### Introduction

The ATM Interface Project aims to create a simple ATM application using Core Java and JDBC. This project allows users to perform basic ATM operations such as withdrawing cash, depositing cash, checking the account balance, and transferring funds between accounts.

### System Requirements

To run the ATM Interface Project, you need the following software and hardware components:

1. java Development Kit (JDK) version 8 or above.
2. A relational database management system (RDBMS) such as MySQL, Oracle, or PostgreSQL.
3. JDBC driver compatible with your RDBMS.
4. An IDE (Integrated Development Environment) such as Eclipse, IntelliJ IDEA, or NetBeans.
5. A computer system with sufficient resources to run the project smoothly.

### System Architecture

The ATM Interface Project follows a client-server architecture. The client-side application is built using Core Java, and the server-side the application interacts with the database using JDBC.

The components of the system architecture are as follows:

1. Client-side:

   - User Interface (UI): Provides a graphical interface for users to interact with the ATM application.
   - Core Java Application: Handles user input, communicates with the server side, and displays results to the user.

2. Server-side:

   - Database: Stores user account information, transaction history, and other relevant data.
   - JDBC: Establishes a connection with the database and performs CRUD (Create, Read, Update, Delete) operations.
   - Business Logic: Contains the logic for processing user requests, validating transactions, and updating the database.

### Class Diagram

The class diagram represents the structure and relationships between the main classes in the ATM Interface Project.

```
+-----------------------------------------------------------+
|                         ATMClient                         |
+-----------------------------------------------------------+
| - main(args: String[]): void                              |
| - showMenu(): void                                        |
| - handleMenuChoice(choice: int): void                     |
| - withdrawCash(): void                                     |
| - depositCash(): void                                     |
| - checkBalance(): void                                    |
| - transferFunds(): void                                   |
+-----------------------------------------------------------+


+-----------------------------------------------------------+
|                         AccountDAO                        |
+-----------------------------------------------------------+
| - connection: Connection                                  |
| + getConnection(): Connection                             |
| + releaseConnection(): void                               |
| + createAccount(account: Account): void                   |
| + updateAccount(account: Account): void                   |
| + getAccount(accountNumber: String): Account              |
| + getAllAccounts(): List<Account>                         |
+-----------------------------------------------------------+


+-----------------------------------------------------------+
|                          Account                          |
+-----------------------------------------------------------+
| - accountNumber: String                                   |
| - pin: String                                             |
| - balance: double                                         |
+-----------------------------------------------------------+


+-----------------------------------------------------------+
|                        Transaction                        |
+-----------------------------------------------------------+
| - transactionId: String                                   |
| - accountNumber: String                                   |
| - type: TransactionType                                   |
| - amount: double                                          |
| - timestamp: Date                                         |
+-----------------------------------------------------------+
```

Database Schema

The database schema for the ATM Interface Project consists of two tables: accounts and transactions.

1. accounts table:

Columns:

```
accountNumber (Primary Key): VARCHAR(20)
pin: VARCHAR(4)
balance: DECIMAL(10,2)
```

2. transactions table:

```
Columns:
transactionId (Primary Key): VARCHAR(20)
accountNumber (Foreign Key): VARCHAR(20)
type: VARCHAR(10)
```