Documentation

ProjectTitle: Development of Banking System Database

Author: Chirag Chaturvedi

Internship Organization: Celebal Technologies

Description :

This project involves designing and implementing a relational database schema for a banking system. The database is capable of managing customer information, accounts, transactions, and other relevant data. The goal is to ensure data integrity, security, and optimal performance.

Project Objectives :

1. **Create a relational database schema for the banking system**: Develop a comprehensive schema that encompasses all necessary entities and relationships.
2. **Implement tables to store essential data**: Create tables for customer information, account details, and transaction history.
3. **Develop stored procedures for various operations**: Write stored procedures to handle creating customers, opening accounts, depositing money, withdrawing money, transferring funds between accounts, and viewing transaction history.
4. **Ensure data integrity, security, and performance**: Incorporate best practices to maintain the integrity, security, and efficiency of the database.
5. **Provide necessary documentation**: Document the database schema, table definitions, and stored procedures for ease of understanding and future reference.

Scope :

This project includes:

- Designing the database schema.
- Implementing stored procedures to interact with the database.
- Providing documentation for the database schema and stored procedures.

This project does not include:

- Developing an application interface or user interface for the banking system.

Resources

- SQL Server Management Studio (SSMS).
- Access to the database server.
- Relevant guidelines for database schema design.

Notes :

- Ensure the database schema adheres to best practices for database design.
- Thoroughly test the stored procedures to ensure they function correctly.
- Provide clear and concise documentation for ease of understanding and future reference.

Database Schema :

The database schema includes the following tables:

Customers

- CustomerID (Primary Key)
- FirstName
- LastName
- DateOfBirth
- Email
- Phone
- Address

- City
- State
- ZipCode

Accounts

- AccountID (Primary Key)
- CustomerID (Foreign Key)
- AccountType
- Balance

Transactions

- TransactionID (Primary Key)
- AccountID (Foreign Key)
- TransactionDate
- TransactionType
- Amount

Stored Procedures : It includes various Stored Procedure like CreateCustomer, OpenAccount, DepositMoney, WithdrawMoney, TransferMoney, ViewTransactionHistory.

Summary of Testing :

The project includes rigorous testing to verify the proper functionality of the database schema and stored procedures. Error handling mechanisms are in place to capture and log any errors, ensuring robustness and reliability. A dedicated ErrorLog table is used to store error messages, which aids in troubleshooting and maintaining the database.

This project, completed during Chirag Chaturvedi's internship at Celebal Technologies, demonstrates the development of a secure and efficient banking system database, meeting all specified objectives and deliverables. The documentation ensures that the database can be easily understood and maintained in the future.