MINI PROJECT

ON

AUTOMATED TELLER MACHINE

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1. Introduction

An ATM (Automated Teller Machine) is an electronic telecommunication device that enables customers of different banks or financial institutions to perform financial transactions. The financial transaction could be balance enquiry, cash withdrawals, cash deposit and etc.., at any time without need for direct interaction with bank or financial institution staff. ATM is a part of our life activity, which helps us in day transactions and business. ATM provides the people good services especially the people can get money at any time. We need the ATM system because not all the bank branches are open all days of the week, and some of the customers may not in a situation, they can visit the bank every time, and they want to withdraw money or deposit money for emergency cases. The main objective of this project is to implement and design the ATM system through identify the requirements of the ATM system.

2. Problem Statement

To develop a project for ATM applications of a customer in banking environment which provides various ways to perform banking tasks. The main aim of this project is to develop software for ATM for which it performs some of the functions such as money withdraw, deposit and checking the balance.

3. Description

This system allows users to login to theirs account, the bank provides a debit card and a unique secret PIN for a user where they can use the card whenever he wants to withdraw or deposit money. Based on the operations carried out by the user, the amount will be deducted/added automatically from/to the available account balance. The system also allows us to check the current balance of our account. These fundamental operations are present in most of the ATM. Most people in this digital world do not use the ATM, but it is used more in rural areas where people are unaware of digital payments. It is part of our life activity, which helps us with day-to-day business and transactions. It enables the users of a bank to have access to their account without going to the bank. It performs some of the functions like withdraw, deposit, check balance and change pin.

4. Requirements

4.1 High level requirements

ID	Description
HL1	Machine shall be able Read the card.
HL2	Shall be able to read the pin entered by the user.
HL3	Updated balance to be displayed to the user.
HL4	Shall be able to deposit money
HL5	Updated balance displayed to the user.
HL6	If the exit button is pressed, the machine is expected to release the card.

4.2 Low level requirements

LL_1	Login when card is inserted
LL_2	Display the user name, or the cardholder name.
LL_3	Display the available banking functions
LL_4	Withdrawal
LL_5	Deposit
LL_6	Updated balance shall be displayed to the user each time the banking function is executed
LL_7	Screen time out shall be used to know if the user has used the machine for 20 seconds or not
LL_8	If the user takes, more than 10 seconds between entering one key and other the function shall be reset.

4.3 Software requirement: CodeBlocks IDE.

4.4 Operating System requirements: Windows 7 and higher versions.

4.5 Functional and other requirements: The user details such as name, PIN, OTP and account type are stored as array of strings.

5. Design

5.1 UML Diagrams

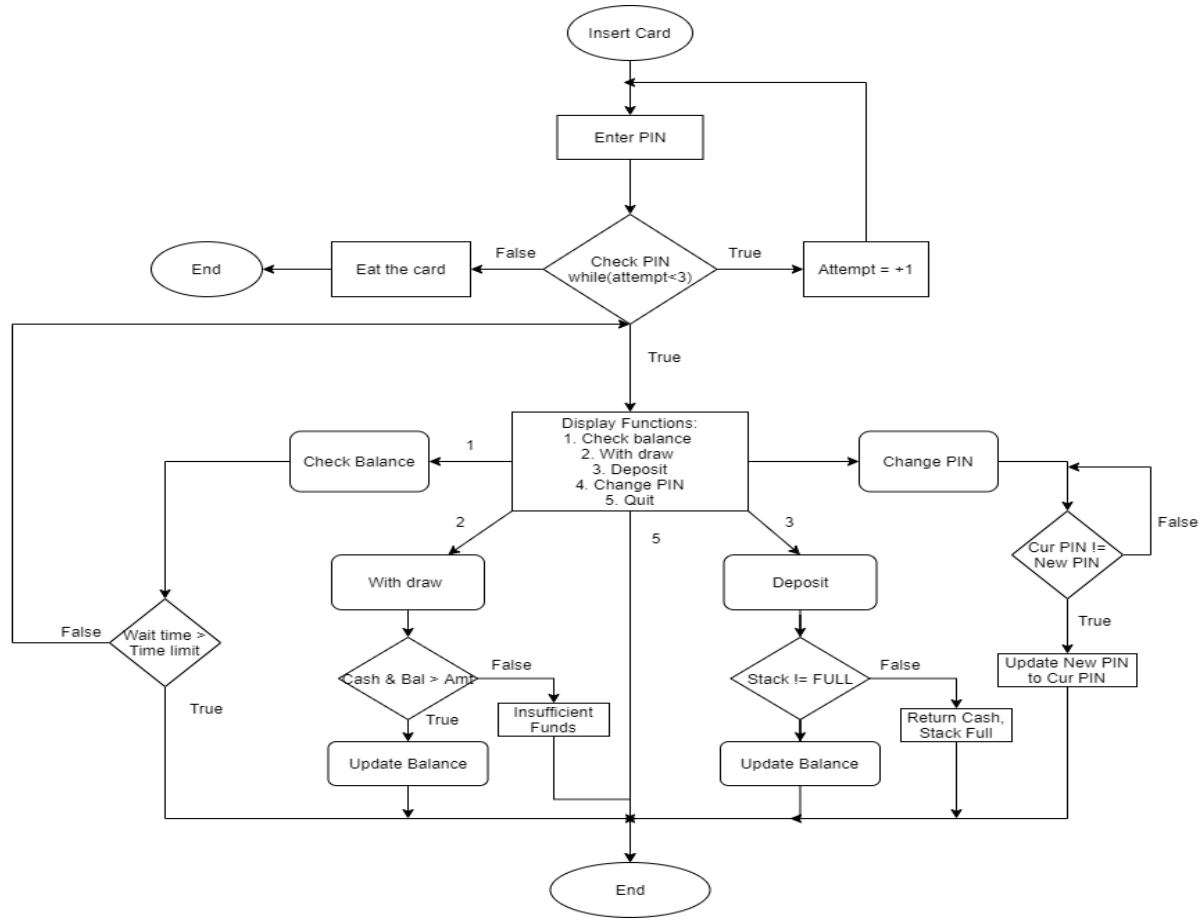

Figure 1: Activity Diagram

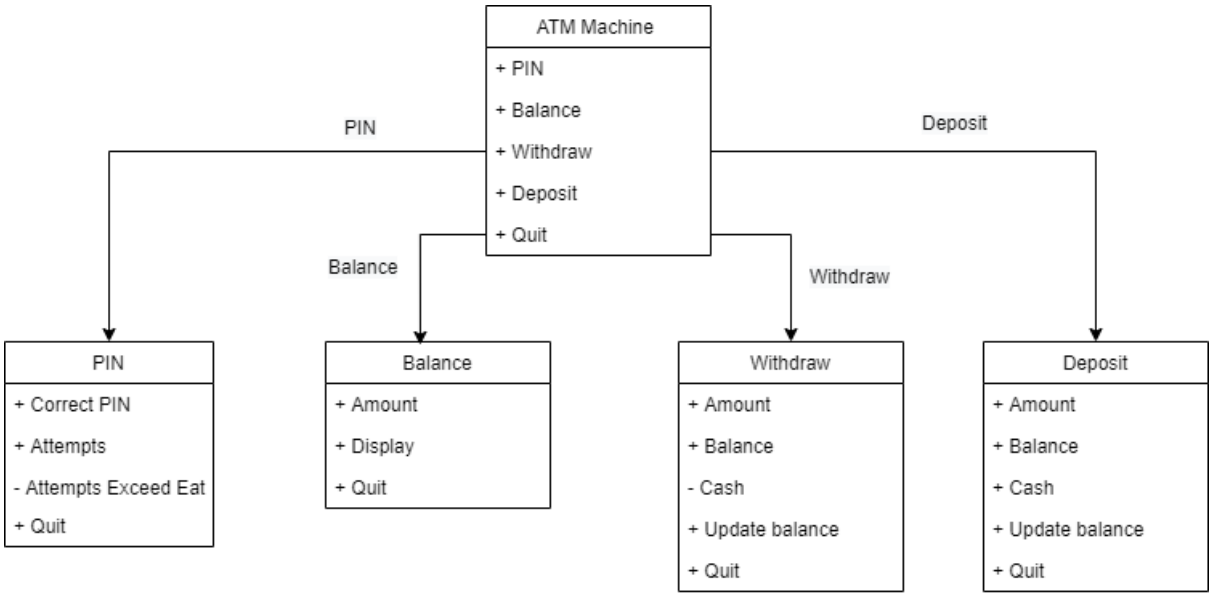

Figure 2: Class Diagram

6. Test Plan and Test Cases

6.1 Introduction

Test plan is designed to advise the scope, approach and strategy of testing an application, to identify risks and issues, to define test criteria and test environment, and to identify the type of testing to be performed on the Application under Test (AUT).

6.2 Test Plan

Function Requirements before authorization:

ID	Description	Input	Processing	Output
1	Initialize parameters	ATM is initialized	Storing the parameters.	Parameters are set.
2	If no cash card is in the ATM the system should display initial display			
3	If the ATM is running out of money no card should be accepted An error message is Displayed,	A card is entered	The amount of cash is less than balance	Display an error message. Return cash card
4	The ATM has to check if the entered card is a valid cash card	The ATM has to check if the entered card is a valid cash card	Check if it is a valid cash card It will be valid if -the information on the card can be read. -It is not expired	Display error messages and return a cash card if it is invalid.
5	If the cash card is valid the ATM should read the serial number and bank code,	Valid cash card	Read the serial number	Initiate authorization dialog
6	The serial number should be logged	Serial number from cash card	Log the number	Upload login
7	Authorization dialog The user is requested to enter his password The ATM checks the bank code and password with the bank computer	Password from user bank code from cash card	Send serial number and password to bank computer receive response from bank	Accept or reject authorization from bank
8	Different negative answers from bank computer for authorization dialog	Response from bank or authorization dialog: --“bad password” if the password was wrong --“bad bank code if the cash card of the bank is not supported by the ATM. --“bad account” if there are problems with the account	If the ATM gets any of these messages from the bank computer, the card will be ejected and the user will get the relevant error message.	Card is ejected and an error message is displayed.
9	If password and serial number are ok the authorization process is finished,	The ATM gets accept from the bank computer from authorization process.	Finishing authorization	Start transaction dialog

Function Requirements after authorization:

ID	Description	Input	Processing	Output
10	The kind of transactions the ATM offers is: withdrawal	Authorization successfully completed Enter the amount to withdraw	Amount entered is compared with main account.	Amount of money to be dispensed is displayed
11	Initial withdrawal sequence. If it is too much withdrawal redo the transaction	Customer has entered the amount of money	Error if the amount is greater than m	Start transaction or re initiate transaction dialog if the amount is not within the pre dened transaction policy
12	Perform transaction	Initial withdrawal sequence successful	Send request to the bank computer	Output Wait for response from the bank computer
13	If the transaction is successful the money is dispensed	ATM gets message transaction succeeded from the bank computer	ATM prints receipt updates and ejects the card Dialog Customer should take the card	After the Customer has taken the card the money is dispensed
14	If the money is dispensed the amount is logged	The number of bills requested is dispensed to the user	Log the amount of money against the serial number of the card	Amount logged together with the serial number Response sent to bank for money dispensed
15	If the transaction is not successful an error message should be displayed the card should be ejected	ATM gets message transaction not successful from the bank computer	ATM displays error message Dialog. Customer should take the card	Eject card

6.3 Test Case

1. Check user entered valid name

2. Check user PIN

2. Check user entered correct options for withdraw and deposit

4. Check the user current account balance

7. Conclusion

Information Technology has swept the Globe. Electronic and net-based facilities like ATMs, Net Banking, and Mobile Banking have given a completely new face to the banking business. Maintenance of customer loyalty forces the banks to constantly seek innovative ways and means to give convenience to customers. Foreign and new private sector banks have led the way for automation of financial services and other banks have followed. All over the world, about a million ATMs have been installed by different banks. ATMs are becoming more and more popular because of its merits. In India too it is felt that automation of the banking transactions through ATMs will save the customers from going through the cumbersome time taking paper work and procedures. In effect, the ATMs could usher in a revolution in customer convenience. In future ATMs can "work as small branches" and the Banks can save a lot of expenditure because of infrastructure and wages.