

PROPOSAL ON BANK MANAGEMENT SYSTEM

GUIDED BY:-

BATCH CODE : ANP-D2405

MR. ANUJ KUMAR

CREATED BY

ANUDIP ID

AANCHAL

AF04971729

AYRA

AF04991774

KAJAL

AF04991637

Table Of Contents

INDEX

1. Bank Management System
2. Introduction
3. Objective
4. Project Category
5. Analysis
 - Modules and Description
 - Database Design
 - ER Diagram
 - Data Flow Diagram
6. Complete Structure
 - Process Logical Diagram
7. Platform Used
 - Hardware Requirement
 - Software Requirement
8. Future Scope
9. Bibliography

1. Title of the Project

Bank Management System

2. Introduction

The Bank Management System is a software application designed to digitalize the core operations of a bank. It allows customers, employees, and administrators to efficiently manage banking activities such as account creation, customer details, transactions, and reporting.

3. Objective

- Automate traditional banking operations.
- Provide secure and fast transactions.
- Maintain accurate customer and account information.
- Provide command-line interface using Java.
- Ensure data integrity using MySQL backend.

4. Project Category

Database Management System (DBMS) / Console-Based Application

It is a command line project.

5. Analysis

Modules and Description

Modules :

- a) Customer Management
- b) Account Management
- c) Transaction Management
- d) Loan Management
- e) Loan Payment (EMI)
- f) Employee Management
- g) Admin Management

Module 1 : Customer Management

- 1.1 Add new customer
- 1.2 Updates customer details
- 1.3 View and search customer information
- 1.4 Delete customer records

Module 2 : Account Management

- 2.1 Creates bank accounts
- 2.2 View account details
- 2.3 Check balance
- 2.4 Close or active accounts

Module 3 : Transaction Management

- 3.1 Deposit money
- 3.2 Withdraw money
- 3.3 Transfer funds
- 3.4 View transaction history

Module 4 : Loan Management

- 4.1 Accepts and processes loan applications
- 4.2 Maintains loan details such as amount, interest rate, and tenure

Module 5 : Loan Payment (EMI)

- 5.1 Records EMI payments
- 5.2 Tracks outstanding loan balance
- 5.3 Maintains payment history

Module 6 : Employee Management

- 6.1 Stores employee details
- 6.2 Manages roles and salaries
- 6.3 Manages joining dates

Module 7 : Login Management

- 7.1 Admin login and authentication
- 7.2 Manage customers, accounts, and loans
- 7.3 View complete transaction history
- 7.4 Generate reports
- 7.5 Manages joining dates

Database Design

Tables:

1. Customer

Fields	Datatype	Description
customer_id	INT	Primary Key
name	VARCHAR(100)	Full name
email	VARCHAR(100)	Email ID
phone	VARCHAR(15)	Contact number
address	VARCHAR(200)	Address
created_at	DATETIME	Registration date

2. accounts

Fields	Datatype	Description
account_no	BIGINT	Primary key
customer_id	INT	Foreign key
account_type	VARCHAR(20)	Savings/Current
balance	DOUBLE	Current balance
status	VARCHAR(20)	Active/Closed
created_at	DATETIME	Account creation date

Relationship :

One customer can hold multiple accounts

3. transactions

Fields	Datatype	Description
trans_id	INT	Primary key
account_no	BIGINT	Foreign key
type	VARCHAR(20)	Deposit/Withdraw/Transfer
amount	DOUBLE	Transaction amount
trans_date	DATETIME	Transaction date
description	VARCHAR(200)	Notes/details

Relationship :

One transaction is performed by one account.

4. loan

Fields	Datatype	Description
loan_id	INT	Primary key
customer_id	INT	Foreign key
loan_type	VARCHAR(50)	Type of loan

amount	DOUBLE	Loan amount
interest_rate	DOUBLE	Interest percentage
tenure_months	INT	Tenure in months
status	VARCHAR(20)	Approved/Pending/Rejected

Relationship :

One loan can be applied by one customer.

5. loanPayment

Fields	Datatype	Description
payment_id	VARCHAR	Primary key
loan_id	INT	Foreign key
emi_amount	DOUBLE	EMI amount paid
payment_date	DATETIME	Date of payment
remaining_amt	DOUBLE	Remaining balance

Relationship :

One loan can have multiple EMI payments

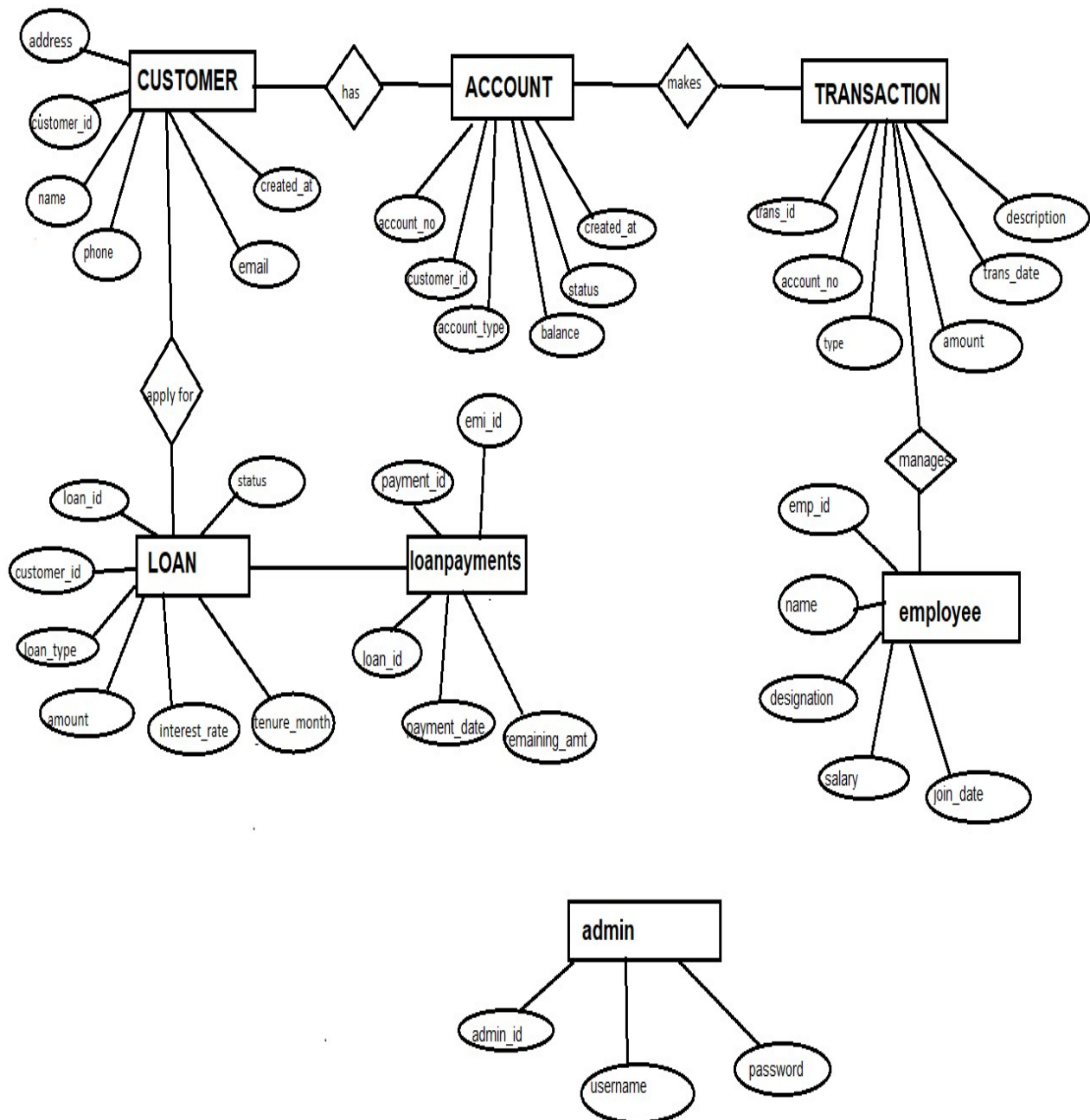
6. employee

Fields	Datatype	Description
emp_id	VARCHAR(PK)	Primary key
name	VARCHAR(100)	Employee name
designation	VARCHAR(50)	Job role
salary	DOUBLE	Salary
join_date	DATE	Joining date

7. login

Fields	Datatype	Description
login_id	VARCHAR(PK)	Primary Key
role	VARCHAR(50)	Role of the user
password	VARCHAR(100)	password

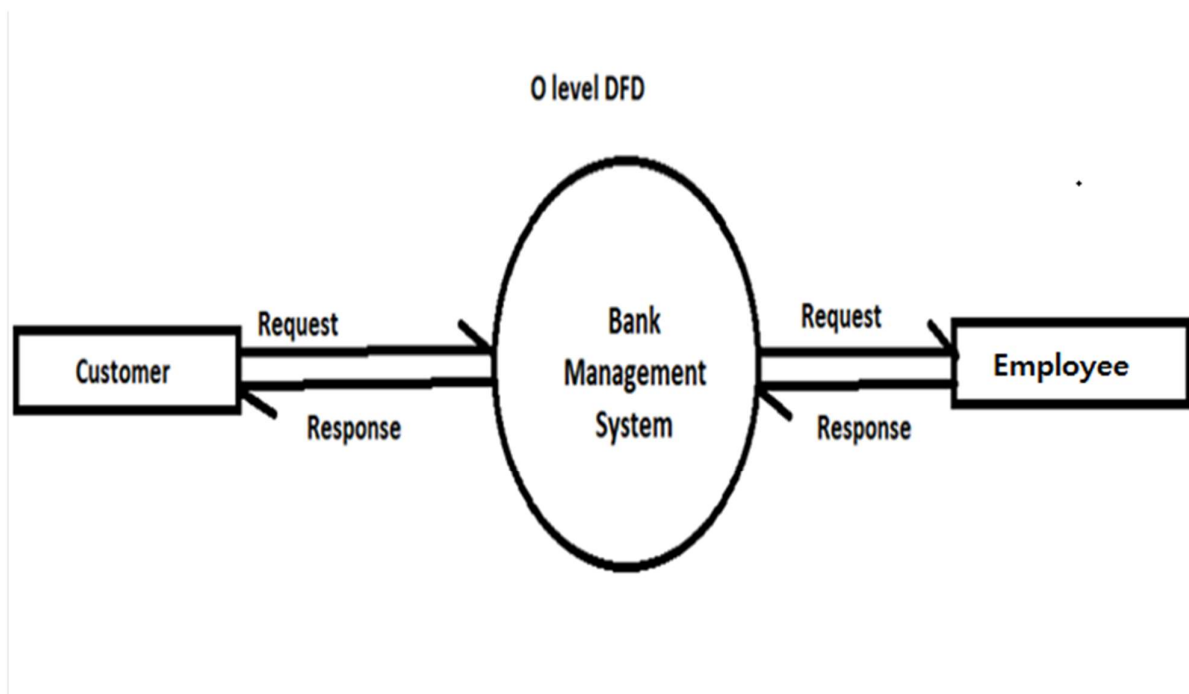
ER Diagram



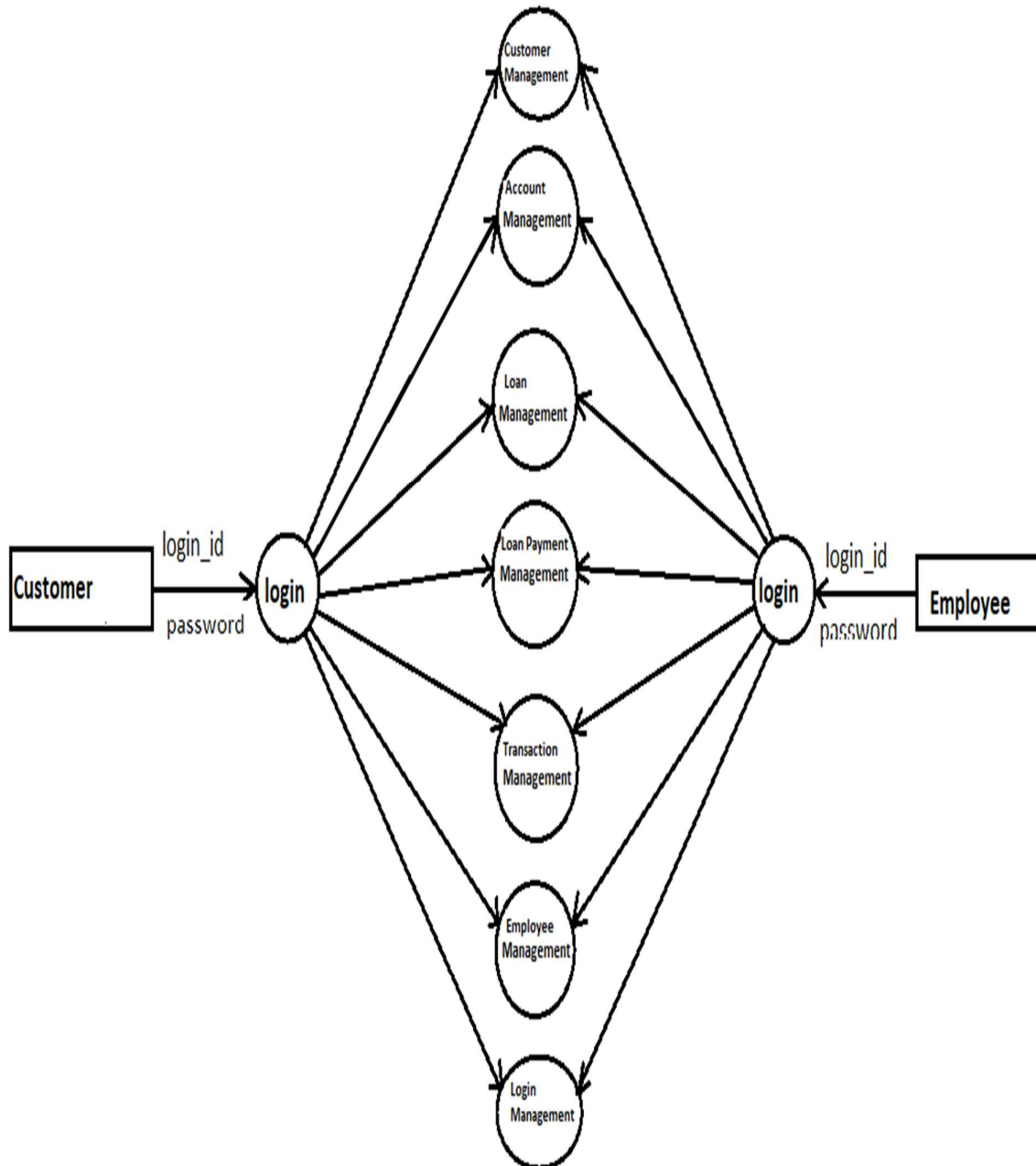
Data Flow Diagram (DFD)

DFD Level 0

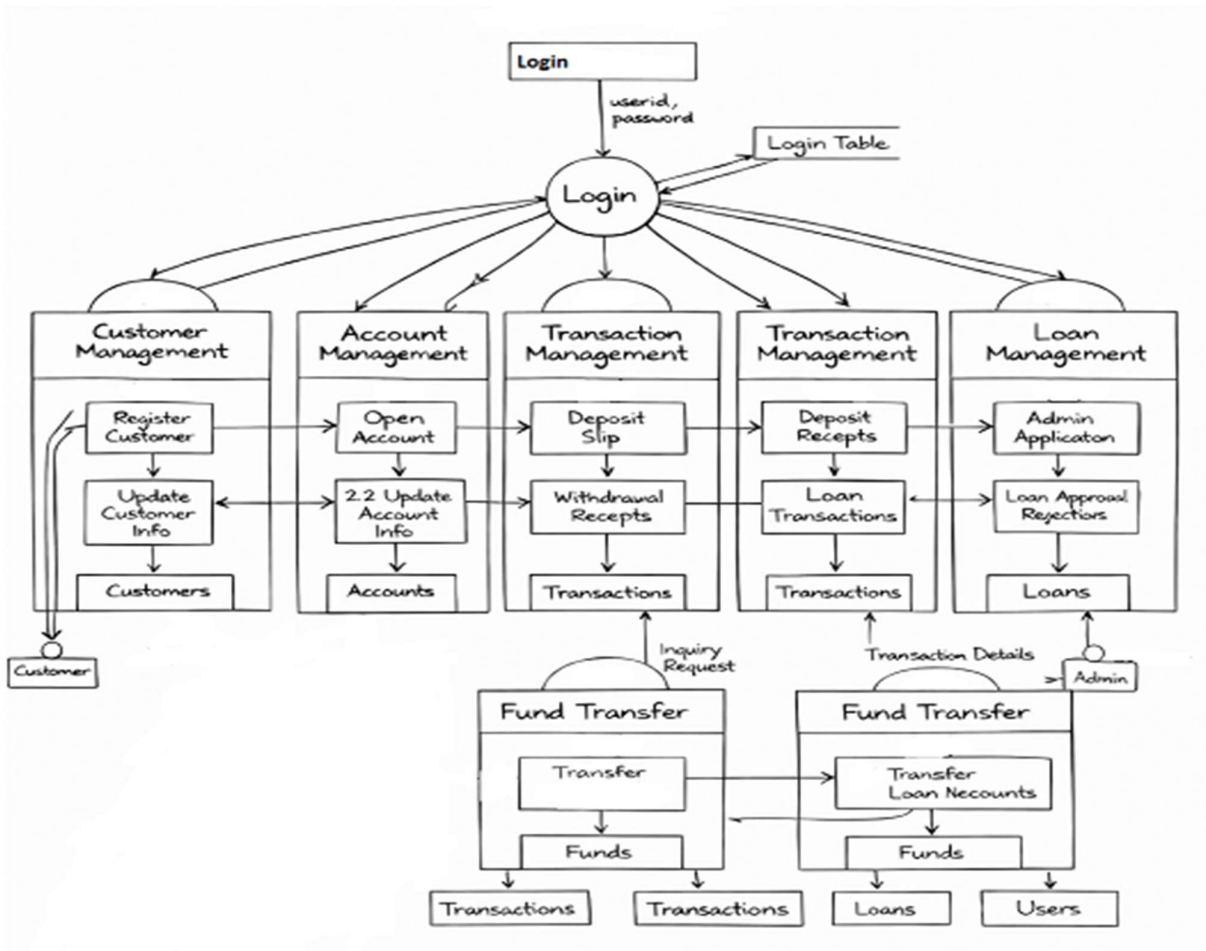
- User/Admin interacts with the Banking System
- The system communicates with all respective database modules



DFD Level 1



DFD Level 2



6. Complete Structure

Process Logical Diagram:

- Admin login
- Manage customers
- Manage accounts
- Perform transactions
- Store data and generate output

7. Platform Used

Hardware Requirements:

- Processor : Intel i5
- RAM : 4GB minimum
- Storage : 2GB

Software Requirements:

- Java
- JDK
- IDE : Eclipse enterprise edition for java development
- MySQL Server : 8.0
- JDBC Connector

8. Future Scope

- ATM integration
- SMS/Email alerts

9. Bibliography

- Oracle Java Documentation
- MySQL Official Documentation
- DBMS Concepts by Korth
- Online educational resources