

Design of Pro-Automated and Intelligent ATM for Optional Money Transaction

Arun.R

UG Scholar, Department of Mechatronics, Nehru Institute of Engineering and Technology, Coimbatore, Tamilnadu,
India⁵

ABSTRACT; now a days the changes and coins are necessary in day to day life in everywhere. The developed countries like Japan, Tokyo, Singapore and USA are using the vending machine by 2010. These are one of the computerized programmed machines to operate in order to reduce money change and man power. In India the changes are necessary in all the places like mall, bus station, railway, parking, vending machines, stationary etc. With these reference of these data a new model of ATM machine proposed in this paper. The ATM machine is filled with various changes up to 10 rupees. All the money changes are available to a limited notes with various changes. He process starts with the ATM card and by inserting it the user will able to process as the ATM machine transaction. What the change is that the output optional will be interrupts as a request. The user can select the required changes for various purpose. So without disturbing the environmental changes in the current ATM process the user can able to use this machine easily. The card is read out first, then the pin of the card is initiated and the user is switched to process the optional money for transaction. By selecting the required optional the money is displayed in the screen and as well as pronounced the speaker system. Finally the output is obtained by money and receipt.

KEYWORDS: NCR dispenser, Cabinet, Network, Speaker, ATM

I. INTRODUCTION

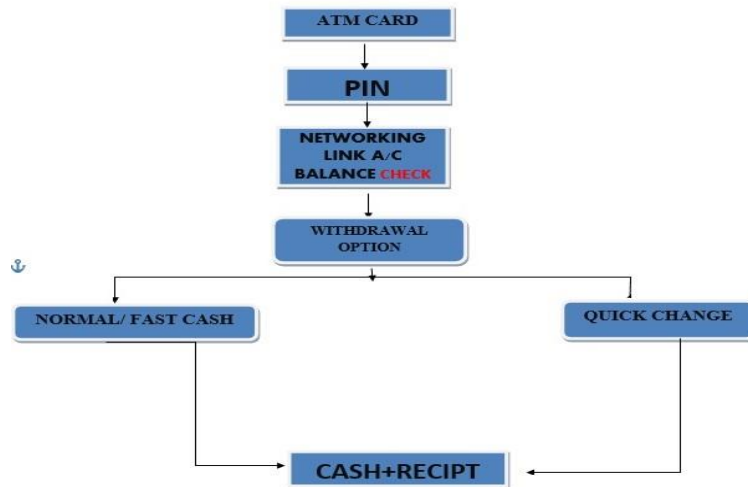
India is a developing country and as rich in population. In every day the common man has necessary changes in money in every places like transporting bus, railways tickets (local), coffee shop, malls, telephone calls, stationary shops, markets, taxi riding, etc... The Indian economy report says the citizen in India has thick population in railways, bus, shops. Today, in the shops instead of balance money they are providing some chocolates or chewing gums. [1] At this situation a common man cannot able save his daily money or do other necessary extrusions. Also a common middle class people those who need change money or direct from the ATM (Automatic Teller Machine) can quickly accesses the needed requirements. The user able to select optional money change for their own wishes. The user can able to user this proposed machine same as the ATM machine. What we made the difference is that going for an optional for a change is requested for the user. So it can quickly access to the network and banking process. When we add this process the same advance of the current ATM machine. For keeping the notes the new internal money holding cabinets'holder are to be necessary in the ATM machine also the accepted money also needs to be stored. The size, length, height, weight, climate control, security, networking are the one of the major factors also to be considered.

II. RELEATED WORK

[2] NCR Corporation | 3097 Satellite Boulevard. Duluth, Georgia 30096. USA. It is the one of the organization of the ATM developers and packers and especially in the security designed official company in the world. From this we obtain the cash storage and despising the necessary amount in rated speed. We started from storage and up to the output through the printing bills. From the beginning we want to design the cash arrangement and the operational in easy and users in friendly manner.

III. PROPOSED SYSTEM

The proposed ATM system consist of improvised security system, camera, Input ports, ATM slot, keyboard, microcontroller, speaker, printer, money dispenser cabinets module and cash analyzer using the same advance option of the ATM machine. The ATM consists of the RFID (Radio Frequency Identification) technology and ADC (Automated Data Collection) technology for the communication as well as the security for the ATM machine. The money cabinet module has smart featured ability and maximum cash occupying property up to 2500 notes.



Figure; 01ATM machine block diagram

IV. CABINET MODULE

The present system has oblivion of keeping the more number of Indian rupees for the withdrawing demands as well as to keep storing currency. The S2 Media Dispense Module is available across all new Self-Serve 20, 30 and 90 series ATMs.



Figure; 03; the S2 Media Dispense Module

Designed to meet global media handling requirements, the S2 Media Dispense Module [1] is key to providing secure and reliable access to cash for consumers at the ATM. This is vital in a global market where cash in circulation is increasing and ATM cash withdrawals continue to increase year on year to in excess of 90 billion transactions totaling over \$14 trillion USD. The S2 media has the features listed below

Features	S2 Media Dispense Module
Bunch Capacity	Up to 60 notes
Cassette Capacity	346mm (up to 2,500 notes)
Single Note Divert	Yes (100 Notes)
Separate Purge Bin	Yes (option for 2)
Note Pick Speed	5 notes per second
Transport Design	Carriage
Anti-overfill cassettes	Yes
Cassette Type	Up to 12 note denominations
Number of Cassettes	4 (8 dual dispense)

Pick Technology	Vacuum based (adaptive pick)
-----------------	------------------------------

Table; 01 specification of the S2 Media Dispense Module

NCR's S2 Media Dispense Module offers Financial Institutions a dispenser module capable of meeting the needs of today's market. The enhanced cash capacity and operational improvements will improve security, servicing and drive higher availability at the ATM. In turn, this drives greater customer service and channel availability in any location. The specification given below

1. Increased note present and bunch capacity up to 60 notes—A 50% increase
2. Increased cassette capacity to store up to 2,500 notes
3. Simplified range of service parts—via 7 key compact field
4. replaceable units
5. Optimal note picking performance using vacuum based adaptive pick technology
6. Secure and reliable carriage based transport—programmable to deliver “clean sweep” of note transport area, checking for any fraudulent trapping devices
7. Anti-overfill mechanism in each cassette—unique to NCR
8. Single note divert capability to minimize purge bin overfill and maximize efficient use of media within the dispenser State of Health Indicators—utilizing a traffic light interface,
9. providing servicing with a real-time visual guide regarding the ATM module's overall well-being at any time
10. Separate purge bin compartments—simplify reconciliation and dispute resolution
11. Easy cassette configuration using a new highly reliable wheel
12. based cassette ID system, with note height guides that are easy to assemble

V. DECODING PROCESS

More number of the people is aligned to get change on the vending machine for their uses. For this reason the more number of notes are necessary.

FIXED CHANGE OPTIONS

1. 20,000

$$20,000 = (1000 * 12 + 500 * 12 + 100 * 12 + 50 * 12 + 20 * 5 + 10 * 10)$$

2. 10,000

$$10,000 = (1000 * 6 + 500 * 6 + 100 * 6 + 50 * 5 + 20 * 5 + 10 * 5)$$

3. 5000

$$5000 = (1000 * 3 + 500 * 2 + 100 * 2 + 50 * 2 + 20 * 5 + 10 * 10)$$

4. 1000

$$1000 = (500 * 1 + 100 * 3 + 50 * 2 + 20 * 2 + 10 * 6)$$

5. 500

$$500 = (100 * 3 + 50 * 2 + 20 * 3 + 10 * 4)$$

6. 100

$$100 = (50 * 1 + 20 * 2 + 10 * 1)$$

Figure; 04 Cash decoding process for change Transaction

There are 6 money cabinets for storing the money. The certain program that keeps the limited output money with the change. The user can select the requirement output for his/her necessary. This will keeps the user peaceful and useful. The process is also locked with the 1 times with change transaction in 24 hours or within a day. So keeping a limit make a habit of usage limit of the change whenever necessary. This also makes the al user safe and useful for a day. The working process are two types a normal mode and a change mode. The user can use one option at a time. In order to minimize the usage the fixed transaction is feed to the system and network. The user can withdraw up to 100 rupees as minimum amount as the change.

VI. WORKING

The working is similar of the ATM machine as well as the vending machine featured for the auto billing process [3]. The process comes under the high security like camera recording, billing of transaction, speaker system and the alarm buzzer. The process is done by secured assembling transaction of the billing as well as the money processing. The total time required for the complete process is less than one minutes. The working is shown below. The basic ATM codes are done by using the DBMS and machine language codes. The process must be highly confidential and the neural schema should be secured for internet hacking. For this the step process is done by using same advance option of the ATM machine. The total process is quickly supplicated by the microcontroller.

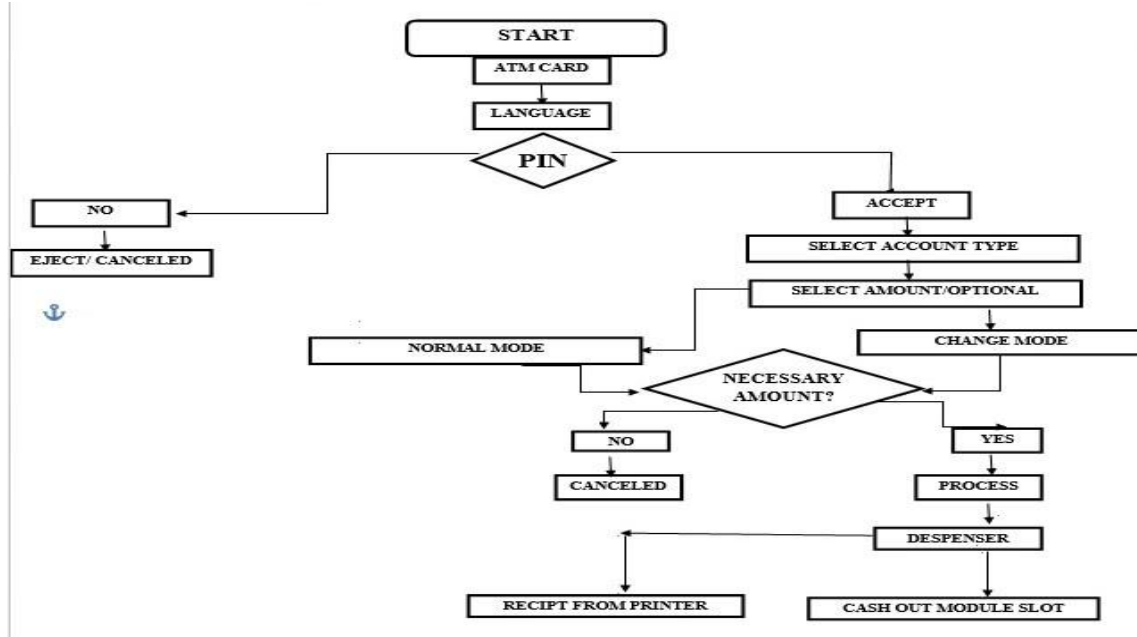


Figure:05: flow diagram of proposed machine

The process starts with the input function like camera, ATM card, note and keyboard. Like the current ATM machine the speaker system will announce the function and request from the user and to the user.

ADVANTAGES AND FEATURES

- 1) Bunch Capacity of notes.
- 2) Speed of picking and processing (vacuum counting)
- 3) Check for A/C balance in bank as ATM user friendly manner.
- 4) Temperature sensor, date and time using network.
- 5) Location GPS pointer.
- 6) Speaker and alarm buzzer.
- 7) Provides billing as same as the ATM.
- 8) Fast cash mode for time saving.
- 9) Daily motivation saving tips displays in monitor.

VII. CONCLUSION

The proposed system is the one of the most efficient and secured system with all the latest technology available in 2016. The system design to store up to the 2500 notes in each cabin. The merged and interfaced ATM system has more users friendly as well as dominate with the health indicator on the screen with corresponding Date, Time, and Temperature, available of note or out of service notice, daily motivation tips for saving. With all the amazing technology builds the new ATM machine. Thus the proposed system has all the necessary facility.

VIII. FUTURE SCOPE

1. Using the same system the multi option like, *ATM, money change, money exchange and product vending* process can be done in a same machine.
2. *Money deposition and money transfer* can be made using ATM process.
3. Can be made *to check last transaction* using ATM card and user PIN around the world.
4. Can make up to *50,000* once a single Transaction.
5. Eyes iris scan detection transaction is possible.
6. Barcode scan code transaction is possible.
7. The process inside can be made using self-assembling system and self-informer.

REFERENCES

- [1] A. R. Rai, "Customer relationship management: Concepts and cases " New Delhi, 2008, pp. 97-9
- [2] NCR Corporation 3097 Satellite Boulevard. Duluth, Georgia 30096. USA ©2015 NCR Corporation 16FIN4518-0216 www.ncr.com
- [3] Ana Monga, Balwinder Singh, "Finite State Machine based Vending Machine Controller with Auto-Billing Features" in 2012 International Journal of VLSI design & Communication Systems (VLSICS) Vol.3, No.2, pp 19-28.