

Software Requirements Specification

for

ATM SYSTEM

Version 1.2 approved

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28-07-2023

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1. INTRODUCTION

The software version1.0 is to be developed for Automated Teller Machines (ATM). An automated teller machine is computerized telecommunications device that provides a financial institution's customers a secure method of performing financial transactions, in public space without the need of human bank teller.

1.1.Purpose

This SRS defines External Interface, Performance and Software System Attributes requirements of ATM version1.0. This document is intended for the following group of people:

- Developers for the purpose of maintenance and new releases of the software.
- Management of the bank.
- Documentation writers.
- Testers.

1.2.Scope

This document applies to Automated Teller Machine software ATM version1.0. This software facilitates the user to perform various transactions in his account without going to bank. This software offers benefits such cash withdrawals, balance transfers, deposits, inquiries, credit card advances and other banking related operations for customers. It also allows the administrator to fix the tariffs and rules as and when required. The software takes as input the login Id and the bank account number of the user for login purposes. The outputs then comprise of an interactive display that lets the user select the desirable function that he wants to perform. The software is expected to complete in duration of six months and the estimated cost is Rs. 10 lakhs.

1.3.Definitions, Acronyms and Synonyms

- ATM: Automated Teller Machine
- PIN: Personal Identification Number
- GUI: Graphical User Interface

1.4.References

The references for the ATM system SRS are as follows:

- www.google.co
- www.wikipedia.com
- www.studocu.com

2. HISTORY/BACKGROUND

2.1. Technical Literatures

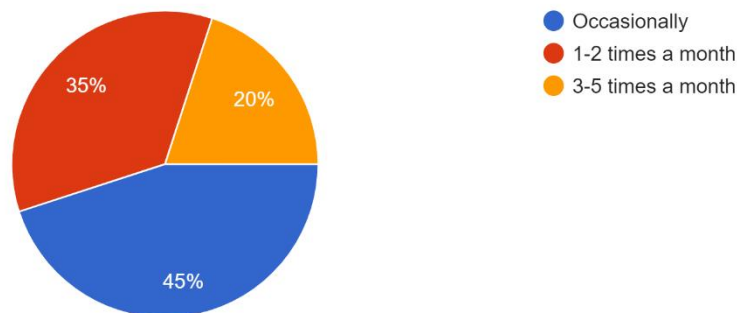
An automated teller machine (ATM) is an electronic banking outlet that allows customers to complete basic transactions without the aid of a branch representative or teller. Anyone with a credit card or debit card can access cash at most ATMs, either in India or other countries.

ATM are convenient, allowing consumers to perform quick self-service transactions such as deposits, cash withdrawals, bill payments, and transfers between accounts. Fees are commonly charged for cash withdrawals by the bank where the account is located, by the operator of the ATM, or by both customers and banks.

2.2. Customer Surveys

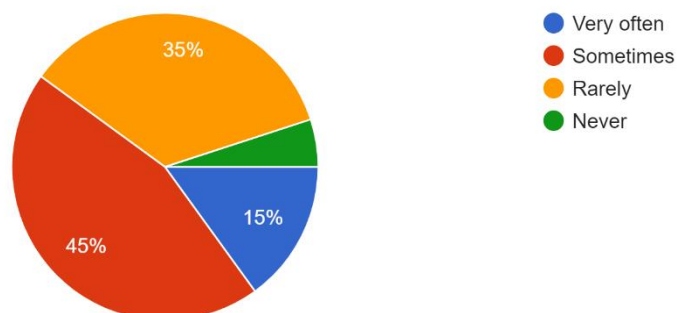
How often do you use an ATM ?

20 responses



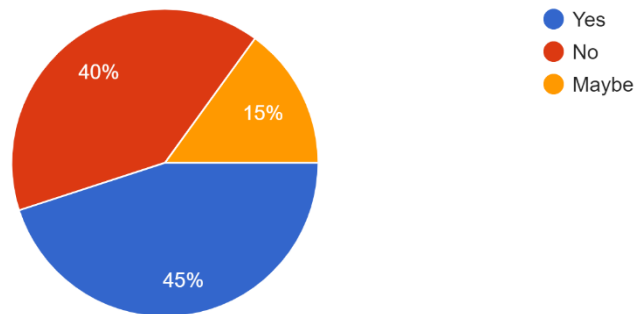
How often have you faced technical issues like cash dispensing problems during a transaction ?

20 responses



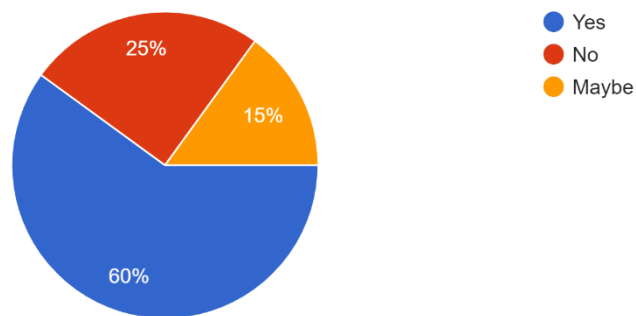
Would you like a two-factor authentication with OTP for every transaction?

20 responses



Would you like Biometric Authentication or Voice Assistants in ATMs?*

20 responses



3. The Overall Description

3.1.Product Functions

3.1.1. Hardware Requirements

The major hardware components that ATM requires are described as follows:

- A screen that displays messages to the user.
- A keyboard that receives numeric input from the user.
- Some keys used for navigation.
- A cash dispenser.
- A receipt slot to generate the receipt.
- The ATM power supply shall have a 10/220 V AC manual switch.
- The card reader shall be a magnetic stripe reader.

3.1.2. Software Requirements

The major software requirements for the functioning of the software are:

- A transaction management software used to manage transaction and keep track of resources.
- A card management software used to verify pin no and login.
- A database to keep records of user accounts.

3.2.Functional Requirements

The user is offered with the following choices after the card is entered into the ATM machine:

3.2.1. Language Selection

The ATM should allow the users to select a language of their choice to work with.

- Input: User inputs his/her preferred language.
- Output: Move to next screen.

3.2.2. Account Access and Authentication

Users should be able to access the ATM system using a valid ATM card and PIN. The ATM must verify the users' identity through PIN validation or biometric authentication.

- Input: Enter the 4-digit PIN.
- Output: If correct PIN is entered, move to account selection screen.

3.2.3. Account Selection

- Output: Bank account selection menu appears.
- Input: User selects their preferred bank accounts.
- Output: The next screen appears.

3.2.4. Option Selection Menu

3.2.4.1. Output: Select the preferred option

- CASH WITHDRAWALS: The ATM should allow users to withdraw cash from their linked bank accounts. Users should be able to specify the desired amount to withdraw.
- BALANCE ENQUIRY: The ATM should display the account balance of the user's linked bank accounts.
- DEPOSIT FUNCTIONALITY: The ATM may offer deposit capabilities, allowing users to deposit cash or checks into their linked accounts.
- FUND TRANSFERS: The ATM may provide the option to transfer funds between the user's accounts. Users may also have the ability to transfer funds to other accounts within the same bank.

- PIN CHANGE: The ATM might allow the user to change their PIN for security reasons.

3.2.4.2. User selects the desired option.

3.2.4.3. Input: User selects CASH WITHDRAWALS

3.2.4.4. Enter amount

- Output: Enter the amount you want to withdraw.
- Input: User enters the desired amount.
- If the amount is available in the account, move to the pin entry section
- If the amount is not available, output: ERROR NOT ENOUGH BALANCE

3.2.4.5. PIN Authentication

- Output: Enter your 4-digit pin
- Input: User inputs 4-digit pin
- If correct pin, output: the cash amount from cash register
- If incorrect pin, output: Incorrect pin, please try again.

3.2.4.6. User selects Balance Check.

- Output: Current Balance in the bank account is shown and menu button and exit button is shown.
- Input: If user selects main menu
- Output: main menu is shown
- Input: If user selects exit
- Output: Please take out the Card.

3.3. Non-Functional Requirements

3.3.1. Usability

- The GUI shall be intuitive, user-friendly and aesthetically pleasing.
- The system shall provide descriptive and clear error messages for invalid transactions.

3.3.2. Performance

- The system shall respond to user actions promptly, typically within 1 second.
- The ATM interface shall maintain responsiveness even under moderate system load.

3.3.3. Security

- The system shall respond to user actions promptly, typically within 1 second.
- The ATM interface shall maintain responsiveness even under moderate system load.

3.3.4. Reliability

- The system shall have a high level of reliability to ensure that it operates consistently without frequent disruptions or crashes.
- The ATM system shall have automated error recovery mechanisms to handle unexpected failures gracefully.

3.3.5. Portability

- The ATM system shall be designed to be easily portable across different operating systems and hardware configurations.
- The application should not rely.

3.4. User Characteristics

3.4.1. Novice User

One with no earlier experience in usage of ATM machines or someone who has less technical knowhow.

3.4.2. Technically Sound User

One who has used ATMs multiple times and can traverse through ATM interfaces with ease.

3.4.3. Maintenance Personnel

One who is responsible for maintaining the ATM machines so that workflow of the ATM software is smooth and hassle free at all times.

3.5. Design & Implementation Constraints

- The ATM should be accessible to only one person at a time.
- During maintenance, no parts of the ATM software should be accessible to the general public to protect it from security breaches.
- There should be a limit on the number of invalid pin entries.

3.6. Assumptions and Dependencies

- Basic interaction with digital screens and buttons is assumed to be known to users using the ATM machine.
- The major dependency is that smooth and unrestricted internet access needs to be available to the ATM at all times, in order to ensure hassle free experience for customers.

4. Interface Requirements

4.1. User Interfaces

- Basic interaction with digital screens and buttons is assumed to be known to users using the ATM machine.
- The major dependency is that smooth and unrestricted internet access needs to be available to the ATM at all times, in order to ensure hassle free experience for customers.

4.2. Hardware Interfaces

- Proper interface is needed to ensure unrestricted high speed internet access at all times.
- The display resolution should be kept in mind to ensure clarity of text on screen.
- The card swipe interface should work smoothly, so that card does not get stuck during the transaction process.

4.3. Software Interfaces

- The transaction management software should be able to keep track of all ongoing transactions, in order to detect unusual access due to incorrect card details.
- The database should be properly maintained to ensure swift communication to server at all times.

4.4. Communication Interfaces

- The system will employ dial-up POS with the central server for low-cost communication.
- The communication protocol used shall be TCP/IP.
- Protocol used for data transfer shall be File Transfer Protocol (FTP).

5. Conclusion

The Software Requirements Specification (SRS) outlines the essential features and functionalities of a basic-level ATM (Automated Teller Machine) system for educational purposes. The system is designed to simulate cash withdrawals, balance inquiries, fund transfers, and account management without involving real monetary transactions.

With an emphasis on usability, performance, security, and compliance, the ATM system aims to provide a seamless and educational experience for users, demonstrating the key concepts of banking transactions in a virtual environment.