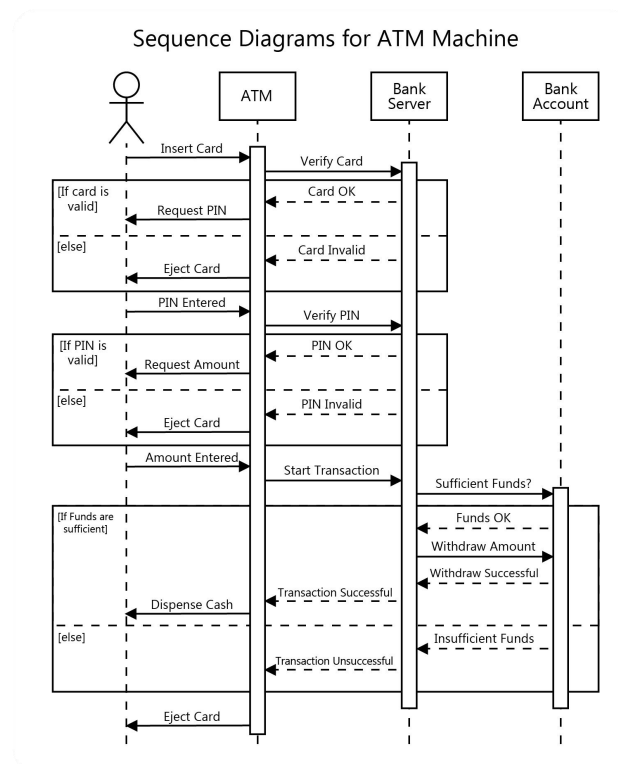


Technical Report for an ATM Machine

Introduction

This technical report outlines the design and operation of an ATM (Automated Teller Machine) system. The ATM machine is a widely used device in the banking industry, allowing customers to perform various financial transactions, such as cash withdrawals, account inquiries, funds transfers etc. In this report, we will present a UML (Unified Modeling Language) sequence diagram illustrating the interaction between an ATM machine and customer, followed by an explanation of its operating process.

UML Sequence Diagram



Operating Process of the ATM System

- 1. Card Insertion:** The Customer inserts their ATM card into the machine, triggering the start of the interaction.
- 2. PIN Entry:** The Customer enters their Personal Identification Number (PIN) securely.
- 3. Transaction Selection:** The Customer selects the type of transaction they want to perform, such as "Cash Withdrawal," "Balance Inquiry," or "Fund Transfer."
- 4. Transaction Validation:** The ATM sends the transaction details, including the card number, PIN, and requested amount, to the Bank Server for validation.
- 5. Bank Server Processing:** The Bank Server receives the request and authenticates the customer. It checks the account balance and other necessary information.

6. Transaction Authorization: If the Bank Server approves the transaction, it authorizes the ATM to proceed. If not, the ATM informs the Customer of the transaction denial.

7. Cash Dispensation: For a successful cash withdrawal, the ATM dispenses the requested amount to the Customer.

8. Receipt Printing (Optional): Depending on the transaction, the ATM may provide a transaction receipt to the Customer.

9. Transaction Completion: The ATM updates the account balance and records the transaction.

10. Card Retrieval: The Customer retrieves their ATM card and the system returns to an idle state.

Conclusion

The proposed ATM system is designed to provide a secure and efficient means for customers to perform various financial transactions. The UML sequence diagram and the operating process overview provide insights into the interaction between the Customer, ATM and Bank Server. This system is an essential part of modern banking services, enhancing convenience and accessibility for customers while maintaining a high level of security and reliability.