# Database Design Document

## Table: Roles

Description: Stores user roles such as Admin, Customer, etc.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| RoleId | Role Identifier | - | TINYINT | Mandatory | Auto Identity |
| RoleName | Name of Role | 20 | VARCHAR | Mandatory | - |

## Table: Users

Description: Stores user personal and login details

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| UserId | User Identifier | - | INT | Mandatory | - |
| Name | User's Full Name | 50 | VARCHAR | Mandatory | - |
| EmailId | User's Email | 50 | VARCHAR | Optional | - |
| UserPassword | Password | 15 | VARCHAR | Mandatory | - |
| Gender | User's Gender | 1 | CHAR | Mandatory | 'M' or 'F' |
| DateOfBirth | Date of Birth | - | DATE | Mandatory | < GETDATE() |
| Contact | User's Contact Number | 10 | VARCHAR | Mandatory | - |
| RoleId | User Role ID | - | TINYINT | Mandatory | FK to Roles |

## Table: Complaint

Description: Stores complaints registered by users

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| ComplaintId | Complaint Identifier | - | INT | Mandatory | - |
| UserId | User Identifier | - | INT | Mandatory | FK to Users |
| Message | Complaint Message | 1000 | VARCHAR | Mandatory | - |
| Complaint\_Date | Date of Complaint | - | DATE | Mandatory | - |

## Table: Loan

Description: Stores loan applications and approvals

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| LoanId | Loan Identifier | - | INT | Mandatory | - |
| UserId | User Identifier | - | INT | Mandatory | FK to Users |
| Amount | Loan Amount | - | NUMERIC | Mandatory | - |
| InterestRate | Interest Rate | - | NUMERIC(2,2) | Mandatory | - |
| Penalty | Penalty Amount | - | NUMERIC | Mandatory | - |
| Duration\_Months | Loan Duration | - | INT | Mandatory | - |
| Status | Loan Status | 10 | VARCHAR | Mandatory | - |
| ApprovedDate | Date Approved | - | DATE | Mandatory | - |
| SalarySlip | Salary Slip Path | - | VARCHAR | Mandatory | - |
| LoanApplication | Loan Application Path | - | VARCHAR | Mandatory | - |

## Table: LoanPayment

Description: Tracks payments made against loans

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| PaymentId | Payment Identifier | - | INT | Mandatory | - |
| LoanId | Loan Identifier | - | INT | Mandatory | FK to Loan |
| Amount | Payment Amount | - | NUMERIC | Mandatory | - |
| DueDate | Due Date | - | DATE | Mandatory | - |
| IsPaid | Payment Status | - | BIT | Mandatory | - |
| PaidDate | Date Paid | - | DATE | Mandatory | - |

## Table: Settings

Description: Application-wide settings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| SettingsId | Settings Identifier | - | INT | Mandatory | - |
| MaxTransactionAmount | Max Transaction Amount | - | NUMERIC | Optional | - |
| MaxTransactionsPerMonth | Max Transactions/Month | - | INT | Optional | - |
| FastFundingLimit | Fast Funding Limit | - | NUMERIC | Optional | - |
| FastFundingDuration | Fast Funding Duration | - | INT | Optional | - |
| FastFundingInterest | Fast Funding Interest | - | NUMERIC | Optional | - |
| FastFundingPenality | Fast Funding Penalty | - | NUMERIC | Optional | - |
| PersonalLoanInterest | Personal Loan Interest | - | NUMERIC | Optional | - |
| PersonalLoanPenality | Personal Loan Penalty | - | NUMERIC | Optional | - |

## Table: ProfileUpdateRequests

Description: Stores requests from users to update profile information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| RequestId | Request Identifier | - | INT | Mandatory | IDENTITY |
| UserId | User Identifier | - | INT | Mandatory | FK to Users |
| RequestTime | Request Time | - | DATETIME | Optional | - |
| EmailId | Updated Email | 50 | VARCHAR | Optional | - |
| Contact | Updated Contact | 10 | VARCHAR | Optional | - |

## Table: DebitCardDetails

Description: Stores user's debit card information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| UserId | User Identifier | - | INT | Mandatory | FK to Users |
| CardNumber | Card Number | 16 | NUMERIC | Mandatory | PK |
| NameOnCard | Name on Card | 40 | VARCHAR | Mandatory | - |
| CVVNumber | CVV Number | 3 | NUMERIC | Mandatory | - |
| IssueDate | Date of Issue | - | DATE | Mandatory | >= GETDATE() |
| ExpiryDate | Date of Expiry | - | DATE | Mandatory | >= GETDATE() |
| Balance | Card Balance | 10,2 | DECIMAL | Mandatory | >= 0 |

## Table: CreditCardDetails

Description: Stores user's credit card information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| UserId | User Identifier | - | INT | Mandatory | FK to Users |
| CardNumber | Card Number | 16 | NUMERIC | Mandatory | PK |
| NameOnCard | Name on Card | 40 | VARCHAR | Mandatory | - |
| CVCNumber | CVC Number | 3 | NUMERIC | Mandatory | - |
| IssueDate | Date of Issue | - | DATE | Mandatory | >= GETDATE() |
| ExpiryDate | Date of Expiry | - | DATE | Mandatory | >= GETDATE() |
| Balance | Card Balance | 10,2 | DECIMAL | Mandatory | >= 0 |

## Table: Account

Description: Stores bank account details

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| AccountId | Account Identifier | - | INT | Mandatory | IDENTITY |
| AadhaarNumber | Aadhaar Number | 20 | VARCHAR | Optional | - |
| Balance | Account Balance | - | NUMERIC | Optional | - |
| IFSC | IFSC Code | 20 | VARCHAR | Optional | - |
| PHONE | Phone Number | 15 | VARCHAR | Optional | - |
| Status | Account Status | 20 | VARCHAR | Optional | - |
| Tpin | Transaction Pin | - | INT | Optional | - |

## Table: RequestCard

Description: Card request details

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| AccountId | Account Identifier | - | INT | Mandatory | FK to Account |
| UserId | User Identifier | - | INT | Mandatory | FK to Users |
| RequestId | Request Identifier | 10 | NUMERIC | Mandatory | PK |
| Approved | Approval Status | - | BIT | Optional | - |
| ApproveDate | Date of Approval | - | DATE | Mandatory | >= GETDATE() |
| CardType | Type of Card | 20 | VARCHAR | Mandatory | DEBIT/CREDIT |

## Table: Transactions

Description: Transaction history between accounts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field Name | Description | Size | Type | Optional/Mandatory | Default/Constraints |
| TransactionId | Transaction Identifier | - | INT | Mandatory | IDENTITY PK |
| SenderAccountId | Sender's Account ID | - | INT | Optional | FK to Account |
| ReceiverAccountId | Receiver's Account ID | - | INT | Optional | FK to Account |
| Amount | Transaction Amount | - | NUMERIC | Optional | - |
| Date | Transaction Date | - | DATETIME | Optional | - |
| Note | Transaction Note | 255 | VARCHAR | Optional | - |
| IsLoanPayment | Loan Payment Flag | - | BIT | Optional | - |