



UE22CS341A: Software Engineering Case Study

Unit 1 Deliverable

SRS Document for ATM System

1. Introduction

1.1 Purpose

This document specifies the requirements for the Bank Management System (BMS). The system is intended to manage various banking operations such as account management, transaction processing, customer management, and financial reporting.

1.2 Scope

The BMS is designed for use by bank employees and administrators to efficiently manage banking operations. The system interfaces with the bank's central database and supports tasks like opening new accounts, processing transactions, and generating reports.

1.3 Definitions, Acronyms, and Abbreviations

- **BMS:** Bank Management System
- **UI:** User Interface
- **API:** Application Programming Interface

1.4 References

- IEEE Standard for Software Requirements Specifications (IEEE Std 830-1998)

1.5 Overview

The document is structured into sections detailing the functional and non-functional requirements, system features, external interface requirements, and other relevant information.

2. Overall Description

2.1 Product Perspective

The BMS is part of the bank's existing IT infrastructure, connected to a central database and other banking systems. It is a back-end system used by employees to manage and oversee various banking operations.

2.2 Product Functions

- Account management (opening, closing, and updating accounts)
- Transaction processing (deposits, withdrawals, and transfers)
- Financial reporting
- Error handling and notification

2.3 User Classes and Characteristics

- **Bank employees:** For daily operations such as account and transaction management.
- **Administrators:** For managing system settings, user roles, and overall maintenance.

2.4 Operating Environment

- **Software:** Runs on the bank's secure internal software compatible with the core banking system.
- **Hardware:** Requires computers with standard banking software and secure access to the bank's internal network.

2.5 Design and Implementation Constraints

- Compliance with banking regulations and financial standards.
- Secure data storage and transmission.
- Usability and accessibility standards for employees.

2.6 Assumptions and Dependencies

- The BMS assumes the availability of a stable network connection to the bank's central database.
- Regular software maintenance is required to ensure security and performance.

3. External Interface Requirements

3.1 User Interfaces

- **Graphical User Interface (GUI):** For bank employees to interact with the system.

3.2 Hardware Interfaces

- **Computers:** For employees to access the BMS.
- **Network Interface:** For secure communication with the central database.

3.3 Software Interfaces

- **API Integration:** With the bank's core system for transactions and account management.

4. System Features

4.1 Account Management

4.1.1 Description

The system allows employees to manage customer accounts, including opening new accounts, updating account information, and closing accounts.

4.1.2 Functional Requirements

- The system shall allow employees to create new accounts by entering customer details.
- The system shall validate and store account information in the central database.
- The system shall allow the updating of account details.

4.2 Transaction Processing

4.2.1 Description

Allows users to process transactions such as deposits, withdrawals, and transfers.

4.2.2 Functional Requirements

- The system shall check the account balance before processing withdrawals.
- The system shall update account balances after transactions.
- The system shall generate transaction receipts.

4.5 Error Handling

4.5.1 Description

Handles errors that occur during system operation, such as invalid inputs or transaction failures.

4.5.2 Functional Requirements

- The system shall notify the user of any errors during an operation.
- The system shall log all errors for analysis and troubleshooting.

5. Non-Functional Requirements

5.2 Security Requirements

- The system shall require authentication for users.

5.3 Usability Requirements

- The system shall provide an intuitive and user-friendly interface.

7. Requirements Traceability Matrix (RTM)

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Requirement ID	Requirement Description	Design Specification	Implementation Module	Test Case ID
FR-01	The system shall allow employees to create new accounts by entering customer details.	Account Management Module	Account Creation Module	TC-01
FR-02	The system shall validate and store account information in the central database.	Database Schema Design	Database Management Module	TC-02
FR-03	The system shall allow updating of account details.	Account Management Module	Account Update Module	TC-03
FR-04	The system shall check the account balance before processing withdrawals.	Transaction Processing Logic	Withdrawal Module	TC-04
FR-05	The system shall update account balances after transactions.	Transaction Processing Logic	Transaction Update Module	TC-05
FR-06	The system shall track and store customer	Customer Management Module	Transaction History Module	TC-06

	transaction history.			
FR-07	The system shall generate transaction summaries.	Reporting Module	Daily Report Generation	TC-07
FR-08	The system shall generate monthly account statements.	Reporting Module	Monthly Statement Generation	TC-08
FR-09	The system shall notify the user of any errors during an operation.	Error Handling Component	Error Notification Module	TC-09
FR-10	The system shall log all errors for analysis and troubleshooting.	Logging Component	Error Logging Module	TC-10
NFR-01	The system shall process transactions within 3 seconds.	Performance Optimization Design	Core Transaction Module	TC-11
NFR-02	The system shall provide an intuitive and user-friendly interface.	User Interface Design	UI/UX Module	TC-12