DATABASE PROJECT
BANKING SYSTEM

By

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INTRODUCTION

A **banking system** provides financial services for public. These systems are used by banks and are responsible for operating a payment system, providing loans, taking deposits, and helping with investments and transactions for customers.

OBJECTIVE

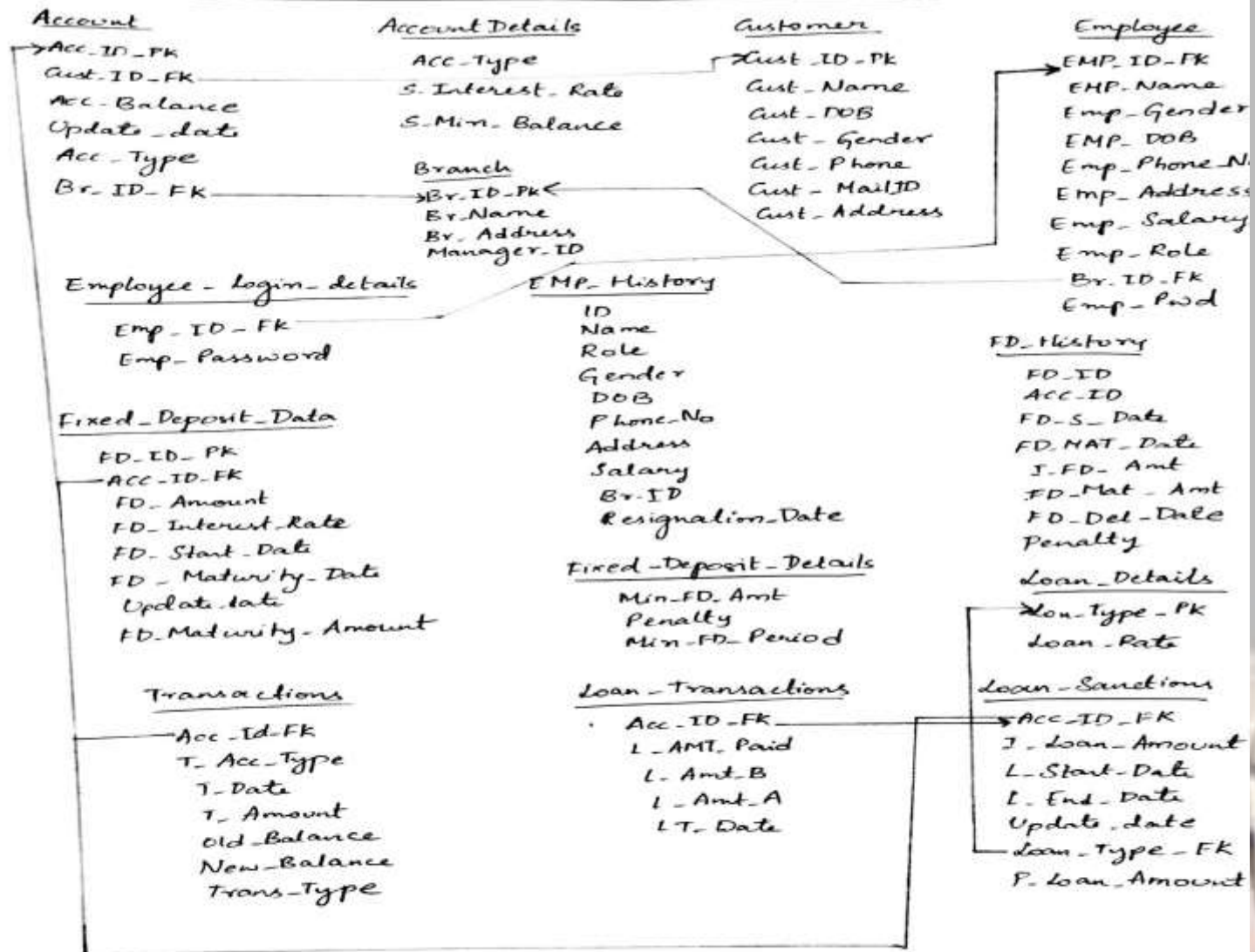Creating a robust banking system using the database knowledge we have.

TOOLS USED

- HTML
- CSS
- PHP
- XAMPP Server (phpMyAdmin)
- MySQL
- JavaScript

RELATIONAL SCHEMA

Account
- Acc. ID - FK
- Cust. ID - FK
- Acc - Balance
- Update _ date
- Acc _ Type
- Br_ ID _ FK

Account Details
- Acc - Type
- S. Interest. Rate
- S_Min. Balance

Branch
- Br. ID - Pk
- Br_Name
- Br. Address
- Manager. ID

Customer
- Cust. ID - Pk
- Cust - Name
- Cust - DOB
- Cust - Gender
- Cust - Phone
- Cust - MailID
- Cust - Address

Employee
- EMP. ID - FK
- EMP. Name
- Emp_Gender
- EMP_ DOB
- Emp_Phone_N.
- Emp_ Address
- Emp_ Salary
- Emp_ Role
- Br. ID - FK
- Emp_Pwd

Employee - Login - details
- Emp_ ID - FK
- Emp_ Password

EMP_ History
- ID
- Name
- Role
- Gender
- DOB
- Phone_No
- Address
- Salary
- Br_ID
- Resignation_Date

FD_History
- FD_ID
- ACC_ID
- FD - S_ Date
- FD. MAT_Date
- J. FD_ Amt
- FD_Mat_Amt
- FD_Del_Date
- Penalty

Fixed_Deposit_Data
- FD_ID_Pk
- ACC_ID_FK
- FD_Amount
- FD_Interest_Rate
- FD_Start_Date
- FD_Maturity_Date
- Update_date
- FD_Maturity_Amount

Fixed-Deposit_Details
- Min_FD_Amt
- Penalty
- Min_FD_Period

Loan_Details
- Lon_Type - Pk
- Loan_Rate

Transactions
- Acc_Id_FK
- T_Acc_Type
- T_Date
- T_Amount
- Old_Balance
- New_Balance
- Trans_Type

Loan - Transactions
- Acc_ID_FK
- L_AMT_Paid
- L_Amt_B
- L_Amt_A
- LT_Date

Loan - Sanctions
- ACC_ID_FK
- J_Loan_Amount
- L_Start_Date
- L_End_Date
- Update_date
- Loan_Type_FK
- P_Loan_Amount

APPLICATIONS

- Employee and Manager login for different branches.

- User-id and password for each employee and manager.

- Managers can add employees along with other operations done by employees.

- Adding new customers ,new accounts.

- Old customers can have multiple accounts.

- 3 types of accounts – CURRENT,SAVINGS,LOAN

- Withdraw and Deposit operations for various types of accounts.
- Loan facility.
- Different types of loans with different interest rates.
- Fixed deposit facility.
- Check on Maturity date of FD is done automatically.
- Option to break FD before Maturity Date.
- Options to view : Customer details, Account details, Transactions, FD details.
- Event Scheduler for FDs, Loan Accounts and interest on savings account.

FRONT-END

- On insertion in EMPLOYEE table to automatically insert in EMPLOYEE_LOGIN_DETAILS.

- On insertion in CUSTOMERS to modify ACCOUNT, TRANSACTIONS tables according to type of account.

- Insertion in ACCOUNT table when existing customer creates new account.

- Updating ACCOUNT table for premature FD.

PROCEDURES

- To delete FD after maturity date.

- To increase FD amount every month.

- To update loan amount to be paid based on interest rate for every month.

- To increase SAVINGS account balance based on interest rate for every month.

TRIGGERS

- Trigger on insertion and deletion in FIXED_DEPOSIT_DATA.

- Trigger on deletion of employee data from employee data.

EVENTS

- Automatic deletion of FD on maturity-date and transfer of balance to his account.

- Automatic updating of ACCOUNT at the end of every month and addition of interest to the balance of the savings account , loan amount to be paid and FD account is done for every month.

LIMITATIONS

- Interest rate of different types of loans are fixed.

- No time limit to pay back the loan.

- No limit on number of loans for a customer.

MODIFICATIONS

- Better FD break policy

- Incorporation of service charges for CURRENT account

- Incorporation of limit on number of withdrawals for savings account

- Proper loan policies

CONCLUSION

- The banking system database project has been successfully implemented.

- Though there are certain limitations this project works reasonably well.