PROJECT REPORT

ON

BANK MANAGEMENT SYSTEM

SUBMITTED TO   **SUBMITTED BY**

Mr. Anuj Kumar   Tushar Sharma (AF04991839)

Yashark Vikal (AF04990815)

Uttkarsh Mavi (AF04991809)

Batch code

ANP- D2406

Course code

ITPR

DR. K.N. MODI INSTITUTE OF ENGINEERING AND TECHNOLOGY

Academic Year:2025 – 26

ABSTRACT :-

The Bank Management System is a software application developed to automate and manage basic banking operations efficiently. Traditional manual banking processes are time-consuming, error-prone, and require extensive paperwork.

This system provides a computerized solution to manage customer accounts, transactions, deposits, withdrawals, and balance inquiries. The project ensures secure data storage, faster processing, and accurate record management.

INTRODUCTION :-

Banks handle a large amount of sensitive data such as customer details, account information, and transaction history. Managing this data manually increases the chances of errors and delays.

The Bank Management System is designed to simplify banking operations by providing an organized and systematic approach to data management. The system improves efficiency, accuracy, and reliability in banking processes.

OBJECTIVE :-

- To automate banking operations

- To reduce manual work and paperwork

- To manage customer and account details efficiently

- To ensure secure and accurate transactions

- To provide fast data retrieval

- To demonstrate CRUD operations

Project Category :-

This project falls under the category of Application Software (Database Management System).

It demonstrates the use of programming logic with database connectivity. The project performs **Create, Read, Update, and Delete (CRUD)** operations on banking data.

SYSTEM ANALYSIS :-

System analysis involves understanding banking requirements and designing a secure and efficient system.

The Bank Management System is designed to manage customers, accounts, transactions, branches, loans, and staff operations in an integrated manner. Security and authentication mechanisms ensure that only authorized users can access sensitive banking data.

The system is divided into multiple modules to improve scalability, maintainability, and data security.

MODULE DESCRIPTION :-

- **Customer Management System**
   This module manages customer-related information such as personal details, contact information, and customer ID. It allows adding, updating, viewing, and deleting customer records.

- **Account Management System**
   This module handles bank account operations such as account creation, account type management, balance inquiry, and account status updates.

- **Transaction Management System**
   This module manages financial transactions including deposits, withdrawals, and fund transfers. It ensures accurate balance updates and transaction history maintenance.

- **Branch Management System**
   This module stores and manages branch-related details such as branch name, branch code, and address. It helps in organizing customers and accounts branch-wise.

- **Loan Management System**
   This module manages loan-related activities such as loan application, approval, loan amount, interest rate, and repayment details.

- **Employee / Staff Management System**
   This module manages bank employees including staff details, roles, and assigned branches. It helps maintain internal workforce records.

- **Security and Authentication Management System**
   This module ensures system security through user authentication and authorization. It restricts unauthorized access and protects sensitive banking data.

DATABASE DESIGN :-

The database is designed to store and manage banking data efficiently and securely.

It consists of tables such as **Customer**, **Account**, **Transaction**, **Branch**, **Loan**, **Loan_payment**, **Employee** and **Login_Log**.

Each table uses proper primary keys and foreign key relationships to maintain data integrity and ensure accurate mapping between customers, accounts, and transactions.

ENTITY RELATIONSHIP DIAGRAM :-

The ER diagram represents relationships among entities such as Customer, Account, Transaction, Branch, Loan, and Employee.

It shows one-to-many relationships, such as one customer having multiple accounts, and many-to-one relationships between accounts and branches.

DATA FLOW DIAGRAM :-

The Data Flow Diagram illustrates how data flows within the system.
It includes:

• Zero Level DFD

• First Level DFD

• Second Level DFD

PROCESS LOGIC :-

1. User selects an operation
2. Input is taken
3. Data validation is performed
4. Database operation is executed
5. Output is displayed

PLATFORM USED :-

Hardware Requirement :

- Intel i3 or higher
- 4GB RAM
- 500MB storage

Software Requirement :

- Operating System (Windows/Linux)
- Database Server
- Programming Environment

IMPLEMENTATION DETAIL :-

The project follows a modular architecture to separate different functionalities.
Database connectivity is used to store and retrieve data securely.
Validation and exception handling ensure system stability.

TESTING :-

Testing ensures that all banking operations work correctly.
Test cases include account creation, deposit, withdrawal, balance inquiry, and record updates.

RESULT :-

The Bank Management System successfully manages banking data.
It provides fast, accurate, and secure banking operations with reduced manual effort.

ADVANTAGES :-

- Secure authentication and access control
- Centralized banking data management
- Accurate transaction processing
- Easy management of loans and staff
- Reduced manual errors
- Scalable system architecture

LIMITATIONS :-

• Limited user roles

• Requires basic technical knowledge

• Not accessible remotely

FUTURE SCOPE :-

• Internet and mobile banking integration
• Biometric authentication
• Role-based access for staff and admin
• Integration with ATM and UPI services
• Advanced fraud detection system
• Cloud-based banking system

CONCLUSION :-

The Bank Management System successfully automates banking operations.

It improves efficiency, accuracy, and data security.

The project provides a strong foundation for future enhancements.

THANK YOU