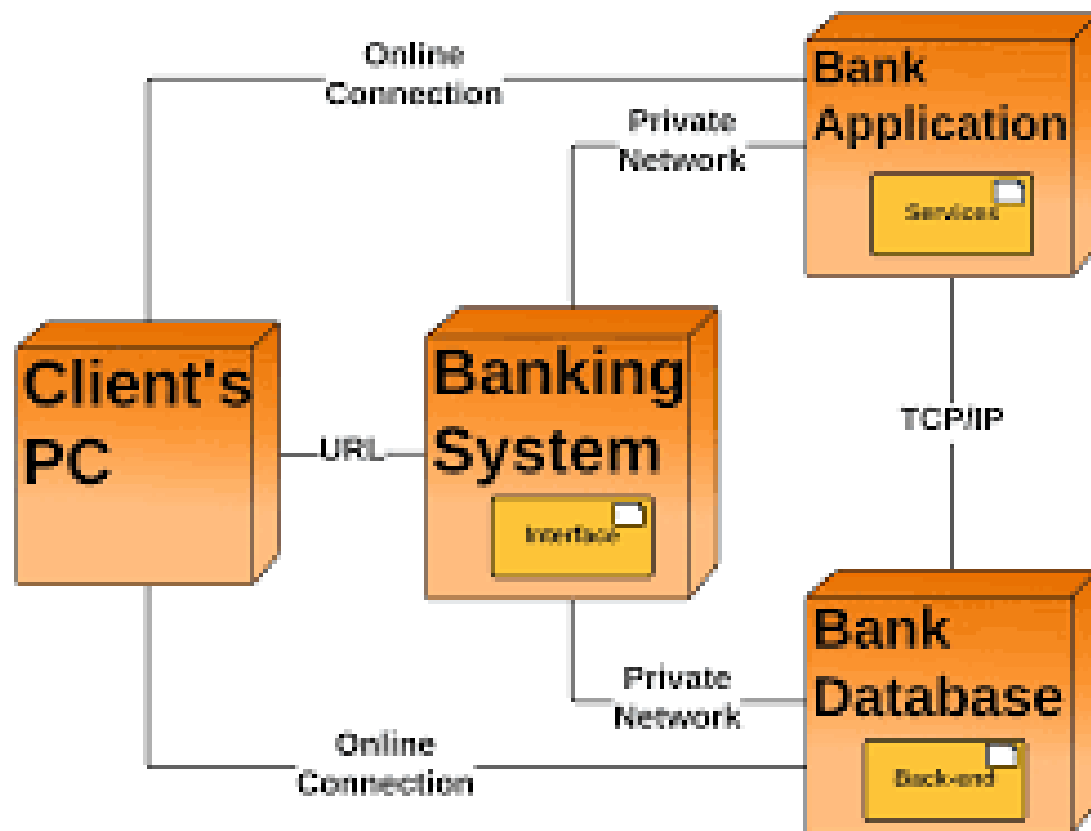
## g) Package Diagram:



## h) Component Diagram:



**i) Deployment Diagram:**



## Code Screenshots:

```
#include<iostream>
#include<stdlib.h>
#include<windows.h>
using namespace std;
void showdata()
{
    char arrshow[]={ 'B', 'A', 'N', 'K', ' ', 'M', 'A', 'N', 'A', 'G', 'E', 'M', 'E', 'N', 'T', ' ', 'S', 'Y', 'S', 'T', 'E', 'M' };
    cout<<"\n\n\n\n\n\n\t\t\t";
    for(int i=0;i<25;i++)
    {
        cout<<arrshow[i];
        Sleep(500);
    }
    system("CLS");
}
void choice()
{
    cout<<endl;
    cout<<"PRESS...!!"<<endl;
    cout<<"1. Create new account"<<endl;
    cout<<"2. Update information of existing account"<<endl;
    cout<<"3. Check the details of an existing account"<<endl;
    cout<<"4. For transactions"<<endl;
    cout<<"5. Remove existing account"<<endl;
    cout<<"6. View customers list"<<endl;
    cout<<"7. Exit"<<endl;
}

class bank{
    private:
        string arr[20];
        string arr1[20];
        string arr2[20];
        string arr3[20];
        string arr4[20];
        string arr5[20];
        int arr6[20];
        int a;
    public:
```

```

bank()
{
    a=0;
}
void data(int x)
{

    if(x==1)
    {
        int b=0;
        cout<<"How many accounts do you wanted to create"<<endl;
        cin>>b;

        if(a==0)
        {
            a=a+b;
            for(int i=0;i<b;i++)
            {
                cout<<"\n\t----Enter Data----"<<endl<<endl;
                cout<<"Enter name of person: ";
                cin>>arr[i];
                cout<<"Enter last name of person: ";
                cin>>arr1[i];
                cout<<"Enter phone number: ";
                cin>>arr2[i];
                cout<<"Enter email: ";
                cin>>arr3[i];
                cout<<"Enter username: ";
                cin>>arr4[i];
                cout<<"Enter password: ";
                cin>>arr5[i];
                cout<<"Transaction: ";
                cin>>arr6[i];
            }
            cout<<"Creating new account please wait";
            for(int i=0;i<5;i++)
            {
                cout<<".";
                Sleep(500);
            }

            Sleep(3000);
            system("CLS");
            cout<<"New Accounts is Created..!!"<<endl;
        }
    }
}

```



```

else{
    for(int i=a;i<a+b;i++)
    {
        cout<<"\n\t----Enter Data----"<<endl<<endl;
        cout<<"Enter name of person: ";
        cin>>arr[i];
        cout<<"Enter last name of person: ";
        cin>>arr1[i];
        cout<<"Enter phone number: ";
        cin>>arr2[i];
        cout<<"Enter email: ";
        cin>>arr3[i];
        cout<<"Enter username: ";
        cin>>arr4[i];
        cout<<"Enter password: ";
        cin>>arr5[i];
        cout<<"Transaction: ";
        cin>>arr6[i];
    }
    cout<<"Creating new account please wait";
    for(int i=0;i<5;i++)
    {
        cout<<".";
        Sleep(500);
    }

    Sleep(3000);
    system("CLS");
    cout<<"New Accounts is Created..!!"<<endl;
    a=a+b;
}

}

else if(x==2)
{
    if(a==0)
    {
        cout<<"No data is entered"<<endl;
    }
    else{
        string username;
        cout<<"Enter username which you want to update"<<endl;
        cin>>username;
        for(int i=0;i<a;i++)

```

```

{
    if(username==arr4[i])
    {
        cout<<"\t\n---Old Data---"<<endl<<endl;
        cout<<"Name: "<<arr[i]<<endl;
        cout<<"Last name: "<<arr1[i]<<endl;
        cout<<"Phone: "<<arr2[i]<<endl;
        cout<<"Email: "<<arr3[i]<<endl;
        cout<<"Username: "<<arr4[i]<<endl;
        cout<<"Password: "<<arr5[i]<<endl;
        cout<<"Transaction: "<<arr6[i]<<endl;
        cout<<endl;
        cout<<"Enter new name: ";
        cin>>arr[i];
        cout<<"Enter last name: ";
        cin>>arr1[i];
        cout<<"Enter phone number: ";
        cin>>arr2[i];
        cout<<"Enter email: ";
        cin>>arr3[i];
        cout<<"Enter username: ";
        cin>>arr4[i];
        cout<<"Enter password: ";
        cin>>arr5[i];
        cout<<"Transaction: ";
        cin>>arr6[i];

    }
}
}
}
else if(x==3)
{
    if(a==0)
    {
        cout<<"No data is entered"<<endl;
    }
    else{
        string username;
        cout<<"Enter username"<<endl;
        cin>>username;
        for(int i=0;i<a;i++)
        {
            if(username==arr4[i])
            {

```

```

        cout<<"\n\t----Data----"<<endl<<endl;
        cout<<"Name: "<<arr[i]<<endl;
        cout<<"Last name: "<<arr1[i]<<endl;
        cout<<"Phone: "<<arr2[i]<<endl;
        cout<<"Email: "<<arr3[i]<<endl;
        cout<<"Username: "<<arr4[i]<<endl;
        cout<<"Password: "<<arr5[i]<<endl;
        cout<<"Transaction: "<<arr6[i]<<endl;
    }
    else
    {
        cout<<"Invalid Input";
    }
}
}
}
else if(x==4)
{
    if(a==0)
    {
        cout<<"No data is entered"<<endl;
    }
    else{
        string username;
        cout<<"Enter username of account in which you want to
transaction"<<endl;
        cin>>username;
        for(int i=0;i<a;i++)
        {
            if(username==arr4[i])
            {
                cout<<"\t\n----Data----"<<endl<<endl;
                cout<<"Name: "<<arr[i]<<endl;
                cout<<"Last name: "<<arr1[i]<<endl;
                cout<<"Phone: "<<arr2[i]<<endl;
                cout<<"Email: "<<arr3[i]<<endl;
                cout<<"Username: "<<arr4[i]<<endl;
                cout<<"Password: "<<arr5[i]<<endl;
                cout<<"Transaction: "<<arr6[i]<<endl;
            }
        }
    }
    int press;
    cout<<"Press 1 for deposit"<<endl;
    cout<<"Press 2 for withdraw"<<endl;
    cin>>press;

```

```

        if (press==1)
        {

            for(int i=0;i<a;i++)
            {
                if (username==arr4[i])
                {

                    int money,sum=0;
                    cout<<"Existing money: "<<arr6[i]<<endl;
                    cout<<"Enter money which you want to add"<<endl;
                    cin>>money;
                    sum=arr6[i]+money;
                    arr6[i]=sum;

                    cout<<"\n"<<money<<"Rs is added in this
account"<<endl<<endl;
                }

            }

        }
        else if (press==2)
        {

            for(int i=0;i<a;i++)
            {
                if (username==arr4[i])
                {

                    int money,sub=0;
                    cout<<"Existing money: "<<arr6[i]<<endl;
                    cout<<"Enter money which you want to
withdraw"<<endl;
                    cin>>money;
                    sub=arr6[i]-money;
                    arr6[i]=sub;

                    cout<<"\n"<<money<<"Rs is withdraw from this
account"<<endl<<endl;
                }

            }

        }
        else
        {

```

```

        cout<<"Invalid input"<<endl;
    }
}

else if(x==5)
{
    if(a==0)
    {
        cout<<"No data is entered"<<endl;
    }
    else{
        int press;
        cout<<"Press 1 to delete specific record"<<endl;
        cout<<"Press 2 to delete full record"<<endl;
        cin>>press;
        if(press==1)
        {
            string username;
            cout<<"Enter username of account  which you want to
delete"<<endl;

            cin>>username;
            for(int i=0;i<a;i++)
            {
                if(username==arr4[i])
                {
                    char s;
                    cout<<"Do you want to proceed with your
choice? (Y/N) ";

                    cin>>s;
                    if(s=='Y' || s=='y')
                    {

                        for(int j=i;j<a;j++)
                        {
                            arr[j]=arr[j+1];
                            arr1[j]=arr1[j+1];
                            arr2[j]=arr2[j+1];
                            arr3[j]=arr3[j+1];
                            arr4[j]=arr4[j+1];
                            arr5[j]=arr5[j+1];
                            arr6[j]=arr6[j+1];
                        }
                        a--;
                        cout<<"Required record is deleted..!!"<<endl;
                    }
                }
            }
        }
    }
}

```

```

else if(s=='N' || s=='n')
{
    cout<<"Going back to home page";
    for(int i=0;i<5;i++)
    {

        cout<<".";
        Sleep(500);
    }
}

else if(press==2)
{
    char k;
    cout<<"Do you want to proceed with your
choice? (Y/N) ";

    cin>>k;
    if(k=='Y' || k=='y')

{

    a=0;
    cout<<"All records are deleted"<<endl;
}
else if(k=='N' || k=='n')
{
    cout<<"Going back to home page";
    for(int i=0;i<5;i++)
    {

        cout<<".";
        Sleep(500);
    }
}
else{
    cout<<"Invalid input"<<endl;
}
}

```

```

    }
}

else if(x==6)
{
    if(a==0)
    {
        cout<<"No data is entered"<<endl;
    }
    else{
        cout<<"\t\t----Data----"<<endl<<endl;
        for(int i=0;i<a;i++)
        {
            cout<<"\nData of person "<<i+1<<endl<<endl;
            cout<<"Name: "<<arr[i]<<endl;
            cout<<"Last name: "<<arr1[i]<<endl;
            cout<<"Phone: "<<arr2[i]<<endl;
            cout<<"Email: "<<arr3[i]<<endl;
            cout<<"Username: "<<arr4[i]<<endl;
            cout<<"Password: "<<arr5[i]<<endl;
            cout<<"Transaction: "<<arr6[i]<<endl;

        }
    }
}

else if(x==7)
{
    cout<<"Thank You..!!"<<endl;
    exit(0);
}
else{
    cout<<"Invalid input"<<endl;
}
}

};

main()
{
    showdata();

    bank b;

    int press;
    while(true)
    {

```

```

choice();

cin>>press;
system("CLS");
if(press==1)
{
    b.data(press);

}
else if(press==2)
{
    b.data(press);
}
else if(press==3)
{
    b.data(press);
}
else if(press==4)
{
    b.data(press);
}
else if(press==5)
{
    b.data(press);
}
else if(press==6)
{
    b.data(press);
}
else if(press==7)
{
    b.data(press);
}
else{
    cout<<"Invalid input"<<endl;
}
}
}

```



## Output Screenshots:

```
PRESS...!!  
1. Create new account  
2. Update information of existing account  
3. Check the details of an existing account  
4. For transactions  
5. Remove existing account  
6. View customers list  
7. Exit
```

```
How many accounts do you wanted to create  
1  
  
----Enter Data----  
  
Enter name of person: Krishna  
Enter last name of person: Pravin  
Enter phone number: 9495987483  
Enter email: kk7766@srmist.edu.in  
Enter username: Krishna123  
Enter password: SRMIST  
Transaction: 10000
```

```
Enter username which you want to update  
Krishna123
```

```
---Old Data---
```

```
Name: Krishna  
Last name: Pravin  
Phone: 9495987483  
Email: kk7766@srmist.edu.in  
Username: Krishna123  
Password: SRMIST  
Transaction: 10000
```

```
Enter new name: Krishna
```

```
Enter username which you want to update  
Krishna123
```

```
---Old Data---
```

```
Name: Krishna  
Last name: Pravin  
Phone: 9495987483  
Email: kk7766@srmist.edu.in  
Username: Krishna123  
Password: SRMIST  
Transaction: 10000
```

```
Enter new name: Krishna  
Enter last name: Pravin  
Enter phone number: 9495987483  
Enter email: kk7766@srmist.edu.in  
Enter username: Krishna123  
Enter password: srmist  
Transaction: 10000
```

```
Enter username
Krishna123

----Data----

Name: Krishna
Last name: Pravin
Phone: 9495987483
Email: kk7766@srmist.edu.in
Username: Krishna123
Password: srmist
Transaction: 10000
```

```
Krishna123

----Data----

Name: Krishna
Last name: Pravin
Phone: 9495987483
Email: kk7766@srmist.edu.in
Username: Krishna123
Password: srmist
Transaction: 10000
Press 1 for deposit
Press 2 for withdraw
2
Existing money: 10000
Enter money which you want to withdraw
1000

1000Rs is withdraw from this account
```

```
Data of person 1

Name: Krishna
Last name: Pravin
Phone: 9495987483
Email: kk7766@srmist.edu.in
Username: Krishna123
Password: srmist
Transaction: 9000

Data of person 2

Name: Keerthivasan
Last name: Radhakrishnan
Phone: 9876455748
Email: kr2697@srmist.edu.in
Username: Keerthi123
Password: srmist
Transaction: 20000
```

## **Conclusion and Result:**

The above code is an implementation of a basic banking management system using C++. The system allows the user to create, update, check details, transact, remove accounts, and view a list of customers.

The code uses a class called "bank" to store the data of the customers. The class has private variables such as arrays for storing the names, phone numbers, emails, usernames, passwords, and transaction information of the customers.

The program begins with the display of the Bank Management System title and a menu with options for the user to choose from. The user can choose to create a new account, update an existing account, check the details of an existing account, transact, remove an account, or view a list of customers.

The "data" function of the "bank" class is used to implement these options. If the user chooses to create a new account, the program prompts the user to enter the details of the customer, and the data is stored in the class variables. If the user chooses to update an existing account, the program prompts the user to enter the username of the customer, and if the username is found, the program allows the user to update the customer's details. If the user chooses to check the details of an existing account, the program prompts the user to enter the username of the customer, and if the username is found, the program displays the details of the customer.

Overall, the code is a basic implementation of a banking management system, and it can be improved with additional features and error handling.

## **References:**

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**[Learn C++ | Codecademy](#)**