Software Requirements Specification

for

<ATM Machine >

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# Introduction

## Purpose

This document describes the software requirements and specifications (SRS) for an automated teller machine (ATM) network. The document is intended for the customer and the developer (designers, testers, maintainers).

The reader is assumed to have basic knowledge of banking accounts and account services. Knowledge and understanding of Unified Modeling Language (UML) diagrams is also required.

## Document Conventions

* Account:

A single account at bank against which transactions can be applied. Accounts may be of various typeswith at least checking and savings. A customer can hold more than one account.

* MaxDailyWD:

The maximum amount of cash that a customer can withdraw from an account in a day (from 00:00 AM to 23:59 PM) via ATMs.

* PIN:

It Refers to Personal Identification Number. Used to identify and validate and login of an ATM user.

## Intended Audience and Reading Suggestions

The intended audience of this SRS consists of:

* Software designers
* System engineers
* Software developers
* Software testers
* Customers
* Additional information:

The ATM network does not work independently. It works together with the banks.

## Product 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.

## References

* [www.cs.umd.edu/~mvz/cmsc435-s09/atm.pdf](http://www.cs.umd.edu/~mvz/cmsc435-s09/atm.pdf)
* [www.slideshare.net/sameerarnav/atm-banking-12734072](http://www.slideshare.net/sameerarnav/atm-banking-12734072)
* searchsoftwarequality.techtarget.com/answer/Software-requirements-specification-and-the-IEEE-standard

# Overall Description

## Product Perspective

An automated machine (ATM) is a computerized telecommunication device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic card with a magnetic stripe or a plastic smartcard with a chip,, that contains a unique card number and some security information ,such as an expiration date or CVV. Security is provided by the customer entering a personal identification number(PIN).

## Product Functions

Using an ATM , customers can access their bank account in order to make cash withdrawn(or credit card advances) an check their account balances.

The functions of the system are:

1. login

2. Get Balance information

3. Withdrawn Cash

4. Transfer Funds

## User Classes and Characteristics

Open to all authorized users characteristics & is dependent upon functionality:

Customers are simply members of the public with no special training.

Bank security personnel need have no special education or experience.

Maintainers must be experienced network administrators, to be able to connect new ATMs to the network.

## Operating Environment:

The hardware, software and technology used should have following specifications:

* Ability to read the ATM card
* Ability to count the currency notes
* Touch screen for convenience
* Keypad (in case touch fails)
* Continuous power supply
* Ability to connect to bank’s network
* Ability to take input from user
* Ability to validate user

## Design and Implementation Constraints

The major constraints that the project has are as follows:-

The ATM must service at most one person at a time.

The number of invalid pin entries attempted must not exceed three. After three unsuccessful login attempts, the card is seized/blocked and need to be unlocked by the bank.

The simultaneous access to an account through both, the ATM and the bank is not supported.

The minimum amount of money a user can withdraw is Rs 100/- and the maximum amount of money a user can withdraw in a session is Rs.10,000/- and the maximum amount he can withdraw in a day is Rs 20,000/-

Before the transaction is carried out, a check is performed by the machine to ensure that a minimum amount of Rs 1000/- is left in the user’s account after the withdrawal failing which the withdrawal is denied.

The minimum amount a user can deposit is Rs 100/- and the maximum amount he can deposit is Rs 10,000/-.

A user can select only that cellular operator for mobile bill clearings that is supported by the bank.

The software requires a minimum memory of 20GB

The database used should be Oracle7.0.

There shall be a printer installed with the machine to provide the user with the printed statement of the transaction.

# External Interface Requirements

## User Interfaces

The customer user interface should be intuitive , such that 99.9% of all new ATM users are able to complete their banking transactions without any assistance.

## Hardware Interfaces

* Ability to read the ATM card
* Ability to count the currency notes
* Touch screen for convenience
* Keypad (in case touch fails)
* Continuous power supply
* Ability to connect to bank’s network
* Ability to take input from user
* Ability to validate user

## Software Interfaces

The software interfaces are specific to the target banking software systems. At present, two known banking systems will participate in the ATM network.

* State Bank
* Indian Overseas Bank

## Communications Interfaces

The machine needs to communicate with the main branch for each session for various functions such as login verification, account access etc. so the following are the various communication interface requirements that are needed to be fulfilled in order to run the software successfully:-

* 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)

# System Features

## Remote Banking and Account Management

**Description**

The system is designed to provide the user with the facility of remote banking and perform various other functions at an interface without any aid of human bank teller. The functioning of the system shall be as follows:- At the start, the user is provided with a log in screen and he is required to enter his PIN NO. and Account details which are then verified by the machine. In case of an unsuccessful attempt a user is asked again for his credentials but the maximum number of attempt given to the user is limited to 3 only, failing which his card is blocked and need to be unblocked by the bank for any future use.

After a successful log in, the user is presented with a list of language. The user can select any one in the list for interaction with the machine for the entire session. After the language selection the user is also asked whether he wants to fix that language for future use also so that he is never asked for language in future. In addition there is also a facility for the user to switch to any other language during that session. After the language selection, the user is directed towards a main page that displays a set of options/services along with their brief description, enabling the user to understand their functioning. The user can select any of the listed option and can continue with the transaction. The machine also provides the user with a number of miscellaneous services such as: The machine lists a set of operators that are supported by the bank. A user can clear off his pending mobile phone bills be selecting his operator. The machine also has the facility to display a map that marks the location of other ATMs of the same bank in the city. This may help the user to look for the ATM nearest to his destination. At any moment if the user wants to abort the transaction, he is provided with an option to cancel it. Just by pressing the abort button he can cancel all the changes made so far and can begin with a new transaction. After the user is finished with his work, for security purpose, he is required to log out and then take his card out of the slot.

**Validity Checks**

In order to gain access to the system, the user is required to enter his/her correct user id/pin no and account no failing which his card may be blocked.

The user can access only one account at a time and can enter only one account no.

Also if the user is an administrator, he is required to enter his login id in order to access and change the facilities provided by the system.

**Sequencing Information**

The information about the users and their account should be entered into the database prior to any of the transactions and the backup be maintained for all account information

# Other Nonfunctional Requirements

## Performance Requirements

* It must be able to perform in adverse condition like high/low temperature etc.
* Uniterrupted interrupted connections
* High data transfer rate

## Safety Requirements

* Must be safe kept in physical aspects , say in a cabin
* Must be bolted to floor to prevent any kind of theft
* Must have an emergency phone outside the cabin
* There must be an emergency phone outside the cabin
* The cabin door must have an ATM card swipe slot
* The cabin door will always be locked, which will open only when swipes his/her ATM card in the slot & is validated as genuine

## Security Requirements

* Users accessibility is censured in all the ways
* Users are advised to change their PIN on first use
* Users are advised not to tell their PIN to anyone
* The maximum number of attempts to enter PIN will be three

## Software Quality Attributes:

# Other Requirements: NA

Appendix A: Glossary

AIMS ATM Information Management System.

ATM An unattended electronic machine in a public place, connected to a data system and related equipment and activated by a bank customer to obtain cash withdrawals and other banking services

Braille A system of writing and printing for blind or visually impaired People, in which varied arrangements of raised dots representing letters and numerals are identified by touch.

CDMA Code Division Multiple Access, a reliable data communication protocol.

CMS Card Management Software developed by KPM Bank.

Dial-Up POS A message format for low cost communications.

Internet An interconnected system of networks that connects computers around the world via the TCP/IP protocol.

Smart Card Card without hardware which stores the user’s private keys within a tamper proof software guard.

Tactile Keyboard Special keyboard designed to aid the visually impaired.

TCP/IP Transmission Control Protocol/Internet Protocol.