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Design and Development of Security- based Voting System

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Abstract*: Voting machines are the total combination of mechanical, electromechanical, or electronic equipment (including software, firmware, and documentation required to program control, and support equipment), to cast and count vote; to report or display election results; and to maintain and produce any audit trail information. More over it is also important that a false entry should not be made so for this one of the most secure methods for voting is using a biometric sensor like a fingerprint reader.*
Keywords: Fingerprint sensor, Using GSM Module messaging system, Embedded system.

I. INTRODUCTION

This project examines policy regarding the electronic approaches and developments towards electronic data storage and transmission. Finger print devices for Voting machines and other existing identity documents are discussed and implemented in this project .This is a time consuming process as the person has to check the voter ID card with the list he has, confirm it as an authorized card and then allow the person to poll his vote. Thus, to avoid this kind of problems, we have designed a finger print based voting machine where the person no need to carry his ID which contains his entire details.

II. EXISITING SYSTEM

A. Votes are casted by just pressing a button.
B. It does not have security features.

1) Drawbacks of Existing System
a) Casting false votes are possible.
b) Finding Non-eligible candidates is difficult.

III. PROPOSED SYSTEM

A. Votes are cast using fingerprints.
B. Biometric security feature is implemented and uploaded data to the cloud using GSM module.

1) Advantages of Proposed System
a) No chance of casting false votes.
b) Only the eligible candidates can caste vote.

IV. BLOCK DIAGRAM

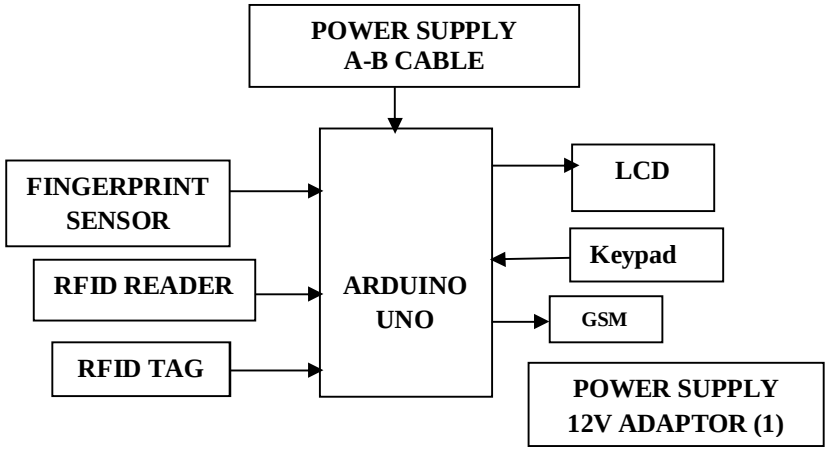


Fig1.Block Diagram

A. Hardware Requirements

1) ARDUINO UNO MICROCONTROLLER
2) Power supply
3) Fingerprint sensor
4) GSM
5) RFID reader
6) RFID tag
7) Key pad
8) LCD

B. Software Requirements

1) ARDUINO IDE
2) Embedded C

C. Arduino Microcontroller

Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins of 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller.

Fig.2.Arduino Block Diagram

D. Finger Print Sensors

R305 fingerprint module is fingerprint sensor with TTL UART interface for direct connections to microcontroller UART or to PC through MAX232 / USB Serial adapter. The user can store the fingerprint data in the module and it can configure it in mode for identifying the person. The FP module can directly interface with 3v3 or 5v Microcontroller based system.

Fig.3.Fingerprint sensor

E. GSM Modem

A GSM modem is a wireless modem that works with a GSM wireless network. A wireless modem behaves like a dial-up modem. The working of GSM modem is based on commands, the commands always start with AT (Attention) and finish with a character.

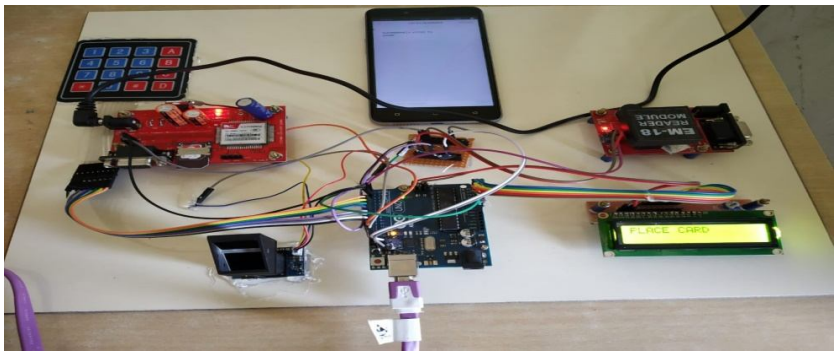
Fig.4.GSM module

F. RFID Reader and Tag

An RFID reader is a device that is used to interrogate an RFID tag. The reader has an antenna that emits the radio waves and the tag responds by sending back its data.

Fig.5.RFID reader

G. Hardware Kit



V. CONCLUSION

The implementation of Finger print based voting machine using microcontroller is done successfully. The communication is properly done without any interference between the different modules in the design. Design is done to all the specifications and requirements.

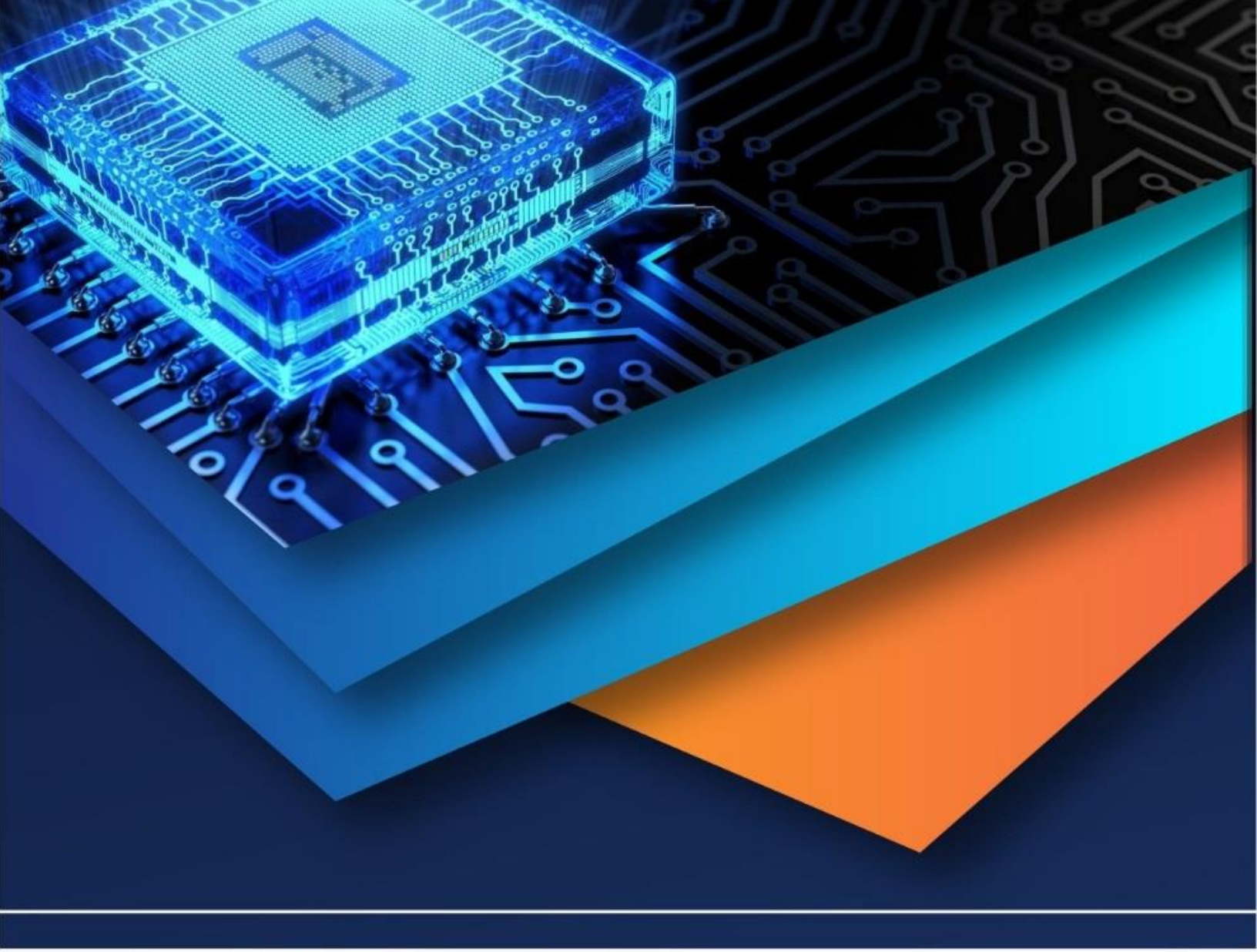
VI. FUTURE SCOPE

Number of candidates could be increased It could be interfaced with printer to get the hard copy of the result almost instantly from the machine itself.

It could also be stored the personal computer and result could be stored in the central server and its backup could be taken on the other backend servers. Again, once the result is on the server it could be relayed on the network to various offices of the election conducting authority. Thus our project could make the result available any corner of the world.

REFERENCES

[1] http://www.aimglobal.org/technologies/rfid/what_is_rfid.asp
[2] http://www.rfidjournal.com/faq
[3] http://www.technovelgy.com/ct/Technology-Article.asp
[4] http://www.perada.eu/documents/articles-perspectives/an-introduction-to-rfid-technology.pdf
[5] http://csrc.nist.gov/publications/nistpubs/800-98/SP800-98_RFID-2007.pdf
[6] www.ieee.org
[7] http://www.zntu.edu.ua/base/lection/rpf/lib/zhzh03/8051_tutorial.pdf
[8] http://www.taltech.com/TALtech_web/resources/intro-sc.html
[9] http://focus.ti.com/lit/ds/symlink/max232.pdf
[10] http://www.kmitl.ac.th/~kswichit/89prog/index.html



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