Software Engineering Lab

Paper Code: PCCCS594

WorkBook

Department of Computer Science & Engineering

B.Tech

3rd year 5th Semester

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Branch : **Computer Science & Engineering**

Section : **A**

Group : **C2**

INSTITUTE OF ENGINEERING & MANAGEMENT

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LAB ASSIGNMENTS

1. Construct the Problem statement and perform the feasibility study.
2. Draw a Use Case diagram using a professional tool for your project and also document the Use Case Description.
3. Prepare the domain dictionary based on use case description.
4. Prepare an SRS document.
5. Draw a Data Flow Diagram for your Software Engineering Project (Level 0, 1 & 2).
6. Draw a Class Diagram for your Software Engineering Project along with a proper description.
7. Draw an Entity Relationship Diagram for your Software Engineering project.
8. Draw a Sequence Diagram for your Software Engineering Project.
9. Create a Gantt chart and WBS for your Software Engineering Project.
10. Implement the project as per the SRS.

Assignment1: Construct the Problem statement and perform the feasibility study.

Group Members:

Rahul Yadav (12019002002099) (Project Manager, Secondary Coder)

Rahul Roy (12019002002059) (Site Developer, Back End developer)

Nilabhra Adhikari (12019002002083) (Designer, Consultant)

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Banking activities are considered to be the life blood of the national Economy. Without banking services, trading and business activities cannot be carried on smoothly. Banks are the distributors and protectors of liquid capital which is of vital significance to a developing country.

Efficient administration of the banking system helps in the economic Growth of the nation. Banking is useful to trade and commerce.

Banks have traditionally been in the forefront of harnessing technology to improve their products, services and efficiency. They have, over a long time, been using electronic and telecommunication networks for delivering a wide range of value added products and services. With the popularity of PCs, easy access to Internet and World Wide Web (WWW), Internet is increasingly used by banks as a channel for receiving instructions and delivering their products and services to their customers.

This form of banking is generally referred to as Internet banking, although the range of products and services offered by different banks vary widely both in their content and sophistication.

The ONLINE BANKING SYSTEM undertaken as a project is based on relevant technologies. The main aim of this project is to develop software for bank management system. This project is to develop software for bank management system. This project has been developed to carry out the processes easily and quickly, which is not possible with the manuals systems, which are overcome by this software. This project will be developed using JAVA and. Hence it will provide the complete solution for the current management system.

Feasibility Study Report

Market Survey

Online banking is a worldwide commodity and almost all banks in the world provide their customers with some form remote banking alternatives. Online Banking has come in the market as early as 1980s and become popular with the rise of internet access in 1990s. In India internet banking was first provided by ICICI bank in late 1990s and with other banks doing same. Today almost all banks present in India provide this feature with SBI having the highest number of common online transactions in the market.

Internet banking users have risen as computers and internet has become more accessible to people and with new technology in mobile phones the need for computers on the customer side is also eliminated. Today there are almost 2 billion active online banking users. In India around 63% users use online banking facilities with these numbers forecasted to increase heavily the need for better system on bank side and with more reliability and access is needed.

System Investigation

To understand the scope of this project, the need arises to understand the viewpoint of two important entities… Top management and users.

In order to gather pertinent information, I interviewed the Top Management and asked the following questions:

- How the present system works?
- What all drawbacks are in the present system?
- What is their vision about the new system?
- What specific facilities they want from new system, those are currently not in scope of existing system?
- How will data flow in the system?
- Who will be authenticated to access data and his/her access rights?

To find more about present system's working mechanism such as the ways of getting inputs and providing outputs, I interviewed the current users of the system by asking following question:

- Are they comfortable with the present system?
- What flaws exists in the current system?
- Do they feel the necessity of new system?
- What will be their requirements from new system?

- Are they satisfied with their role in new system?

After the system investigation, the conclusion was made about the Top Management's requirements and whether users are in support of the new system. The Scope of the project focuses on following:

- Meet user requirements
- Best utilization of available resources
- Develop a cost effective system
- Develop a technically feasible system

Technical Feasibility

This Banking software is technically feasible. The primary technical requirement includes the availability of operating systems installed in the network. A DBMS is required which was also already installed. Reliability, access power and data security was also available. The system can also be developed if the new technology is acquired. Thus, through all the ends technical feasibility was met.

The tools that we were requiring were all available to us they are:-

Hardware Requirements:

1. Processor: any
2. Hard Disk: 10GB min
3. RAM: 2 GB or more
4. Capacity: 100 GB

Software Requirements:

1. Operating System: Windows 8+/ Ubuntu/ Linux
2. User Interface: HTML, .NET
3. Programming Language: PHP JAVA
4. Database: MySQL

Economic Feasibility

This banking software is economically feasible. As the hardware was installed from quite beginning, the cost on project of hardware is low. Similarly, the software loaded for this project was used even after this project was developed for many other applications. The

software cost was under budget. Moreover, the technical requirements were already available so there was no further expenditure for buying software packages.

Operational Feasibility

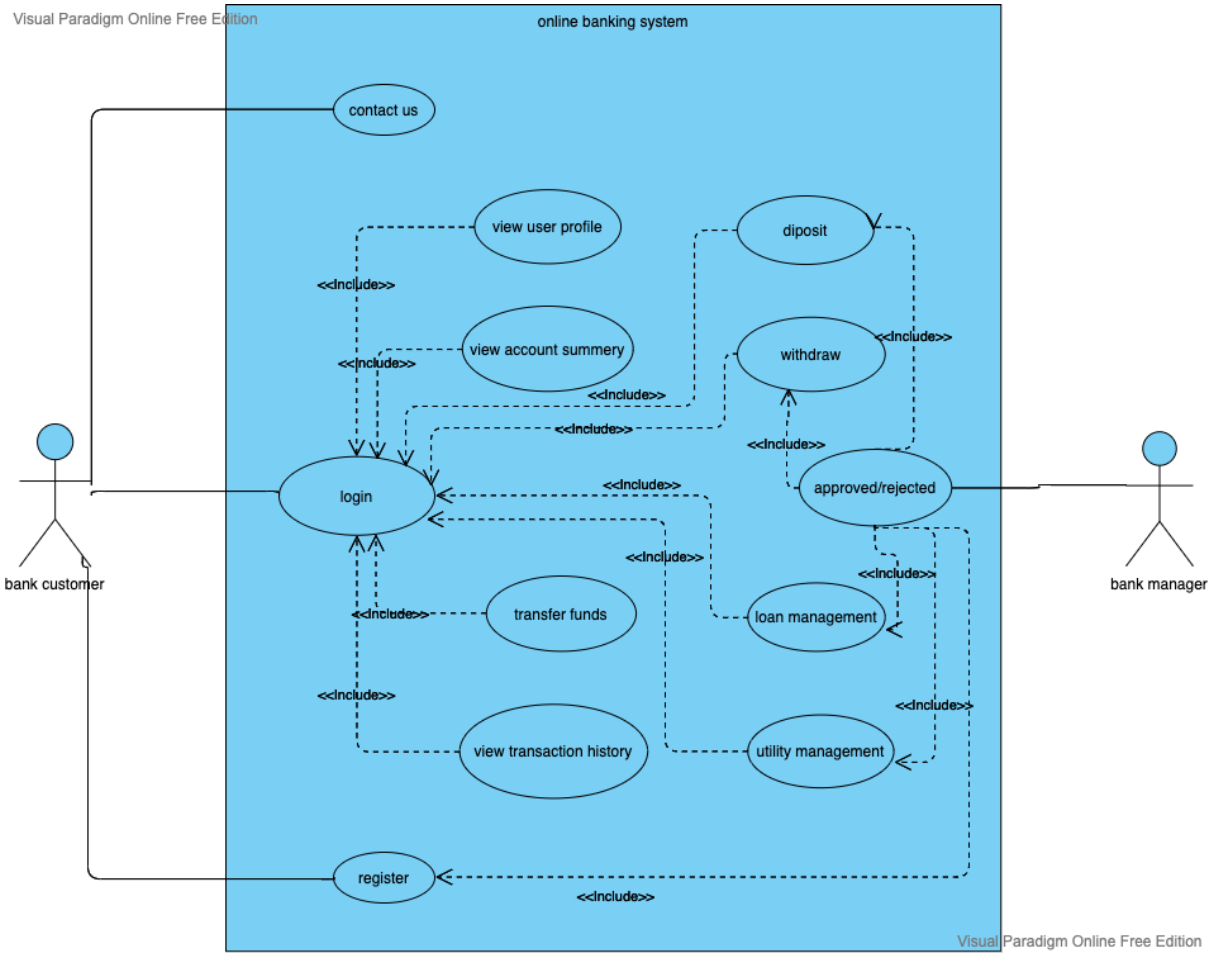
This banking software is operationally feasible. This application provides the necessary information to the user such as how to enter the information regarding different operations performed on the database. The application was planned in such a way that no prior knowledge was required to go through the various operations. The user just needed to have the basic knowledge of computers.

This software also possesses behavioral feasibility. It's because the users of the system are computer professionals and know the advantages of computer system. Moreover, this application is going to enhance their skills and reduce their workloads.

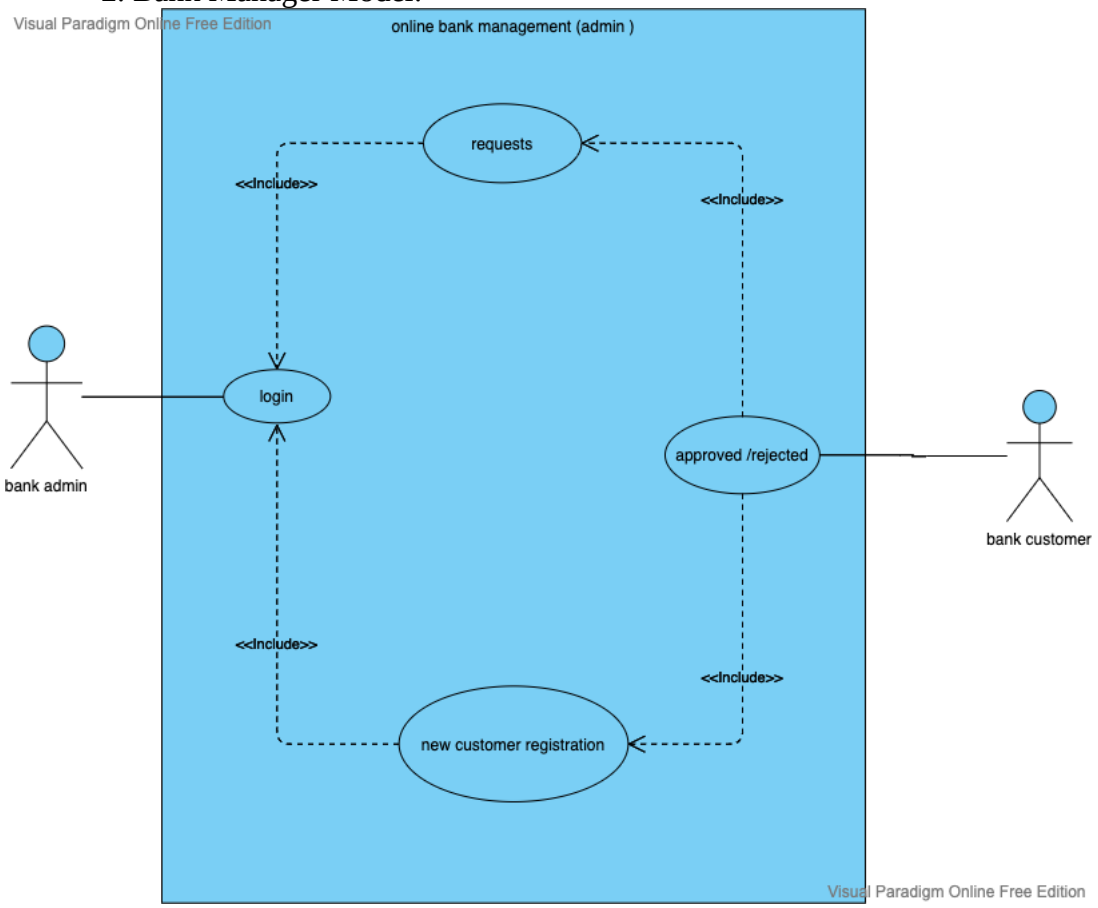
<u>Assignment2:</u> Draw a Use Case diagram using a professional tool for your project and also document the Use Case Description.

Use Case Diagram:

1. Bank Customer Model:



2. Bank Manager Model:



Use Case Description:

1. Home Page

1.1 Login

Use Case ID:	101		
Use Case Name:	Login		
Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User logins in his account
Preconditions:	User goes to the Home Page of the website.
Post conditions:	If Login is verified then user is send on the Main page of his account and if verification is failed then user is shown a toast about his wrong credentials.

Priority:	
Frequency of Use:	Only once if user is authorized
Trigger:	User clicks Login in the homepage or in the registration page
Flow of Events:	System: Asks for User ID and password User: Enters User ID and Password System: Verifies the Credentials and if correct then user gets access to the account else a Toast for wrong Credentials is shown
Alternative Flows:	1. Forgot User ID/Password: User: Clicks on Forgot Password System: Asks for registered Aadhar number for verification by OTP in registered email ID. User: Gives the Aadhar Number System: Allows login of user, here user can see his user ID and can change his password. 2. Create New Account: User: Select on the register for new account option System: Prompts the register case
Exceptions:	
Includes:	
Special Requirements:	Valid Login ID and password
Assumptions:	
Notes and Issues:	It includes the verification from database

1.2 Registration

Use Case ID:	102		
Use Case Name:	Register		
Created By:	Rahul Roy	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User registers himself on the website
Preconditions:	User goes to the Home Page of the website.
Post conditions:	User gets an account created if all details are verified and is send on to the login case else user is prompted to enter the correct details or exit the registration case
Priority:	
Frequency of Use:	Once for each registration
Trigger:	User clicks on Register in homepage or in login page
Flow of Events:	System: Asks the user for details (First name, Last name, Guardian name, Email Address, Mobile number, Aadhar number, Date of Birth, Residential Address, gender, City, State, Pin Code, Initial Balance, User Password, and Transaction Password). User: Enters the details. System: Verifies the Credentials and if correct then the registration request is send to the bank else a Toast for wrong credentials is shown. Once the request is approved by the bank user gets registered and his user ID is send to him through email
Alternative Flows:	1. User exits the registration activity: System: discards the current activity and send the user to the home page. 2. Go for Login: User: Clicks the option to go to login page without registering. System: Sends user to the login page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2. User Page

2.1 User profile

Use Case ID:	201		
Use Case Name:	View User Profile		
Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can see his profile details, his account no, his user ID and other details from here. User can also change his details through verification.
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User is able to see his profile details or is send to change his credentials if the option is selected for it.
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Profile section in the main user page.
Flow of Events:	1. User only sees his details: System: shows users all details about his account available. 2. User changes some details: User: selects some field to be changed. System: Allows change of data and updates it in the database for primary details and if user wants to change user id, password or transaction password, user is send to the change credential activity case.
Alternative Flows:	1. User exits the profile activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.2 Deposit

Use Case ID:	202		
Use Case Name:	Deposit		
Created By:	Rahul Roy	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can deposit money to his account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	Amount is added to balance
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Deposit section in the main user page.
Flow of Events:	System: Asks user for amount of balance to be deposited and login password User: Enters the amount and password System: if the password is correct then system sends the deposit request to the bank which when approved from the bank gets added to the account balance.
Alternative Flows:	1. User exits the deposit activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.3 Withdraw

Use Case ID:	203		
Use Case Name:	Withdraw		
Created By:	Nilabhar Adhikari	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can withdraw money from his account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	Amount is deduced from the balance
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Withdraw section in the main user page.
Flow of Events:	System: Asks user for amount of balance to be withdrawn and login password User: Enters the amount and password System: if the password is correct then system sends the withdraw request to the bank which when approved from the bank gets deducted from the account balance.
Alternative Flows:	1. User exits the withdraw activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.4 Transfer

Use Case ID:	204

Use Case Name:	Transfer Funds		
Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can transfer money from his account to another account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	Amount is transferred to the desired account
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Transfer Funds section in the main user page.
Flow of Events:	1. If amount is less than 10000: System: Asks the user for the transaction password, amount, and recipient account number. User: Enters the required details. System: if amount is less than 10000 and transaction password is correct and recipient account exists then system transfers the money from users account to recipient account. 2. If amount is greater than 10000: System: Asks the user for the transaction password, amount, and recipient account number. User: Enters the required details. System: If details are correct then the amount is transferred after a OTP verification
Alternative Flows:	1. User exits the transfer activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	

Assumptions:	
Notes and Issues:	

2.5 Account Summary

Use Case ID:	205		
Use Case Name:	View Account summary		
Created By:	Munshi Aquib Ali	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can see his account summary
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User sees his account summary and once done exits the activity
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Account Summary section in the main user page.
Flow of Events:	System: Asks the User for the month of which the account summary is to be shown. User: Enters the Month. System: System shows the account summary.
Alternative Flows:	1. User exits the account summary activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.6 Transaction History

Use Case ID:	206		
Use Case Name:	View Transaction History		
Created By:	Nilabhar Adhikari	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User is able to see his previous transactions and details
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User is able to see his transactions for a given set of time
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Transaction history section in the main user page.
Flow of Events:	System: Asks the user for the time period of transaction history User: Enters the time period System: shows the transaction history.
Alternative Flows:	1. User exits the Transaction history activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.7 Change Credentials

Use Case ID:	207
Use Case Name:	Change Credentials

Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User is able to change his access credentials (User ID, Account Password, Transaction Password) of his account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Update credentials section in the main user page or selects to change any credential in profile page.
Flow of Events:	System: Asks which credential to be changed User: Selects the credential System: Asks the user to give the new credential one time for user ID and two times for Login password and Transaction password User: Enters the new Credentials. Systems: verifies the user through OTP User: verifies the OTP System: Changes the Credentials.
Alternative Flows:	1. User exits the change credentials activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.8 Loan Management

Use Case ID:	208		
Use Case Name:	Loan Management		
Created By:	Rahul Roy	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can apply for a loan or see details about an existing loans
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User has either applied for a loan or is able to view the details about an existing loan.
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Loan section in the main user page.
Flow of Events:	System: shows user if there is any existing loan on his account and gives option to apply for a new loan. 1. User views the details about an existing loan: User: selects an existing loan System: shows details about the selected loan (amount of loan, issue date of loan, amount of EMI, no of EMIs paid, no of EMIs left, interest rate of the loan, etc.) 2. User applies for a new loan: System: asks for the type of loan. User: selects the type of loan. System: Asks user for the amount of loan. User: Enters the amount. System: Shows the user different available schemes for loans of selected type of entered amount with different interest amounts and benefits and return types. User: selects any one type for his loan. System: shows user the EMI options.

	User: selects one EMI option. System: confirms the details and once confirmed sends the loan request to the bank. Once the request is approved it will be informed to the user.
Alternative Flows:	1. User exits the loan management activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

2.9 Utilities Management

Use Case ID:	209		
Use Case Name:	Utility Management		
Created By:	Munshi Aquib Ali	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Customer)
Description:	User can manage his utilities (ATM cards, debit cards, cheque books) here
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User is able to see details about utilities related to his account and manage them
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Utilities section in the main user page.
Flow of Events:	System: shows user all utilities his account is approved with if it has any and an option to request

	1. User selects any Utility System: shows details about that utility (reference no, utility type, issue date, expiry date) and option to block/unblock the utility. If user blocks any utility it will be blocked instantaneously but if he unblocks any blocked utility then a request for unblocking the utility will be sent to the bank which once approved will unblock the utility. 2. User selects the option to add an Utility System: asks the user for the type of the utility. User: selects the utility. System: sends a request to the bank for the utility which once granted will issue the utility.
Alternative Flows:	1. User exits the utility management activity: System: discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

3. Admin Page

3.1 Login

Use Case ID:	301		
Use Case Name:	Login		
Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Admin)
Description:	Admin will login in his account here

Preconditions:	Admin needs to have an account created.
Post conditions:	If login is verified then admin will be in home page where he will see requests from customers and their details which he can approve or reject
Priority:	
Frequency of Use:	As many times as needed by admin.
Trigger:	Admin clicks on the Login section in the designated site
Flow of Events:	System: Asks for Admin ID and password Admin: Enters Admin ID and Password System: Verifies the Credentials and if correct then Admin gets access to the system else a Toast for wrong Credentials is shown
Alternative Flows:	Admin exits
Exceptions:	
Includes:	
Special Requirements:	Valid Login ID and password
Assumptions:	
Notes and Issues:	It includes verifying credentials

3.2 New Registration

Use Case ID:	302		
Use Case Name:	New Registrations		
Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Admin)
Description:	Admin will see new Account creation request here
Preconditions:	Admin needs to be logged in
Post conditions:	Admin will be seeing requests for new accounts here which he can approve or reject
Priority:	

Frequency of Use:	As many times as needed by admin.
Trigger:	Admin clicks on the New Registration section in the designated site
Flow of Events:	System: Shows admin all the new account creation requests Admin: Selects any one System: shows all the details about that request Admin: clicks either Approve or Reject.
Alternative Flows:	Admin exits the page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

3.3 Requests

Use Case ID:	301		
Use Case Name:	View Requests		
Created By:	Rahul Yadav	Last Updated By:	Rahul Yadav
Date Created:	20 August 2021	Date Last Updated:	27 August 2021

Actor:	User (Bank Admin)
Description:	Admin will see requests made by existing customers
Preconditions:	Admin needs to be logged in
Post conditions:	If login is verified then admin will be in home page where he will see requests from customers and their details which he can approve or reject
Priority:	
Frequency of Use:	As many times as needed by admin.
Trigger:	Admin clicks on the Requests section in the designated site
Flow of Events:	System: shows admin different requests (deposit, withdraw, loans, utilities) made by existing users

	Admin: selects any one request System: shows the details regarding that request (customer id, request code, amount, etc…) Admin: clicks either Approve or Reject
Alternative Flows:	Admin exits the page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

<u>Assignment3:</u> Prepare the domain dictionary based on use case description.

Domain Dictionary

Term Used	Description
Login	This takes the Unique ID and password of a registered user and authenticate with the database.
Register	This takes the details of a user to register him in the database.
Contact Us	This allows Users to contact the bank or to seek help.
Dashboard	This is the home page of a logged in user, here the user can see services available to him.
Sign Out	This option allows users to log out of their account.
User Profile	This shows users details about their account.
Account Statements	This shows users the summarized record of account activities in the selected time period.
Deposit	This allows user to deposit money.
Withdraw	This allows user to withdraw money.
Quick Transfer	This allows users to transfer less than 10000 from one account to another account by requiring the transaction password.
Secure Transfer	This allows users to transfer more than 10000 from one account to another account through email verification.
Transaction History	This shows users the detailed transaction history of a selected time period.
Change Username	This allows Users to change their username.
Change Password	This allows users to change their password.
Loan Management	This option lets users to manage loans on their account.
New Utility	This allows users to apply for any new utility on their account.
Block Utility	This option lets users to instantaneously block any utility linked to their account.

Assignment4: Prepare an SRS document.

SOFTWARE REQUIREMENT SPECIFICATION DOCUMENT

ONLINE BANKING SYSTEM

Version: 0.1@2021

Name	Role	Class Roll no.	Enrollment no.
Rahul Yadav	Project Manager, Developer	68	12019002002099
Rahul Roy	Lead Developer, Back End Developer	43	12019002002059
Nilabhra Adhikari	Designer, Consultant	57	12019002002083
Munshi Aquib Ali	Tester, Assistant Consultant	74	12019002002109

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1. Product Description

1.1 Purpose

Banking activities are considered to be the life blood of the national Economy. Without banking services, trading and business activities cannot be carried on smoothly. Banks are the distributors and protectors of liquid capital which is of vital significance to a developing country. Efficient administration of the banking system helps in the economic Growth of the nation. This software is going to help the bank in its banking procedures.

1.2 Scope

For the smooth working of the bank, a new banking system needs to be developed. For the customer an internet solution is the most appropriate one as almost all customers have access to it. A well interfaced GUI would be used for connecting to the main database server for updating and retrieving the data of the customers. It would also help in doing transactions and doing simple balance enquiry to complex loan requests.

1.3 Stakeholders and Users

The users of this application will common people who are the customers of the bank, and bank employees. The main goal of this application is to save the customer's crucial time and make banking more user-friendly.

1.4 Assumptions

1.4.1 Every user should have an active internet connection.

1.4.2 Every Customer should have valid credentials which may be required while using the application.

1.5 Constraints

1.5.1 Authenticity Constraints: Users might provide incorrect self-information while registering which may lead to improper experience.

1.5.2 Technical Constraints: The user may not know how to use the app properly for banking. Moreover, if the server somehow crashes, the application will not be able to provide updated information to the users.

2. Functional Requirements

2.1 Login

2.1.1 New Login: The system asks the customer to enter valid username and password. System receives the details. System verifies the Customer's details in the database.

2.1.2 Validation: The system verifies the customer's details. The Username and the password should be correct. On successful validation, the system redirects the customer to his dashboard page.

2.1.3 Invalid Username and password: If the username and the password are not correct or mismatch, the system notifies the patient. Revert to step 2.1.1

2.1.4 Forgot Username or Password: System will ask for customer's aadhar number if a match found then an OTP is send to the registered email with which verification is done and user is logged in his account. After logging in user can change his username and password in step 3.1

2.2 Register

2.2.1 New Registration: The system asks the customer for details (First name, Last name, Guardian name, Email Address, Mobile number, Aadhar number, Date of Birth, Residential Address, gender, City, State, Pin Code, Initial Balance, User Password, and Transaction Password).System validates the details. The system sends the request for new registration to the bank which once accepted, the system saves the details in the database and creates a new user record.

2.2.2 Invalid Details: In case the details are invalid, the system asks to re-enter the details. Reverts to step 2.2.1

2.3 Contact Us

2.3.1 New message: System asks the customer for details (Name, email address, mobile number, and message). System receives the detail and sends the message to the bank.

2.4 View Profile

2.4.1 View Details: System shows the user his profile details.

2.4.2 Change details: The system allows the user to change his non sensitive details (mobile number, email, address) which are then updated in the database.

2.5 Deposit

2.5.1 Deposit Amount: System asks the user for the amount and unique password. System receives the detail. System sends a request to the bank for deposit for the specified amount.

2.5.2 Approved/Rejected: Once the amount is received by the bank and verified, they approve the request. System updates the user balance in the database.

2.5.3 Wrong Password: If user enters the wrong the password then the request is not made and user is prompted to re-enter the details. Reverts to step 2.5.1

2.6 Withdraw

2.6.1 Withdraw Amount: System asks the user for the amount and unique password. System receives the detail. System sends a request to the bank for withdrawal for the specified amount.

2.6.2 Approved/Rejected: Once the amount is withdrawn by the customer and verified, they approve the request. System updates the user balance in the database

2.6.3 Wrong Password: If user enters the wrong the password then the request is not made and user is prompted to re-enter the details. Reverts to step 2.6.1

2.7 View Account Summary

2.7.1 Show Account Summary: System asks the customer for the month of which the account summary is needed. System receives the detail. System fetches the data from the database shows the account summary of the selected month.

2.8 Transfer Funds

2.8.1 Quick Transfer: System asks for the amount, transaction password, and the recipient's account number for a transaction of less than 10000. System receives the details. System verifies the transaction password. System transfers the amount and updates the balance.

2.8.2 Secure Transfer: System asks for the amount, transaction password, and the recipient's account number for a transaction of more than 10000. System receives the details. System verifies the transaction password. System sends an OTP verification for this transfer, once confirmed system transfers the amount and updates the balance.

2.8.3 Wrong Field: In case user goes for quick transfer with amount more than 10000 then user is reverted to step 2.8.1 or if user goes for secure transfer with amount less than 10000 then user is reverted to step 2.8.2.

2.8.4 Wrong Password: If user enters the wrong the password then the transaction is cancelled and user is prompted to re-enter the details. Reverts to step 2.8

2.9 View Transaction History

2.9.1 Show Transaction History: System asks the customer for the time period of which the transaction records are needed. System receives the detail. System fetches the data from the database shows the transaction records of the selected time period.

2.10 Loan Management

2.10.1 View Existing Loans: System shows all the existing loans on the account if any, the user can view details about any one of them by clicking on them. System shows amount of loan, issue date of loan, amount of EMI, interest rate on loan, number of EMIs paid and left, etc…

2.10.2 New Loan: System asks for the type of loan, amount of loan. System receives the details. System shows different schemes for loans of selected type and amount for user to select from, once selected system makes a request for a loan of entered amount to the bank.

2.10.3 Approved/Rejected: Once the details and documents are received by the bank, if they approve or deny the request the user will be notified for it.

2.11 Utility Management

2.11.1 View Existing Utility: System shows the user all utilities (Cheque book, ATM cards, Debit cards, etc…) linked with the account. System shows the details about the selected utility.

2.11.2 Block Utility: System asks for the unique password, once received system sends the request to block the selected utility to the server.

2.11.3 Unblock Utility: System asks for the unique password; once received system sends a unblock request for the particular selected utility to the bank.

2.11.4 New Utility: System asks for the type of the utility. System sends a request to the bank for the utility which once granted will issue the utility.

2.12 Change Credentials

2.12.1 Select Credential: System asks the user to select the credential (Username, Unique/Login Password, and Transaction Password) to change.

2.12.2 Enter Credential: System asks the user to enter the new value of the credential.

2.12.3 Re-enter Credential: System asks the user to re-enter the new value of the credential.

2.12.4: Verification: System sends an OTP for verification; once verification is done the new credential is updated in the database.

3. Non Functional Requirements

3.1 Safety Requirements

3.1.1 Backup, recovery & business continuity Banks should ensure adequate back up of data as may be required by their operations. Banks should also have, well documented and tested business continuity plans that address all aspects of the bank's business

3.1.2 Both data and software should be backed up periodically.

3.1.3 An off-site back up is necessary for recovery from major failures / disasters to ensure business continuity.

3.2 Security Requirements

- Account ID and Password (PIN) Protection
- Auto Timeout Screen Blanking
- Sign-off Button
- Failed Log-on Attempts
- Encryption

3.3 Software Quality Requirements

3.3.1 Reliability: System should be reliable enough to sustain in any condition, and should give consistently correct results. Product reliability is measured in terms of working of project under different working environment and different conditions.

3.3.2 Maintainability: Different versions of this application should be easy to maintain. For development, it should be easy to add code to existing system, should be easy to upgrade for new features and new technologies time to time. Maintenance should be cost effective and easy. System should be easy to maintain, correct or update.

3.3.3 Usability: System should be easy to use. System should be user friendly and easy to learn. Navigation should be simple.

3.3.4 Portability: System should be easy to install and transport.

3.3.5 Correctness: System should be correct in terms of its functionality, calculations used internally and the navigation should be correct. This means system should adhere to functional requirements.

3.3.6 Efficiency: System should utilize processor capacity, disk space and memory efficiently. If the system is not using all the available resources then user will get degraded performance failing the system for efficiency. If system is not efficient then it cannot be used in real time applications.

3.3.7 Flexibility: System should be flexible enough to modify and adapt to other products with which it needs interaction. It should be easy to interface with other standard 3rd party components.

4. Interface Requirements

4.1 Hardware Requirements

- Standard PC
- Good Internet Connection
- 1GB RAM or above
- 1.2 GHz processor or above
- Smart Mobile Phone

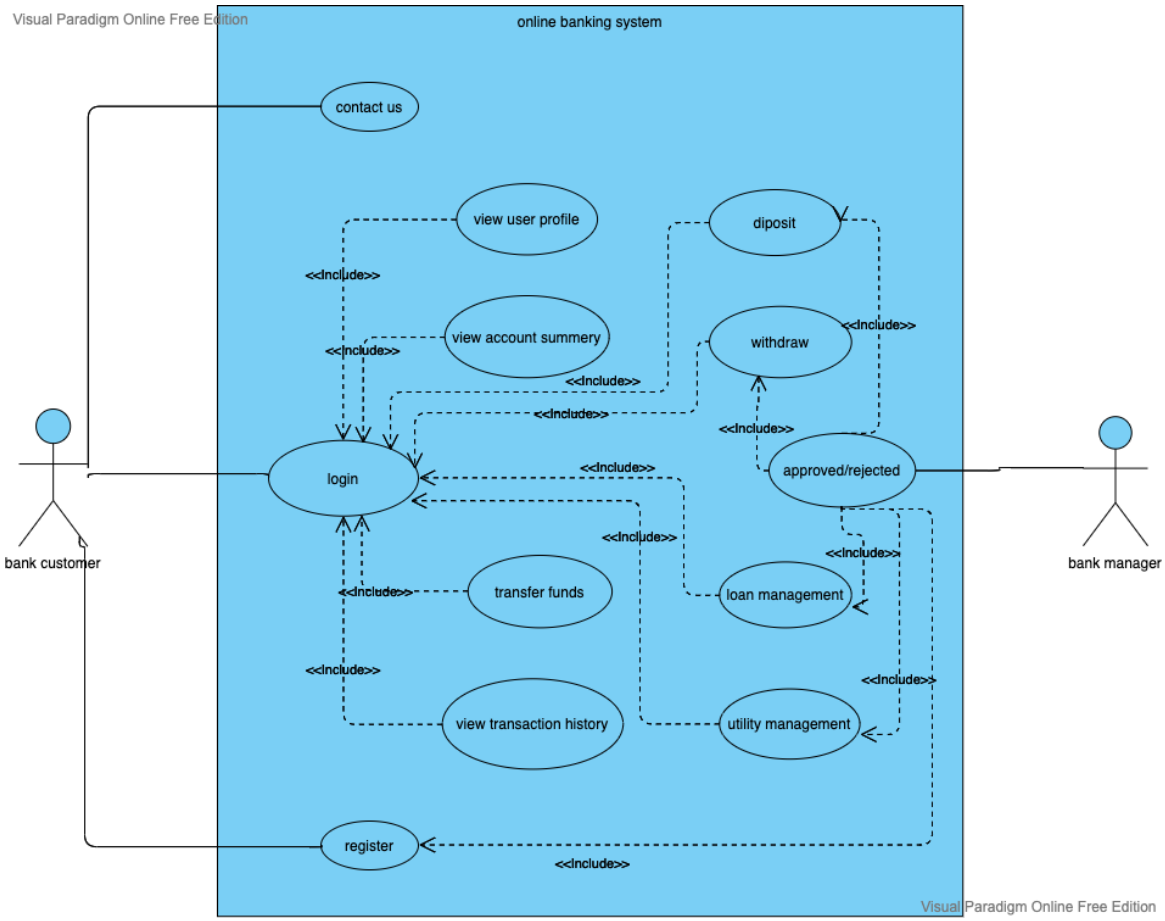
4.2 Software Requirements

- Platform: Windows 7+, Ubuntu, Linux
- Web Browser: Microsoft Internet Explorer, Mozilla, Google Chrome or later
- Mobile Platform: Android 7+ or iOS.

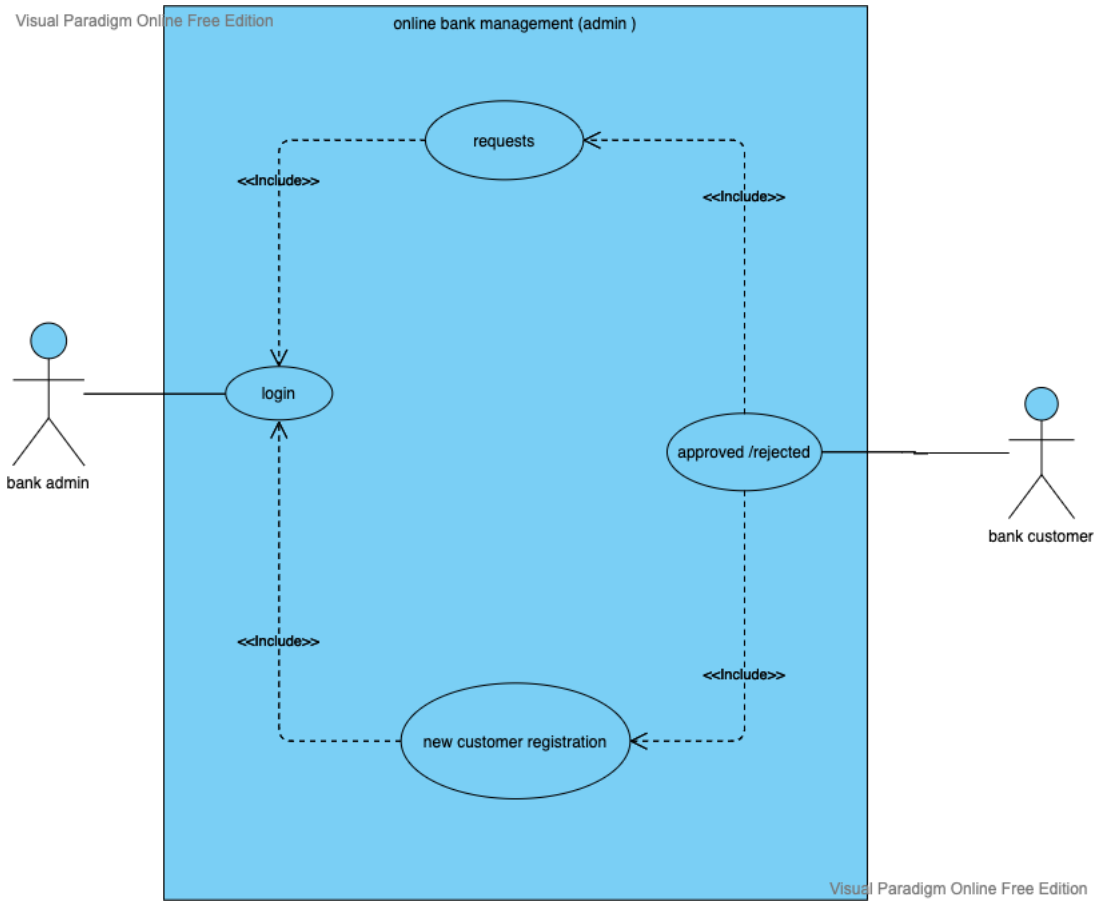
5. Use Case Model

5.1 Use Case Diagram

5.1.1 Bank Customer Model



5.1.2 Bank Admin Model



5.2 Use Case Description

5.2.1 Home Page

5.2.1.1 Login

Use Case ID:	101		
Use Case Name:	Login		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User logins in his account
Preconditions:	User goes to the Home Page of the website.
Post conditions:	If Login is verified then user is send on the Main page of his account and if verification is failed then user is shown a toast about his wrong credentials.
Priority:	
Frequency of Use:	Only once if user is authorised
Trigger:	User clicks Login in the homepage or in the registration page
Flow of Events:	**System:** Asks for User ID and password **User:** Enters User ID and Password **System:** Verifies the Credentials and if correct then user gets access to the account else a Toast for wrong Credentials is shown
Alternative Flows:	**1. Forgot User ID/Password:** **User:** Clicks on Forgot Password **System:** Asks for registered Aadhar number for verification by OTP in registered email ID. **User:** Gives the Aadhar Number **System:** Allows login of user, here user can see his user ID and can change his password. **2. Create New Account:** **User:** Select on the register for new account option **System:** Prompts the register case

Exceptions:	
Includes:	
Special Requirements:	Valid Login ID and password
Assumptions:	
Notes and Issues:	It includes the verification from database

5.2.1.2 Register

Use Case ID:	102		
Use Case Name:	Register		
Created By:	Rahul Roy	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User registers himself on the website
Preconditions:	User goes to the Home Page of the website.
Post conditions:	User gets an account created if all details are verified and is send on to the login case else user is prompted to enter the correct details or exit the registration case
Priority:	
Frequency of Use:	Once for each registration
Trigger:	User clicks on Register in homepage or in login page
Flow of Events:	**System:** Asks the user for details (First name, Last name, Guardian name, Email Address, Mobile number, Aadhar number, Date of Birth, Residential Address, gender, City, State, Pin Code, Initial Balance, User Password, and Transaction Password). **User:** Enters the details. **System:** Verifies the Credentials and if correct then the registration request is send to the bank else a Toast for wrong credentials is shown. Once the request is approved by the bank user gets registered and his user ID is send to him through email

Alternative Flows:	**1. User exits the registration activity:** **System:** discards the current activity and send the user to the home page. **2. Go for Login:** **User:** Clicks the option to go to login page without registering. System: Sends user to the login page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

5.2.1.3 Contact Us

Use Case ID:	103		
Use Case Name:	Contact Us		
Created By:	Munshi Aquib Ali	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can contact the bank or ask for help in any issue
Preconditions:	User goes to the Home Page of the website.
Post conditions:	User sends a message to the bank with contact details to get back at him
Priority:	
Frequency of Use:	As many times as needed by the user
Trigger:	User clicks on Contact us in homepage

Flow of Events:	**System:** Asks the user for details (Name, Email Address, Mobile number, Message). **User:** Enters the details. **System:** Sends the message to the bank.
Alternative Flows:	**1. User exits:** **System:** discards the current activity and details.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	

5.2.2 User Page

5.2.2.1 User Profile

Use Case ID:	201		
Use Case Name:	View User Profile		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can see his profile details, his account no, his user ID and other details from here. User can also change his details through verification.
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User is able to see his profile details or is send to change his credentials if the option is selected for it.

Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Profile section in the main user page.
Flow of Events:	**1. User only sees his details:** **System:** shows users all details about his account available. **2. User changes some details:** **User:** selects some field to be changed. **System:** Allows change of data and updates it in the database for primary details and if user wants to change user id, password or transaction password, user is send to the change credential activity case.
Alternative Flows:	**1. User exits the profile activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.2 Deposit

Use Case ID:	202		
Use Case Name:	Deposit		
Created By:	Rahul Roy	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can deposit money to his account
Preconditions:	User needs to be logged in his account and should be in main user page.

Post conditions:	Amount is added to balance
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Deposit section in the main user page.
Flow of Events:	**System:** Asks user for amount of balance to be deposited and login password **User:** Enters the amount and password **System:** if the password is correct then system sends the deposit request to the bank which when approved from the bank gets added to the account balance.
Alternative Flows:	**1. User exits the deposit activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.3 Withdraw

Use Case ID:	203		
Use Case Name:	Withdraw		
Created By:	Nilabhar Adhikari	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)

Description:	User can withdraw money from his account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	Amount is deduced from the balance
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Withdraw section in the main user page.
Flow of Events:	**System:** Asks user for amount of balance to be withdrawn and login password **User:** Enters the amount and password **System:** if the password is correct then system sends the withdraw request to the bank which when approved from the bank gets deducted from the account balance.
Alternative Flows:	**1. User exits the withdraw activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.4 Transfer

Use Case ID:	204		
Use Case Name:	Transfer Funds		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can transfer money from his account to another account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	Amount is transferred to the desired account
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Transfer Funds section in the main user page.
Flow of Events:	**1. If amount is less than 10000:** **System:** Asks the user for the transaction password, amount, and recipient account number. **User:** Enters the required details. **System:** if amount is less than 10000 and transaction password is correct and recipient account exists then system transfers the money from users account to recipient account. **2. If amount is greater than 10000:** **System:** Asks the user for the transaction password, amount, and recipient account number. **User:** Enters the required details. **System:** If details are correct then the amount is transferred after a OTP verification
Alternative Flows:	**1. User exits the transfer activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.5 Account Summary

Use Case ID:	205

Use Case Name:	View Account summary		
Created By:	Munshi Aquib Ali	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can see his account summary
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User sees his account summary and once done exits the activity
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Account Summary section in the main user page.
Flow of Events:	**System:** Asks the User for the month of which the account summary is to be shown. **User:** Enters the Month. System: System shows the account summary.
Alternative Flows:	**1. User exits the account summary activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.6 Transaction History

Use Case ID:	206		
Use Case Name:	View Transaction History		
Created By:	Nilabhar Adhikari	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User is able to see his previous transactions and details
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User is able to see his transactions for a given set of time
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Transaction history section in the main user page.
Flow of Events:	**System:** Asks the user for the time period of transaction history **User:** Enters the time period **System:** shows the transaction history.
Alternative Flows:	**1. User exits the Transaction history activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.7 Change Credentials

Use Case ID:	207		
Use Case Name:	Change Credentials		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User is able to change his access credentials (User ID, Account Password, Transaction Password) of his account
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Update credentials section in the main user page or selects to change any credential in profile page.
Flow of Events:	**System:** Asks which credential to be changed **User:** Selects the credential **System:** Asks the user to give the new credential one time for user ID and two times for Login password and Transaction password **User:** Enters the new Credentials. **Systems:** verifies the user through OTP **User:** verifies the OTP **System:** Changes the Credentials.
Alternative Flows:	**1. User exits the change credentials activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	

Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.8 Loan Management

Use Case ID:	208		
Use Case Name:	Loan Management		
Created By:	Rahul Roy	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can apply for a loan or see details about an existing loans
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User has either applied for a loan or is able to view the details about an existing loan.
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Loan section in the main user page.

Flow of Events:	**System:** shows user if there is any existing loan on his account and gives option to apply for a new loan. **1. User views the details about an existing loan:** **User:** selects an existing loan **System:** shows details about the selected loan (amount of loan, issue date of loan, amount of EMI, no of EMIs paid, no of EMIs left, interest rate of the loan, etc.) **2. User applies for a new loan:** **System:** asks for the type of loan. **User:** selects the type of loan. **System:** Asks user for the amount of loan. **User:** Enters the amount. **System:** Shows the user different available schemes for loans of selected type of entered amount with different interest amounts and benefits and return types. **User:** selects any one type for his loan. **System:** shows user the EMI options. **User:** selects one EMI option. **System:** confirms the details and once confirmed sends the loan request to the bank. Once the request is approved it will be informed to the user.
Alternative Flows:	**1. User exits the loan management activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.2.9 Utility Management

Use Case ID:	209		
Use Case Name:	Utility Management		
Created By:	Munshi Aquib Ali	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Customer)
Description:	User can manage his utilities (ATM cards, debit cards, cheque books) here
Preconditions:	User needs to be logged in his account and should be in main user page.
Post conditions:	User is able to see details about utilities related to his account and manage them
Priority:	
Frequency of Use:	As many times as required.
Trigger:	User clicks the Utilities section in the main user page.
Flow of Events:	**System:** shows user all utilities his account is approved with if it has any and an option to request **1. User selects any Utility** **System:** shows details about that utility (reference no, utility type, issue date, expiry date) and option to block/unblock the utility. If user blocks any utility it will be blocked instantaneously but if he unblocks any blocked utility then a request for unblocking the utility will be sent to the bank which once approved will unblock the utility. **2. User selects the option to add an Utility** **System:** asks the user for the type of the utility. **User:** selects the utility. **System:** sends a request to the bank for the utility which once granted will issue the utility.
Alternative Flows:	**1. User exits the utility management activity:** **System:** discard the current activity and sends the user to the main user page.
Exceptions:	
Includes:	
Special Requirements:	

Assumptions:	
Notes and Issues:	It includes the login of user

5.2.3. Admin Page

5.2.3.1 Login

Use Case ID:	301		
Use Case Name:	Login		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Admin)
Description:	Admin will login in his account here
Preconditions:	Admin needs to have an account created.
Post conditions:	If login is verified then admin will be in home page where he will see requests from customers and their details which he can approve or reject
Priority:	
Frequency of Use:	As many times as needed by admin.
Trigger:	Admin clicks on the Login section in the designated site
Flow of Events:	**System:** Asks for Admin ID and password **Admin:** Enters Admin ID and Password **System:** Verifies the Credentials and if correct then Admin gets access to the system else a Toast for wrong Credentials is shown
Alternative Flows:	Admin exits
Exceptions:	

Includes:	
Special Requirements:	Valid Login ID and password
Assumptions:	
Notes and Issues:	It includes verifying credentials

5.2.3.2 New Registrations

Use Case ID:	302		
Use Case Name:	New Registrations		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Admin)
Description:	Admin will see new Account creation request here
Preconditions:	Admin needs to be logged in
Post conditions:	Admin will be seeing requests for new accounts here which he can approve or reject
Priority:	
Frequency of Use:	As many times as needed by admin.
Trigger:	Admin clicks on the New Registration section in the designated site
Flow of Events:	**System:** Shows admin all the new account creation requests **Admin:** Selects any one **System:** shows all the details about that request **Admin:** clicks either Approve or Reject.
Alternative Flows:	Admin exits the page.

Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

5.2.3.3 Requests

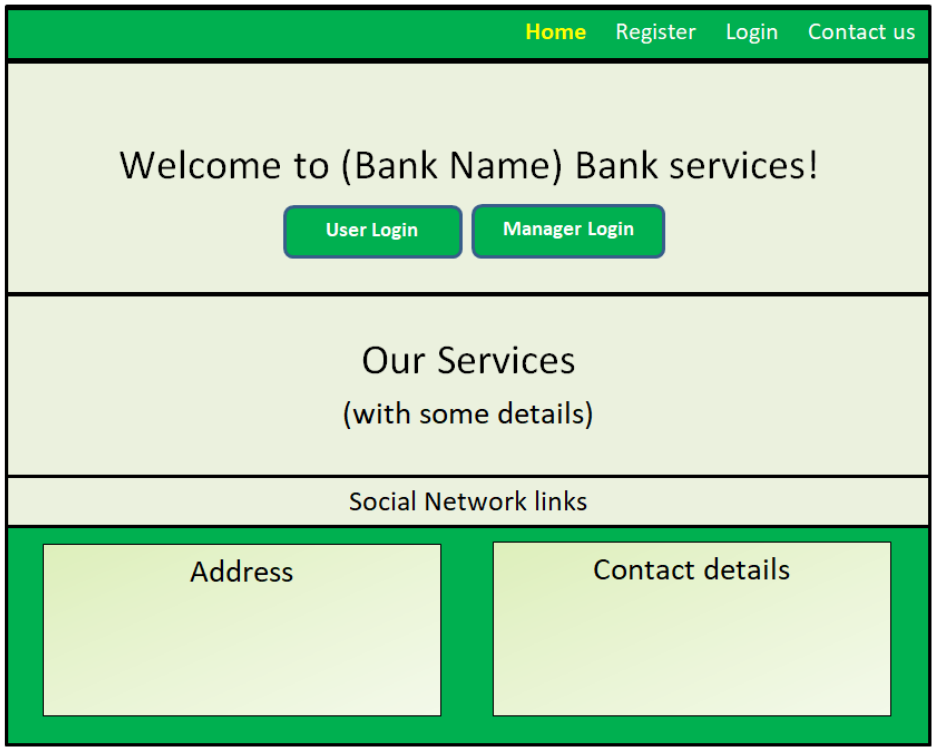
Use Case ID:	301		
Use Case Name:	View Requests		
Created By:	Rahul Yadav	**Last Updated By:**	Rahul Yadav
Date Created:	20 August 2021	**Date Last Updated:**	27 August 2021

Actor:	User (Bank Admin)
Description:	Admin will see requests made by existing customers
Preconditions:	Admin needs to be logged in
Post conditions:	If login is verified then admin will be in home page where he will see requests from customers and their details which he can approve or reject
Priority:	
Frequency of Use:	As many times as needed by admin.
Trigger:	Admin clicks on the Requests section in the designated site

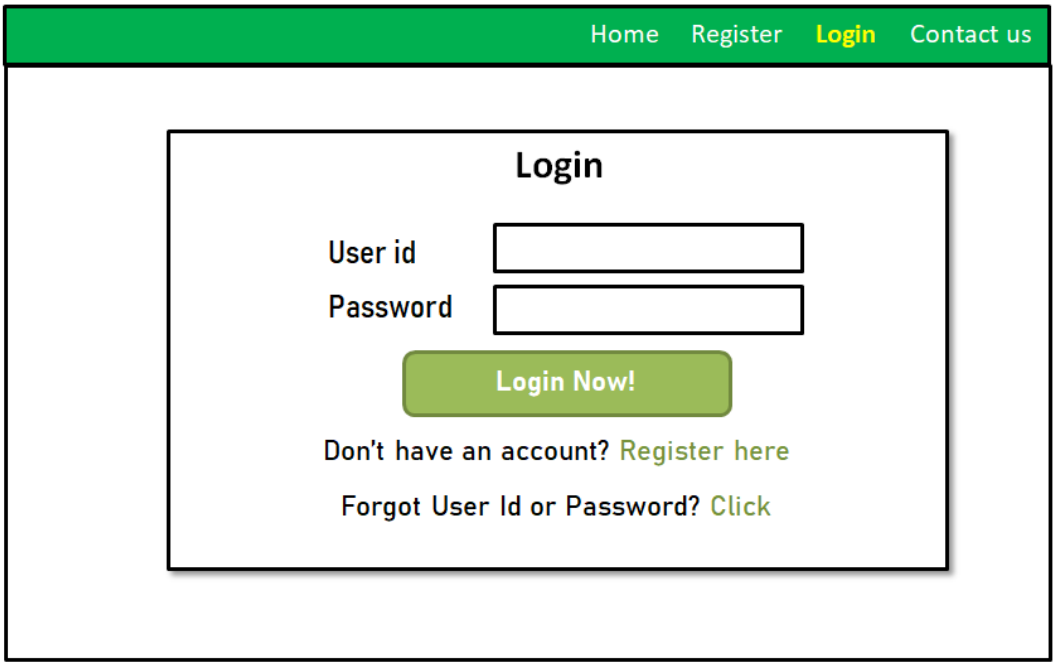
Flow of Events:	**System:** shows admin different requests (deposit, withdraw, loans, utilities) made by existing users **Admin:** selects any one request **System:** shows the details regarding that request (customer id, request code, amount, etc…) **Admin:** clicks either Approve or Reject
Alternative Flows:	Admin exits the page.
Exceptions:	
Includes:	
Special Requirements:	
Assumptions:	
Notes and Issues:	It includes the login of user

6. UI Sketches

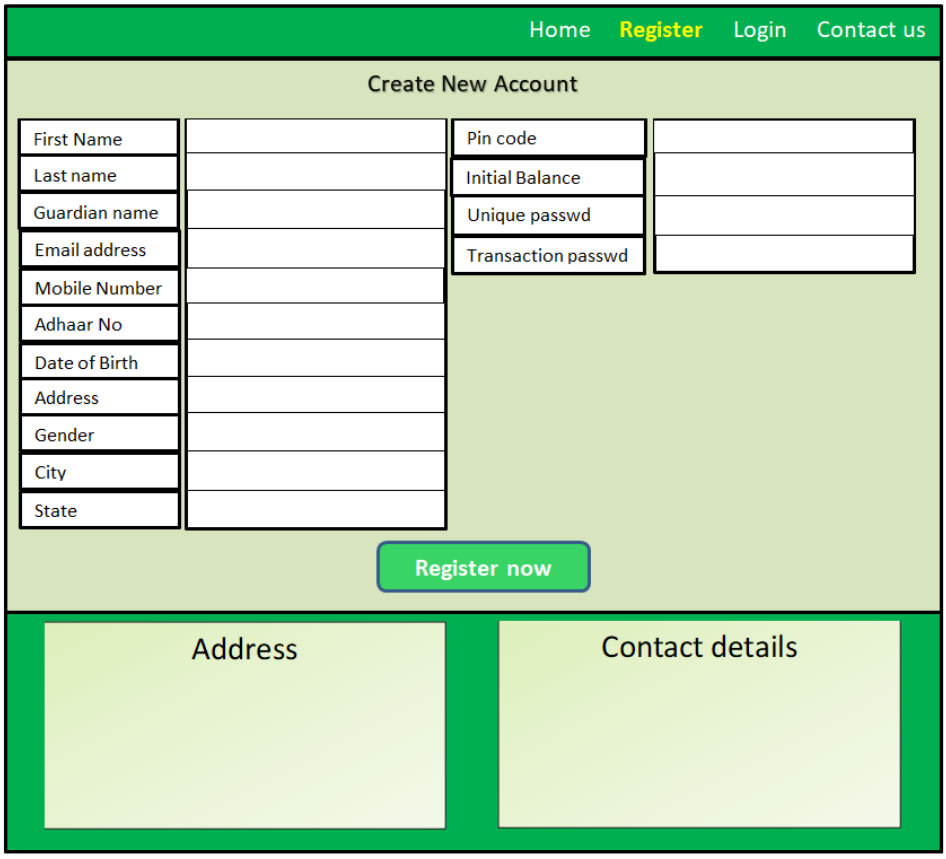
6.1 Home Page



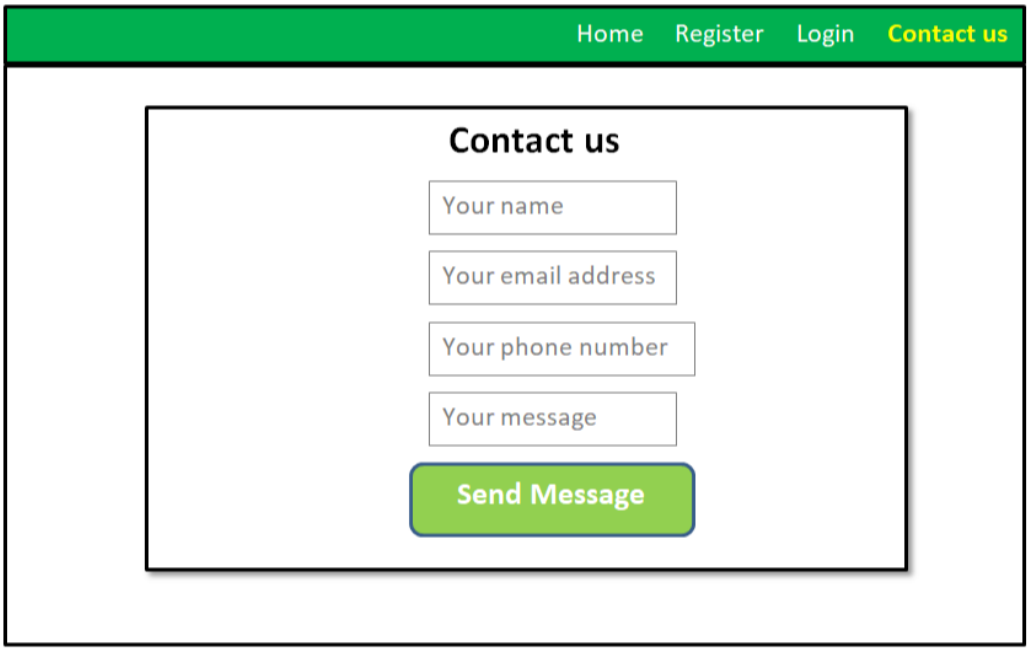
6.2 Login Page



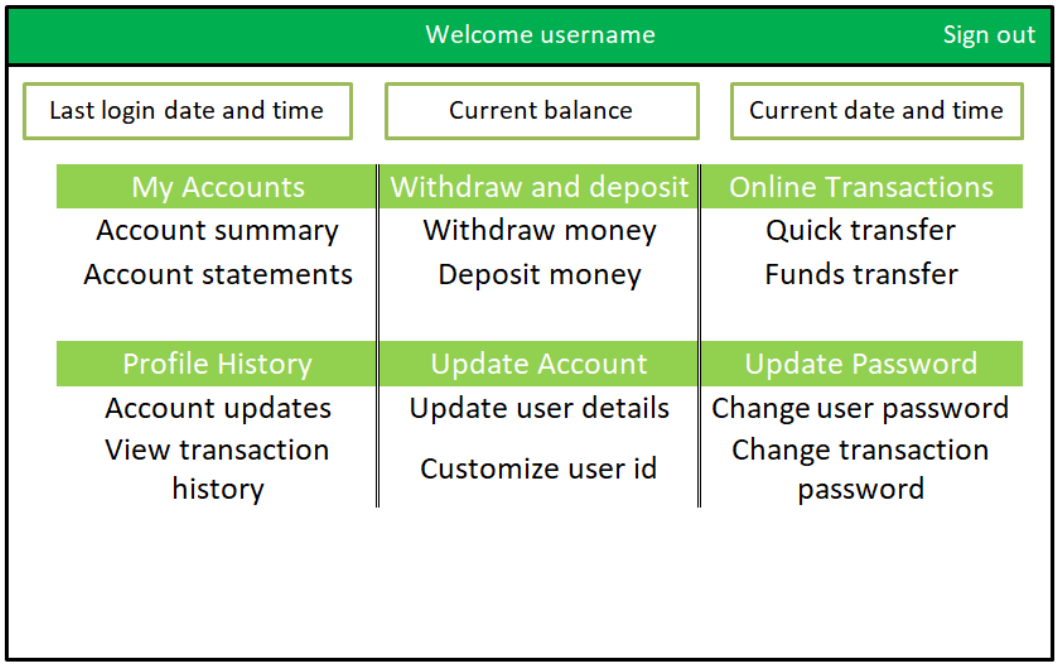
6.3 Registration Page



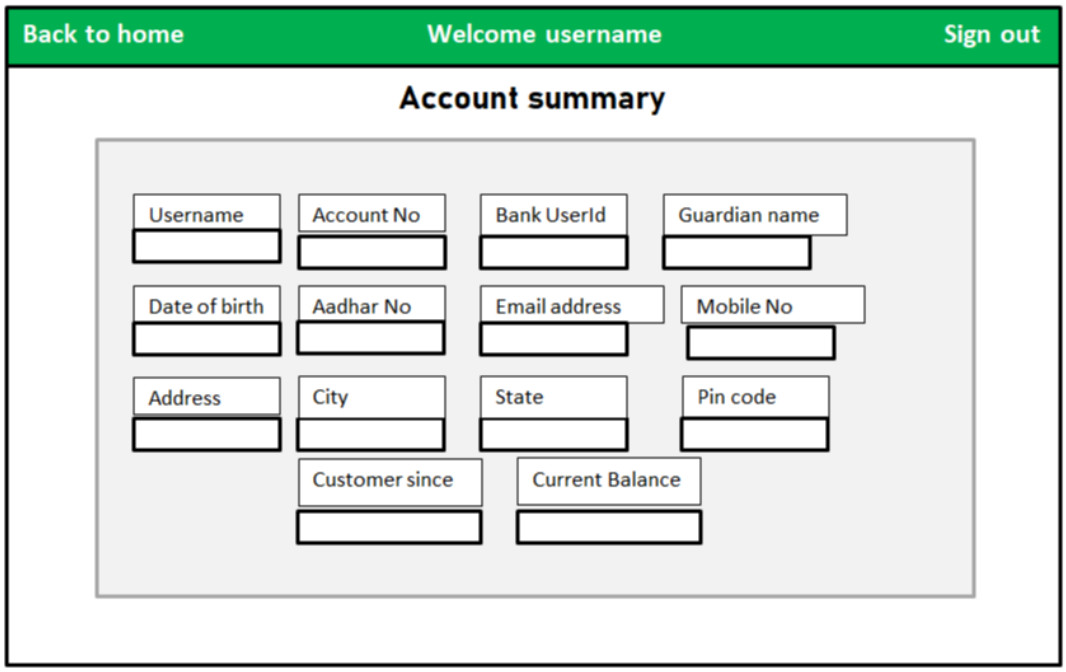
6.4 Contact Page



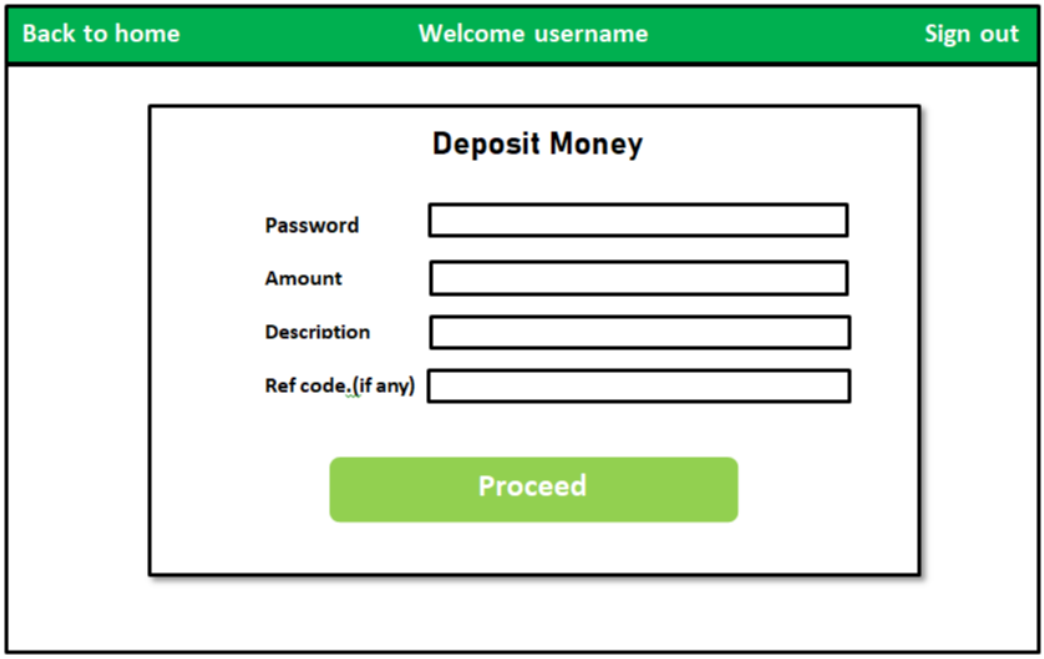
6.5 Customer Dashboard



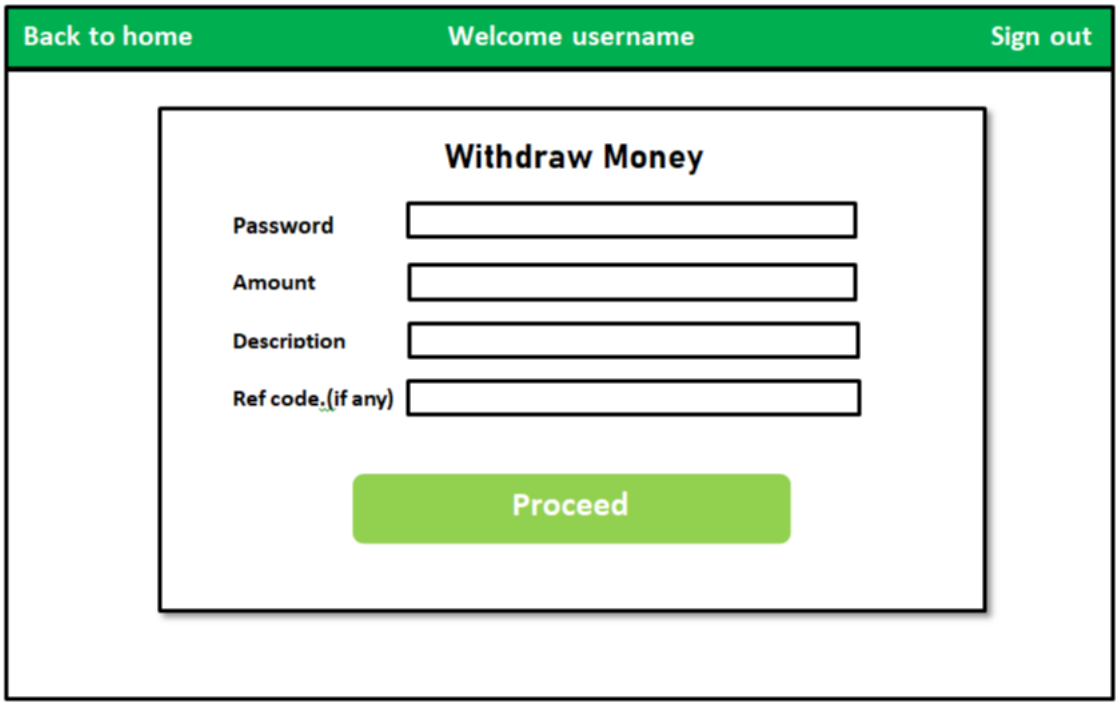
6.6 Account Profile



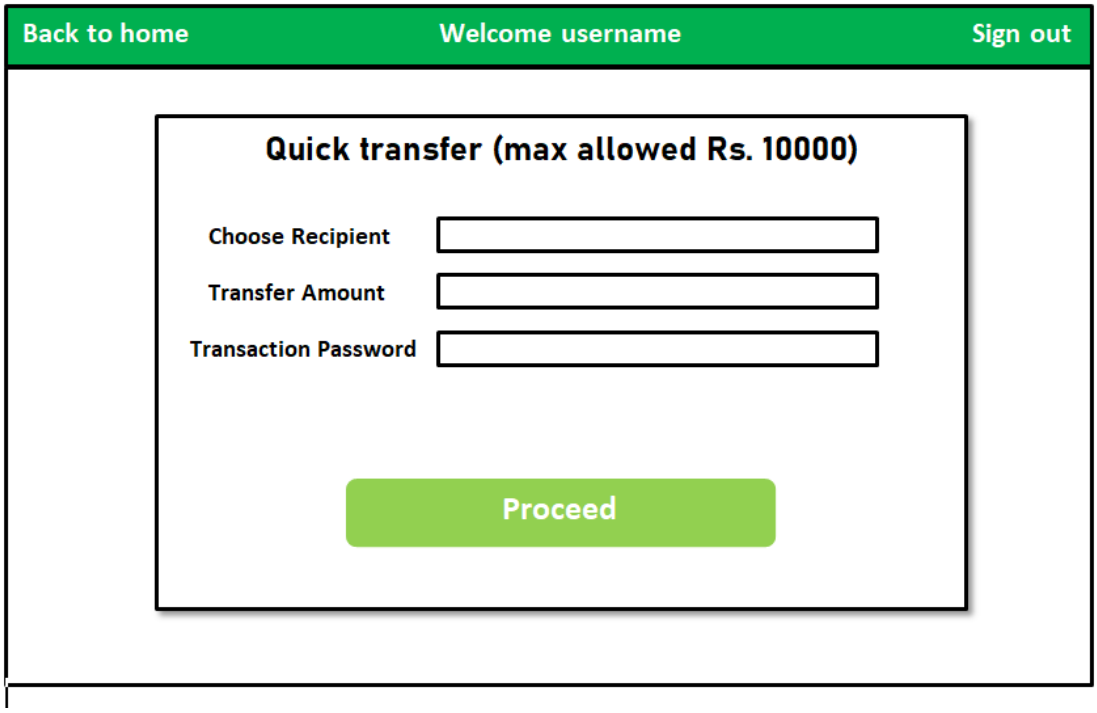
6.7 Deposit



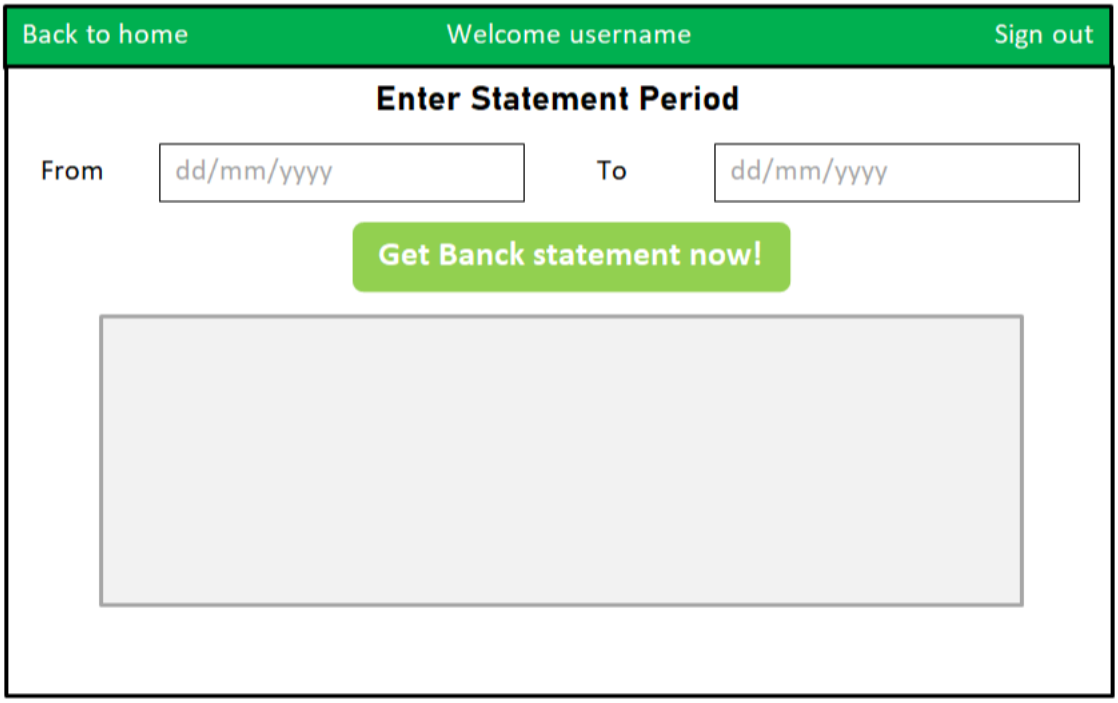
6.8 Withdraw



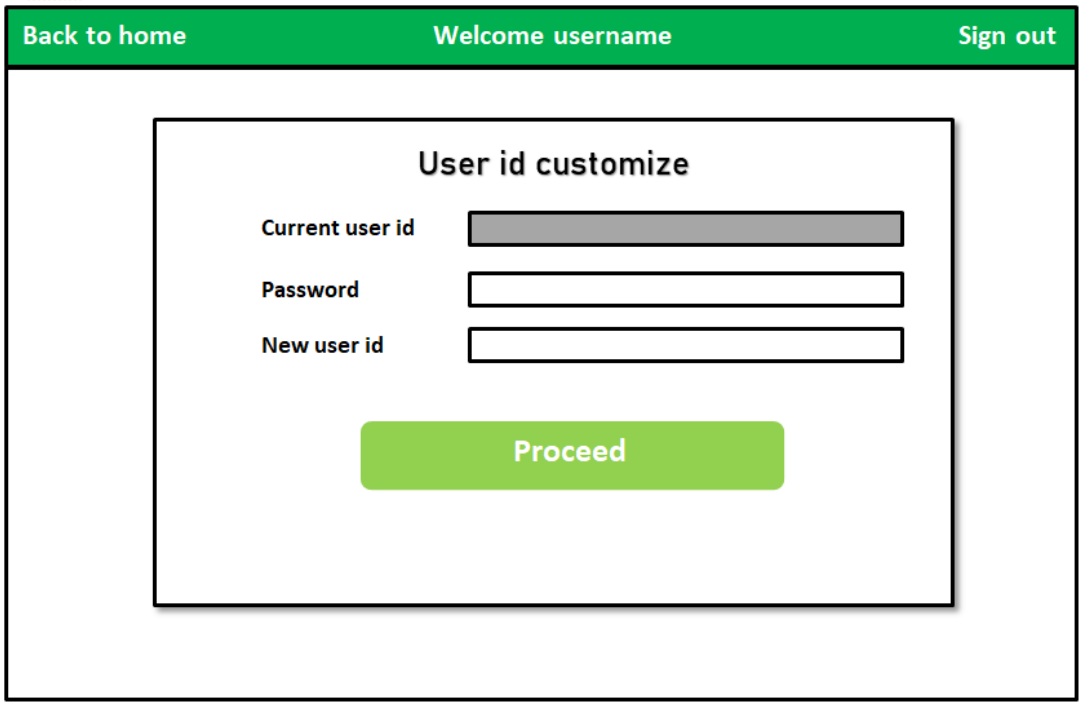
6.9 Quick Transfer



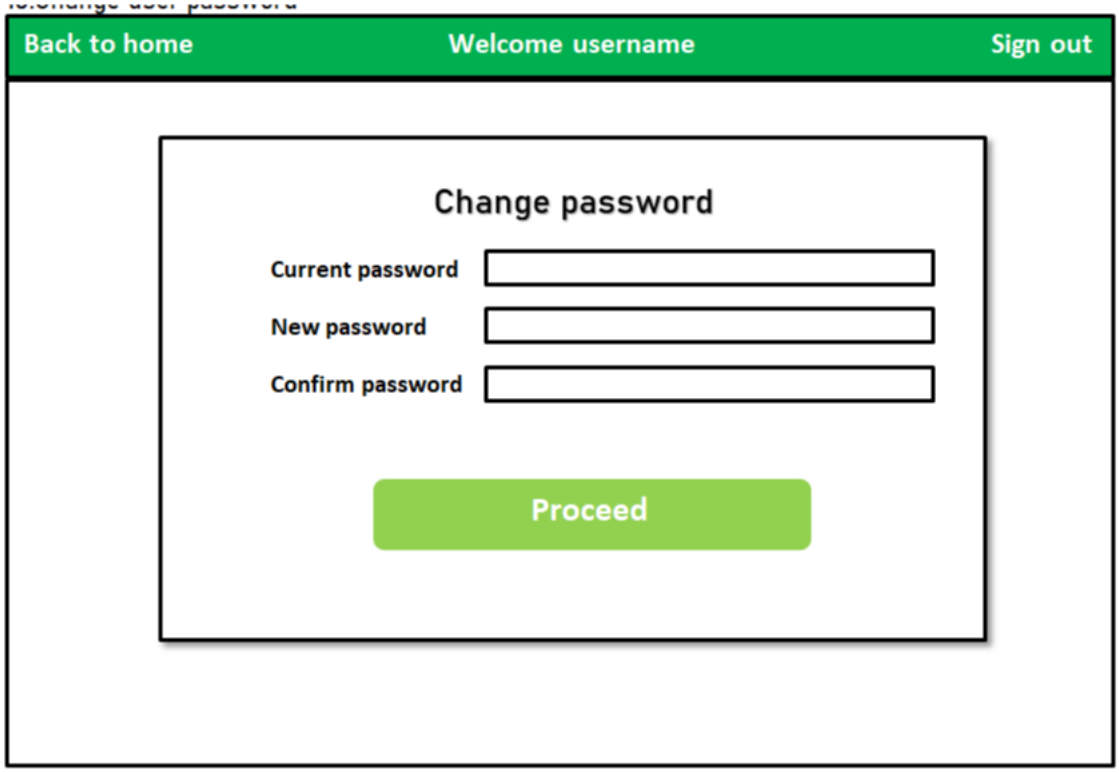
6.10 Account Statement



6.11 Change Username



6.12 Change password



7. Glossary

Domain Dictionary

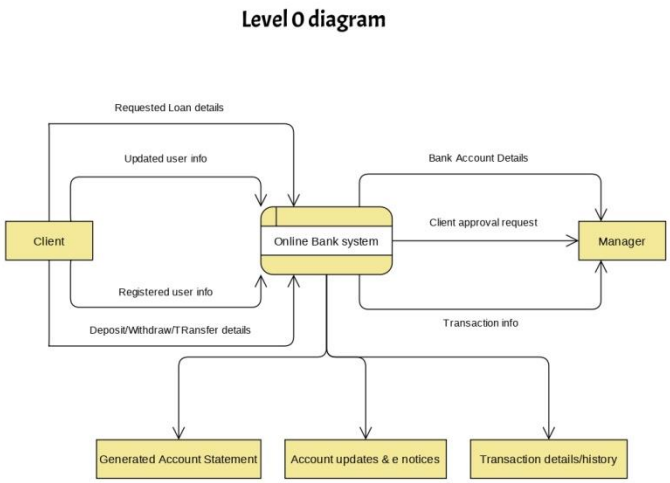
Term Used	Description
Login	This takes the Unique ID and password of a registered user and authenticate with the database.
Register	This takes the details of a user to register him in the database.
Contact Us	This allows Users to contact the bank or to seek help.
Dashboard	This is the home page of a logged in user, here the user can see services available to him.
Sign Out	This option allows users to log out of their account.
User Profile	This shows users details about their account.
Account Statements	This shows users the summarized record of account activities in the selected time period.
Deposit	This allows user to deposit money.
Withdraw	This allows user to withdraw money.
Quick Transfer	This allows users to transfer less than 10000 from one account to another account by requiring the transaction password.
Secure Transfer	This allows users to transfer more than 10000 from one account to another account through email verification.
Transaction History	This shows users the detailed transaction history of a selected time period.
Change Username	This allows Users to change their username.
Change Password	This allows users to change their password.
Loan Management	This option lets users to manage loans on their account.
New Utility	This allows users to apply for any new utility on their account.
Block Utility	This option lets users to instantaneously block any utility linked to their account.

8. Revision History

Version	Date	Description	Author
0.1	29/08/2021	Initial Document	Rahul Yadav
0.1	10/08/2021	Updated use case diagrams	Rahul yadav

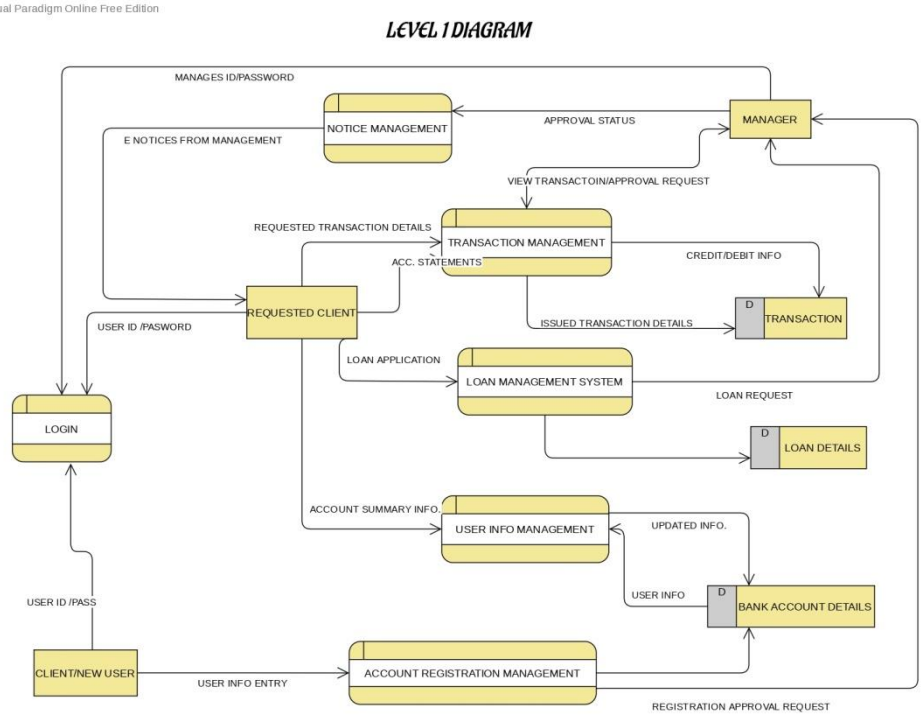
<u>Assignment5:</u> Draw a Data Flow Diagram for your Software Engineering Project (Level 0, 1 & 2).

Visual Paradigm Online Free Edition



Visual Paradigm Online Free Edition

Visual Paradigm Online Free Edition

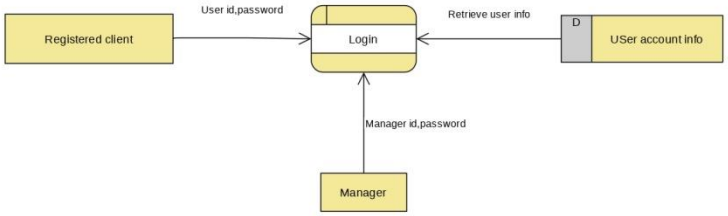


Visual Paradigm Online Free Edition

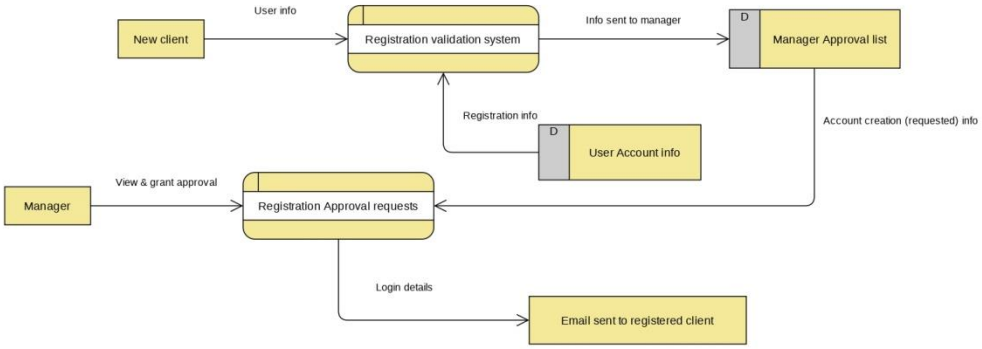
Visual Paradigm Online Free Edition

Level 2 diagram

1. Login



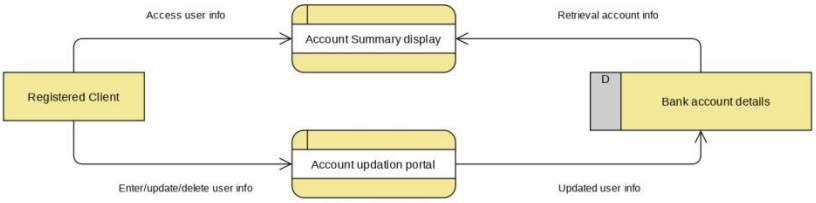
2. Account Registration management



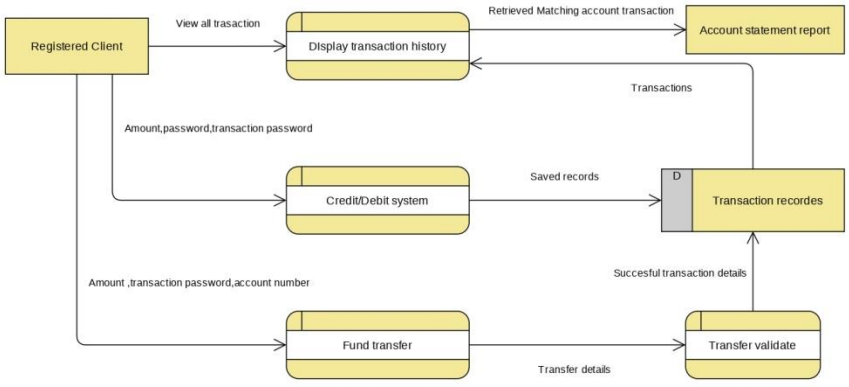
Visual Paradigm Online Free Edition

Visual Paradigm Online Free Edition

3.User info management



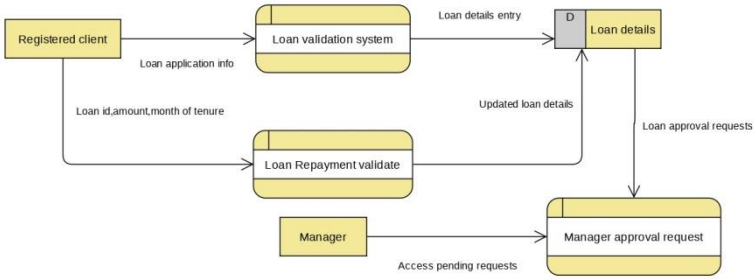
4. Transaction management



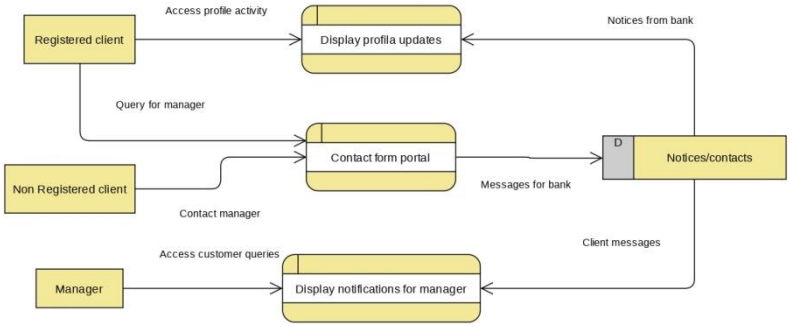
Visual Paradigm Online Free Edition

Visual Paradigm Online Free Edition

5. Loan Management

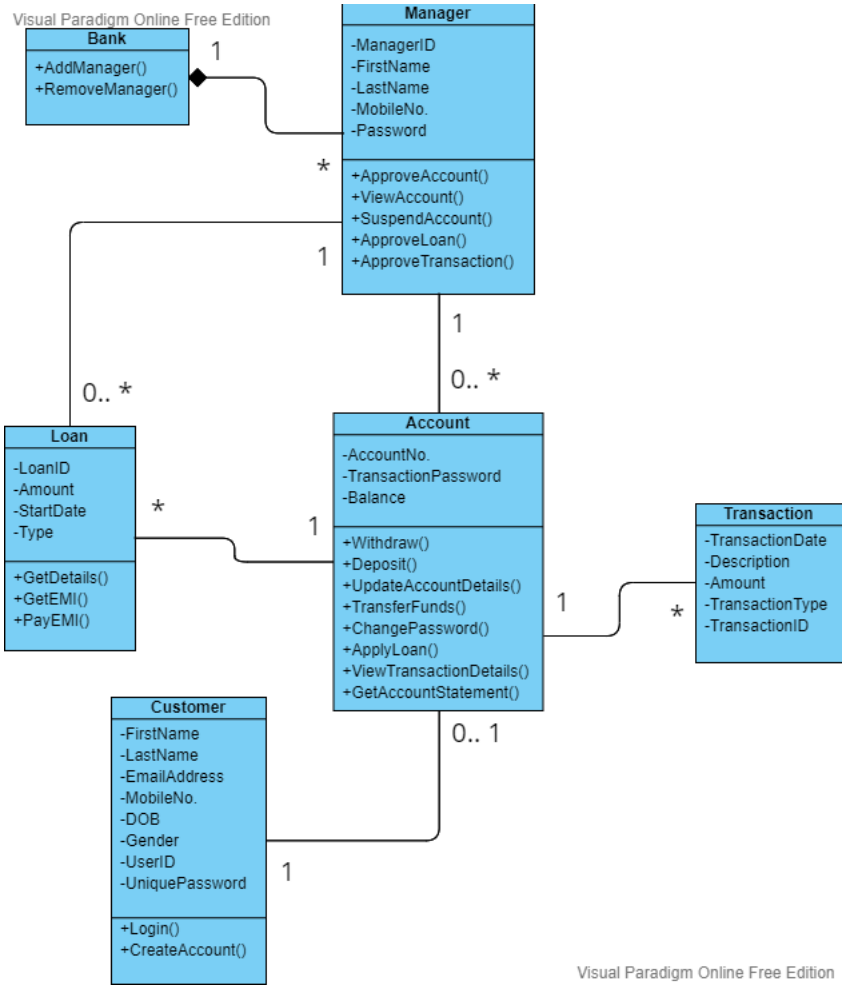


6. e-Notice Management

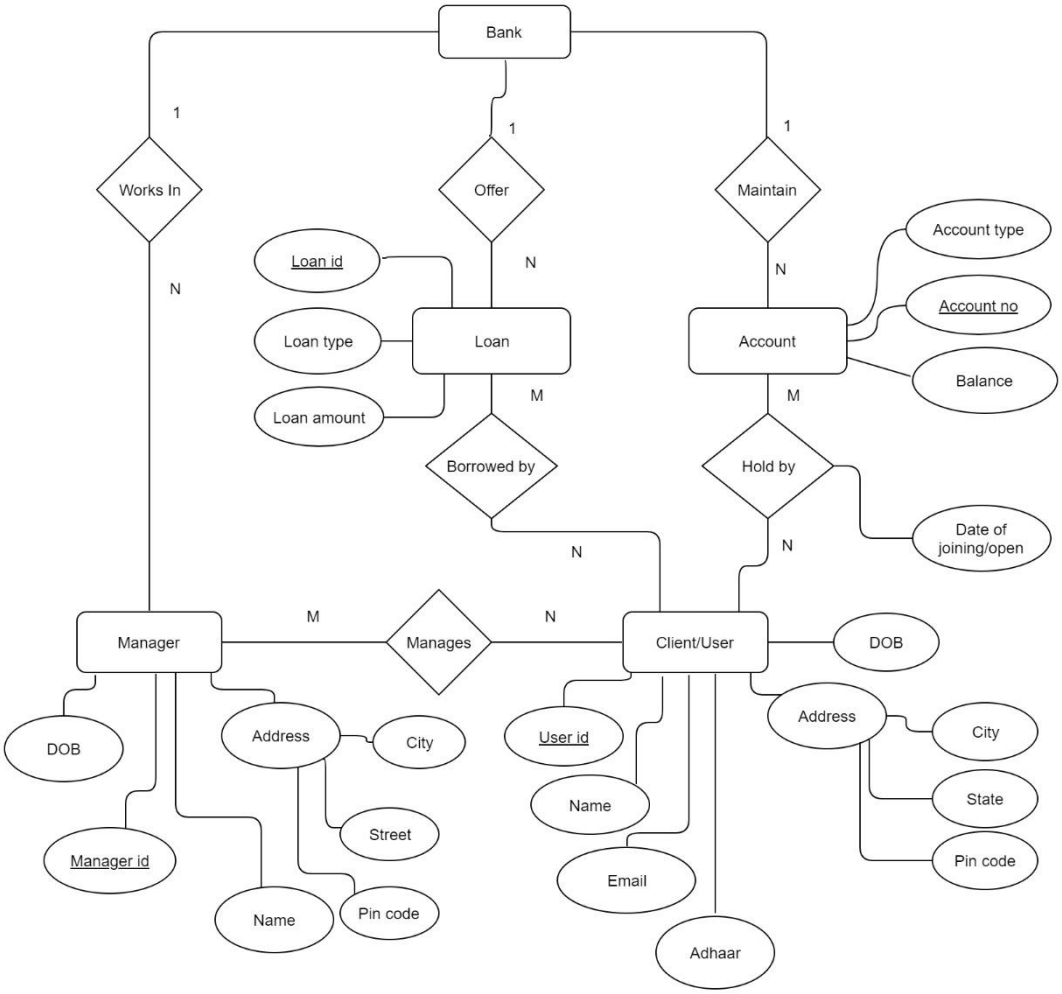


Visual Paradigm Online Free Edition

<u>Assignment6:</u> Draw a Class Diagram for your Software Engineering Project along with a proper description.

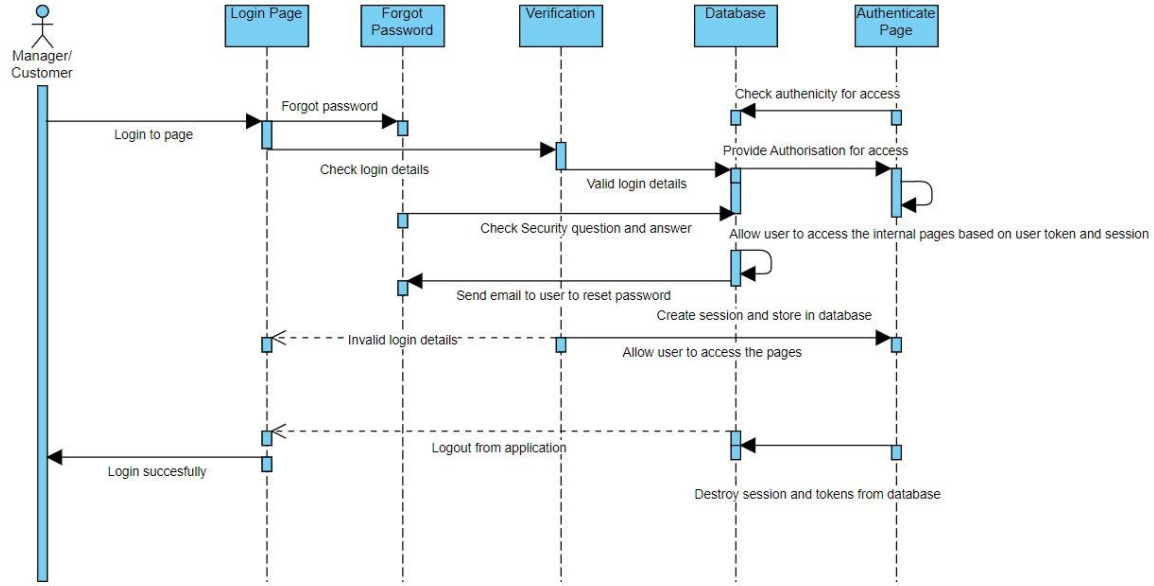


<u>Assignment7:</u> Draw an Entity Relationship Diagram for your Software Engineering project.

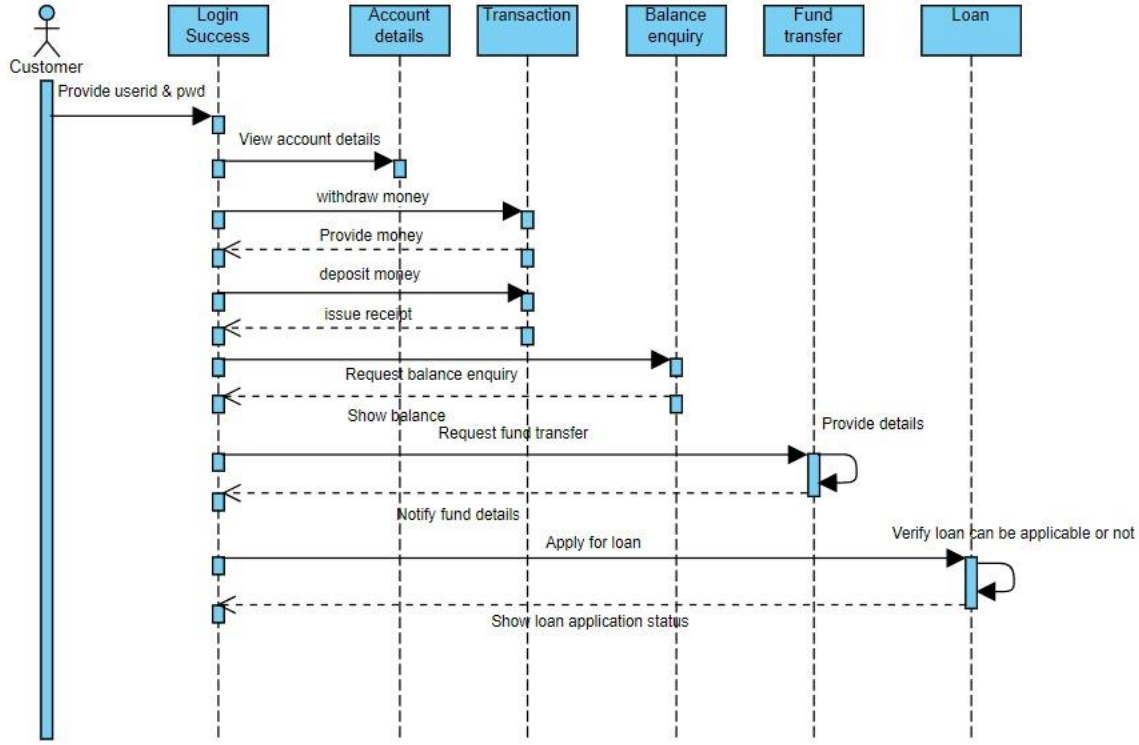


<u>Assignment8:</u> Draw a Sequence Diagram for your Software Engineering Project.

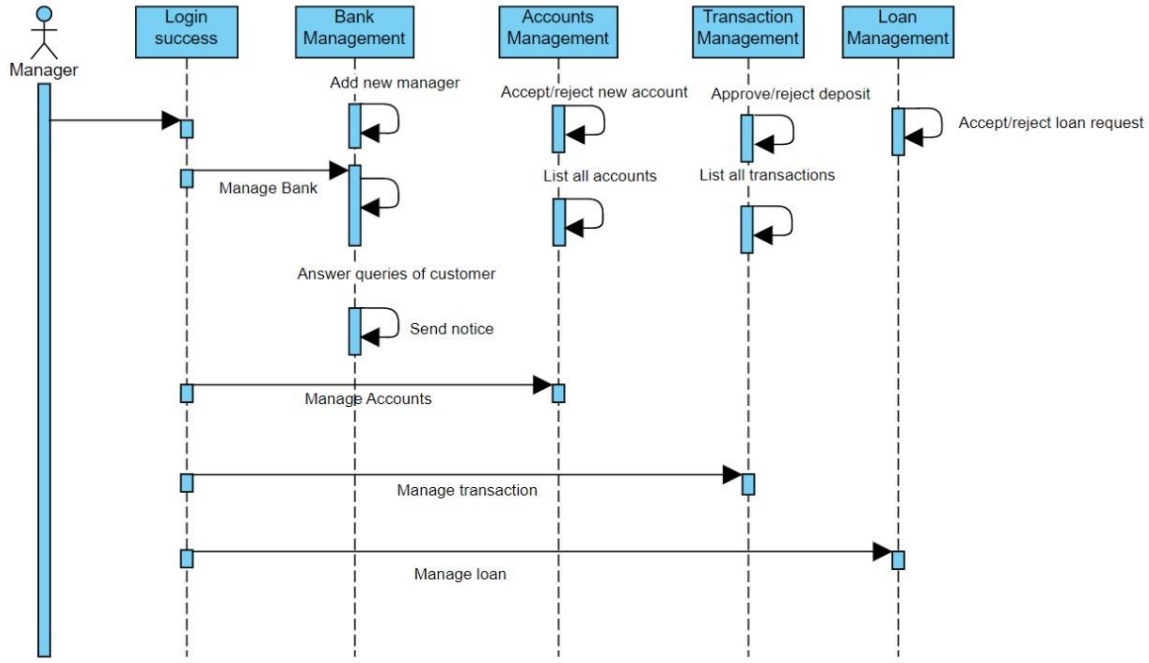
Login Sequence Diagram



Customer Sequence Diagram

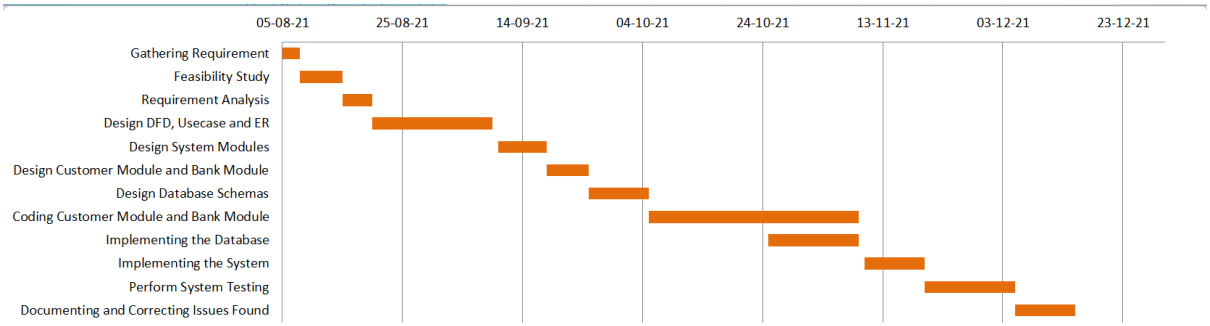


Manager Sequence Diagram



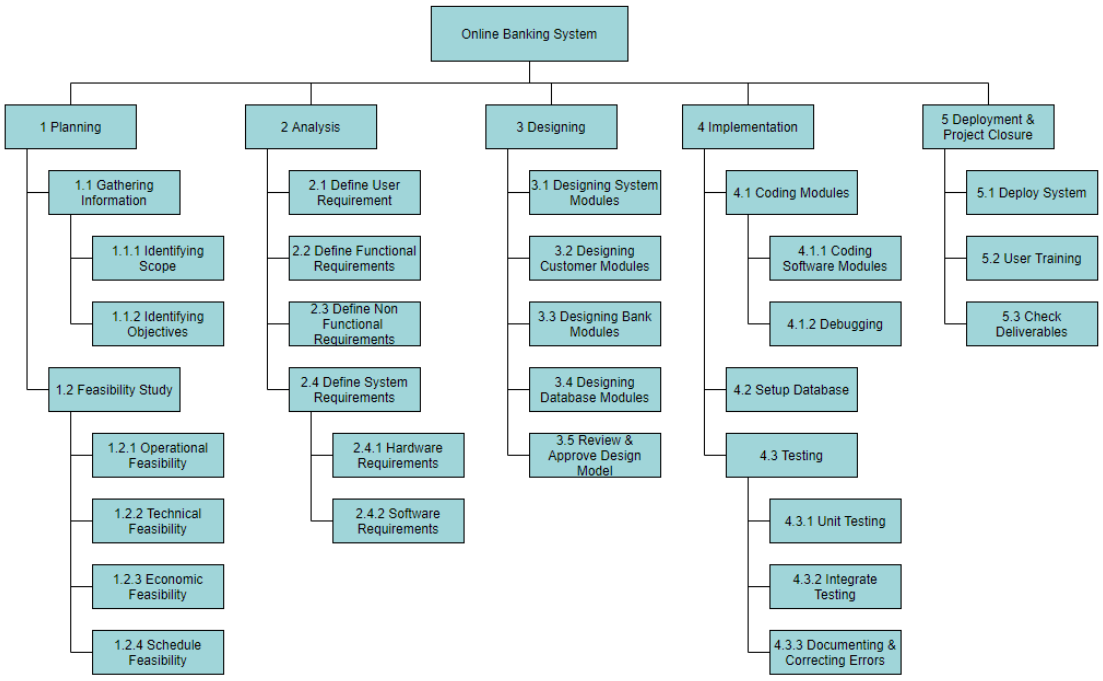
Assignment9: Create a Gantt chart and WBS for your Software Engineering Project.

Gantt chart



	Documenting and Correcting Issues Found	Perform System Testing	Implementing the System	Implementing the Database	Coding Customer Module and Bank Module	Design Database Schemas	Design Customer Module and Bank Module	Design System Modules	Design DFD, Usecase and ER	Requirement Analysis	Feasibility Study	Gathering Requirement
Start Date	05-12-21	20-11-21	10-11-21	25-10-21	05-10-21	25-09-21	18-09-21	10-09-21	20-08-21	15-08-21	08-08-21	05-08-21
Days to Complete	10	15	10	15	35	10	7	8	20	5	7	3

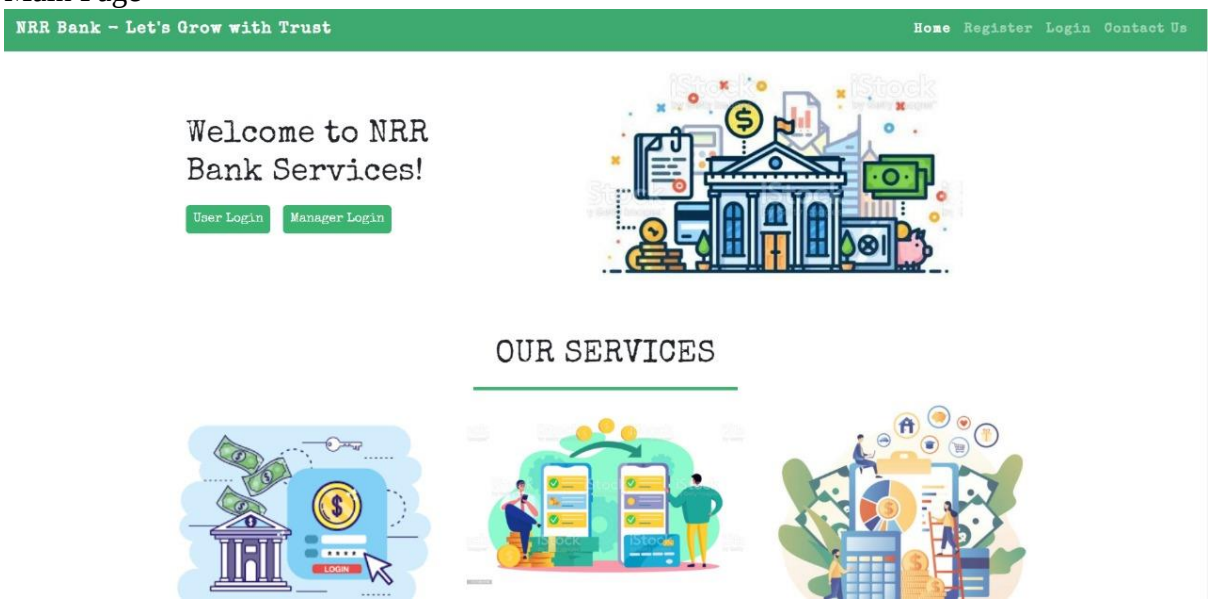
WBS



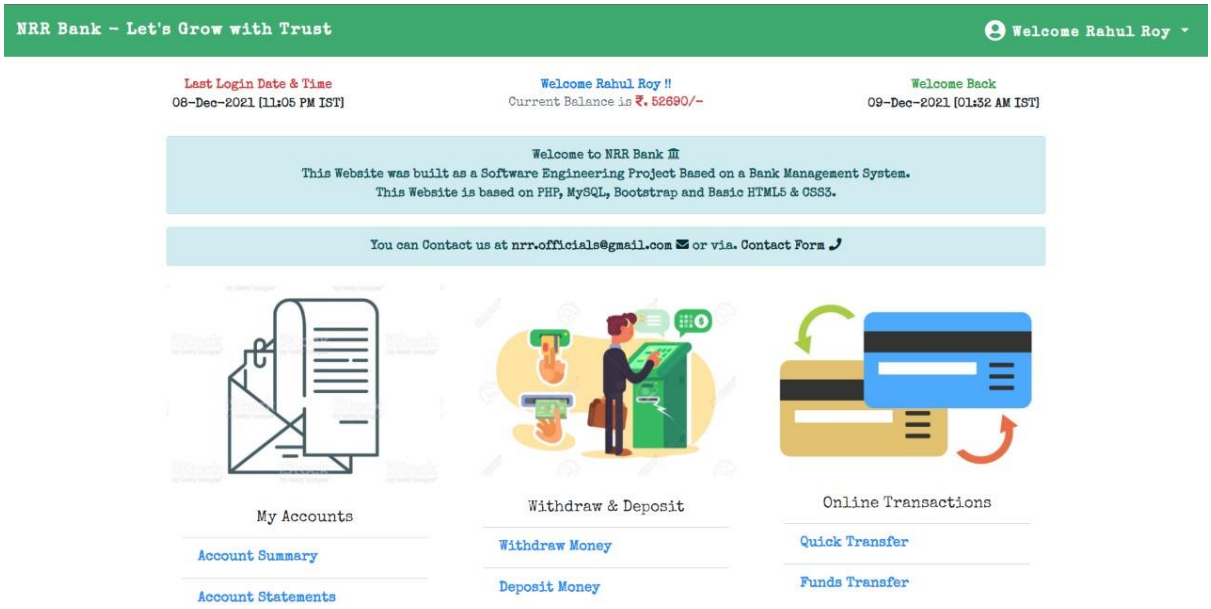
<u>Assignment10:</u> Implement the project as per the SRS.

This project has been implemented keeping in mind the usability of the product. During the coding phase we have tried to cover up most of the features which we mentioned earlier in our SRS baring a few. This Online Banking System that we have created is digital banking solution to people's needs, here anyone can register themselves and to use the facilities provided they have to login into their account using proper credentials.

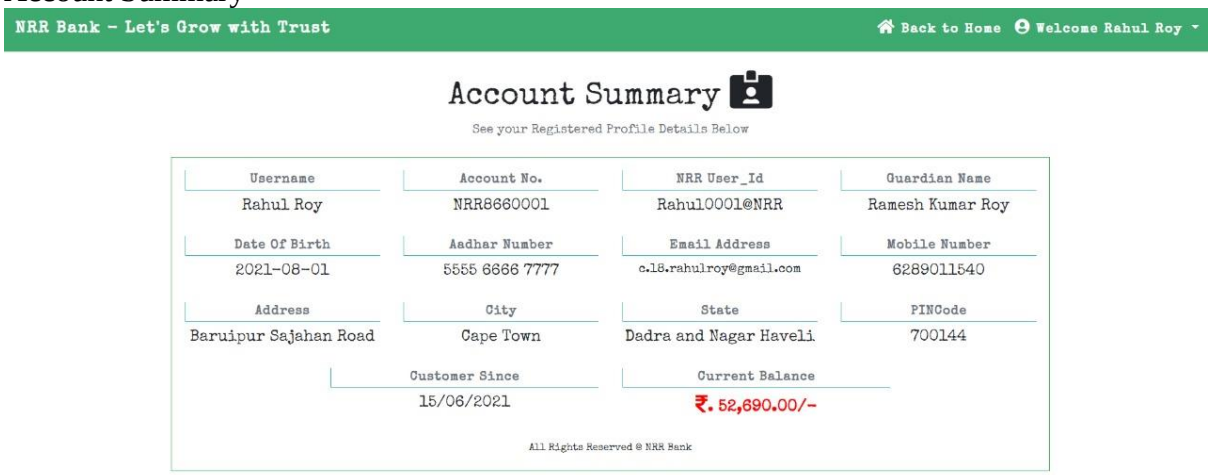
Main Page



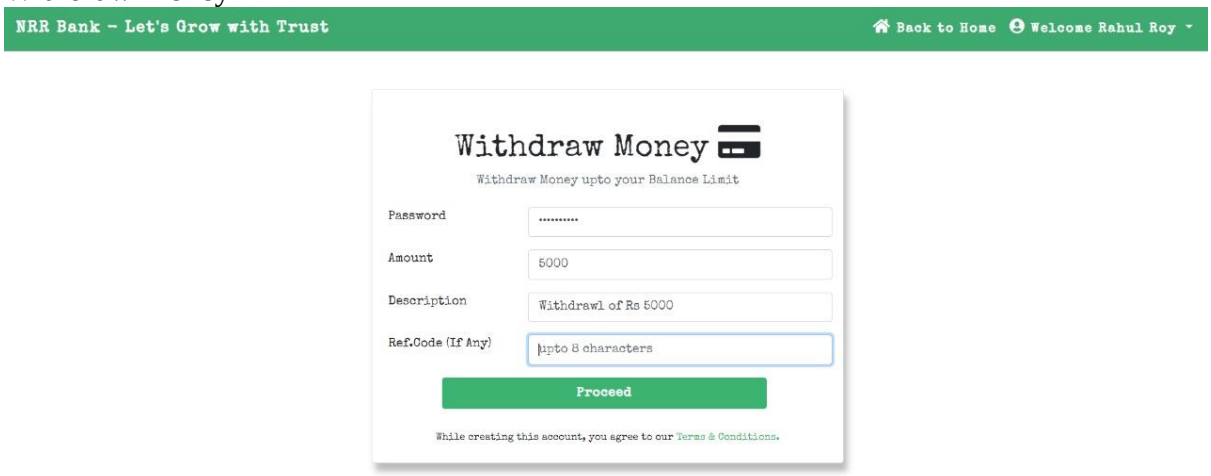
User Dashboard



Account Summary



Withdraw Money



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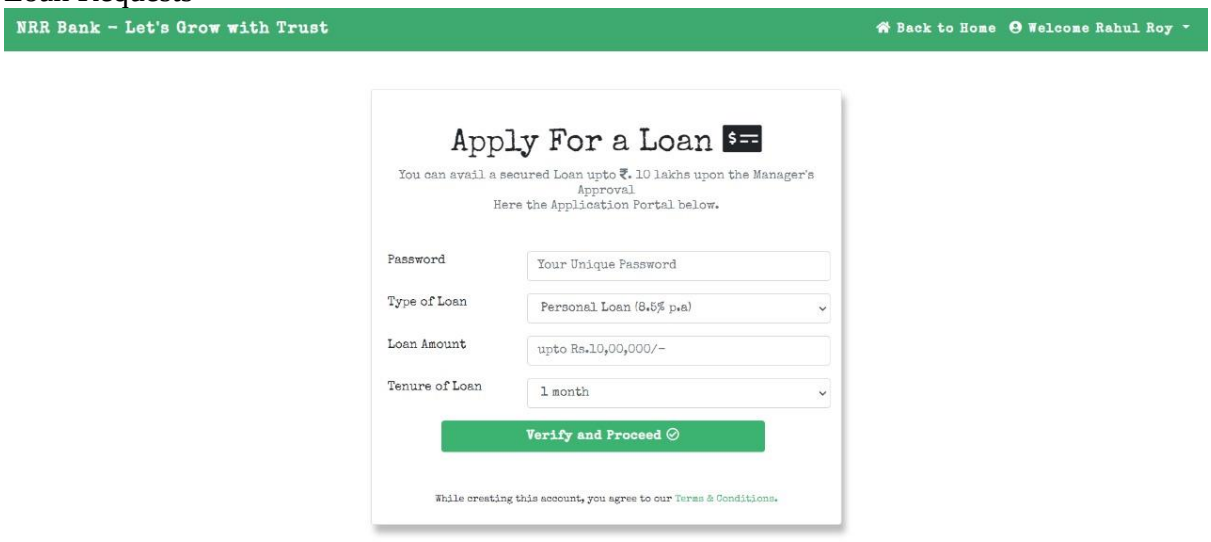
Loan Requests



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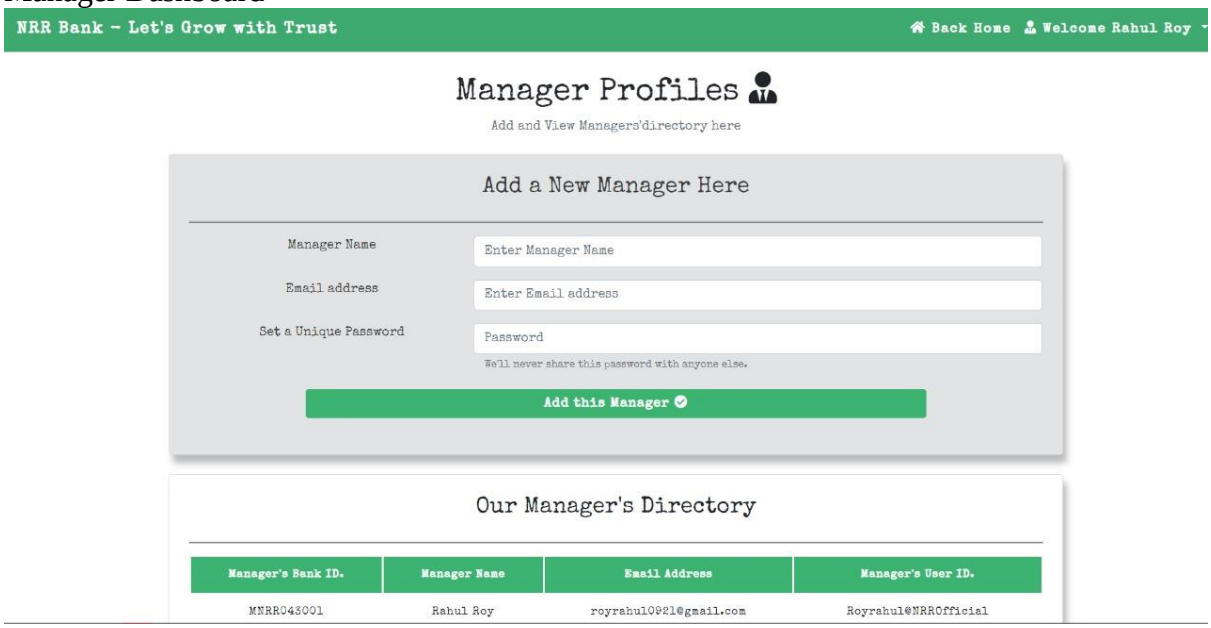
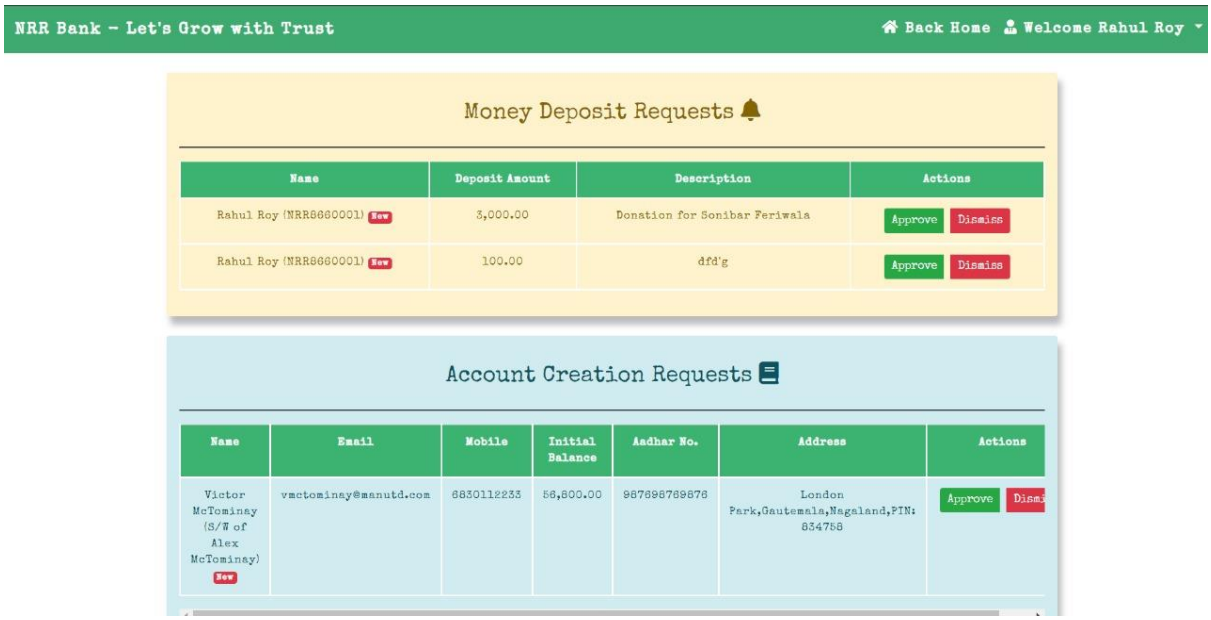
Manager Dashboard



Notification Desk



The images above show the working condition of our Banking System which has been successfully implemented.