SOFTWARE ENGINEERING PRINCIPLES

LAB –MIDTERM

22MIC0009

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Banking System

A bank wants to develop an online banking system that allows customers to view their accounts, transfer money, pay bills, and request loans.

1) Identify and document objectives, functional and non-functional requirements.

Objectives:
The objective of the project is to build a online banking system that allows customers to view their accounts,transfer money ,pay bills and request loans through a dedicated application through which each user is supposed to login in and maintain a account for their own.
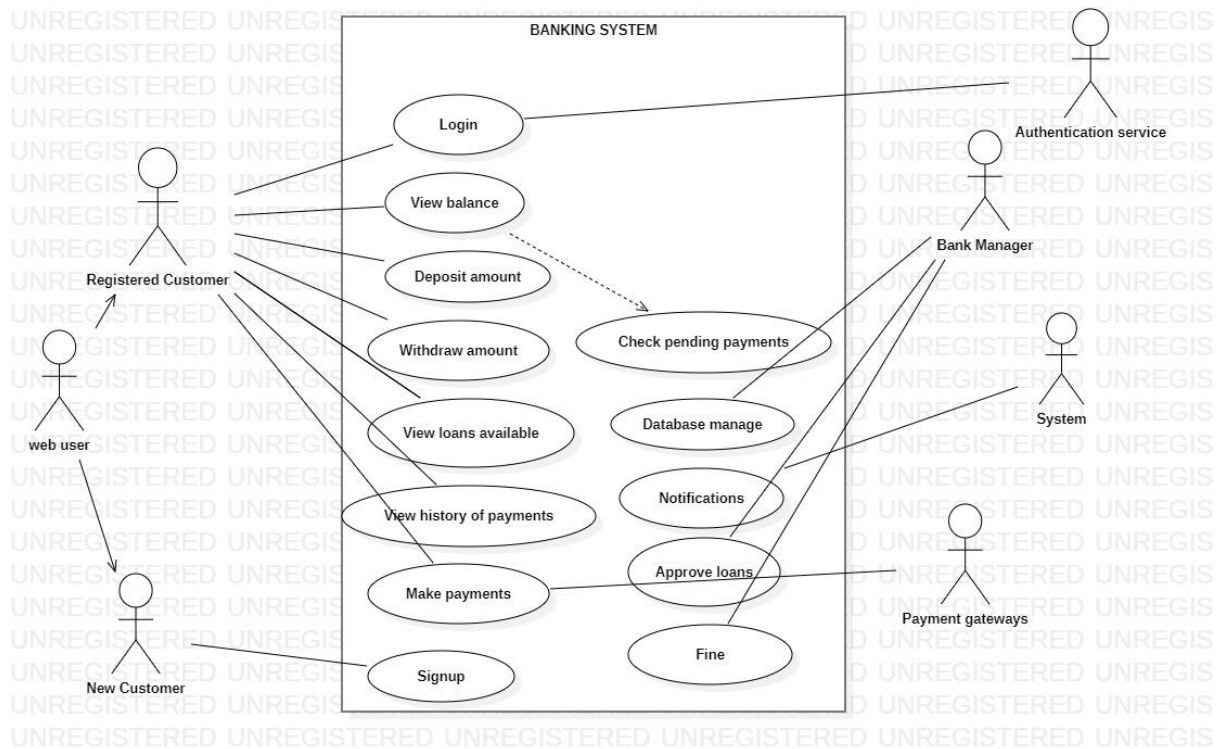
Functional Requirements:
1)Login Page
2)Authentictaion
3)Withdraw amount
4)Deposit amount
5)View Balance
6)View avalailable plans for loans
7)Check pending payments
8)Notifications
9)Charge fine:
If loan interest is not paid on time fine has to be charged

Non-Functional Requirements:
1)Security:
Secure payments and transactions
2)Reliability
3)Scalability: Easy to scale
4)Ease of usage:
Good UI/UX design
5)Faster loading of page
5)passwords encrypted and confidentiality of payments

2) Draw Use Case Diagram illustrating the roles of Customer, Bank Manager, System.

BANKING SYSTEM

Login
View balance
Deposit amount
Withdraw amount
View loans available
View history of payments
Make payments
Signup
Check pending payments
Database manage
Notifications
Approve loans
Fine

Registered Customer
web user
New Customer
Authentication service
Bank Manager
System
Payment gateways

3) Draw ER Diagram for Entities: Customer, Account, Transaction, Loan, Payment

Customer
Customer id   PK
Customer Name
Phone number
Adress
Pincode

Account
Account name
Account number
Account validity
Account type

Loan
Loan amount
Loan tenure
Loan interest

Personal Loan
Business Loan

Transaction
To account
From account
Transaction id
Time of Transaction
Result of transaction

Payment
Payment id
Payment amount
Credit or Debit

Bank Manager
Records
databse
Name

Payment gateway
name
Type

Manages a
can apply
Can
Manages all
allowed to
Manages