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Voting System Design with Finger Print Authentication

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Abstract-Our study report focuses on developing a system that deals with fingerprint voting system which can help in process of election in robust and secure manner. The system uses hardware components like microcontroller, finger print sensor, button switches, LCD display, etc. For the implementation of this system, R350 fingerprint sensor is used to take user finger print image and store in internal memory, and these images are further processed and analyzed using IC. The HMI is implemented using 16x2LCD screen, which is mainly used to print the instruction of the complete project.

Keywords- Finger print sensor, voting machine, and authentication with biometrics, LCD, GSM.

I. INTRODUCTION

Biometrics refers the measure and analyzes human body characteristics, fingerprints, eye retinas voice patterns, facial patterns and hand measurements that are unique, for authentication purposes.

The biometric way of authentication was formed and has since expanded onto many types of physical identification or a way for authentication in many fields.

The main point of the devices is to examine the unique fingerprint data of an individual and compare it to a stored database of other fingerprints.

II. DESIGN METHODOLOGY

In our project we have used fingerprint sensor for the purpose of voter identification & authentication. As the thumb impression pattern of every individual is unique, it helps in minimizing the error & proxy voting. A database is created storing the fingerprint images of all the voters as required.

Proxy votes and repetition of votes is checked for in this system with accurate coding. Hence with the application of this fingerprint based voting system elections could be made fair and free from rigging.

In this project, we have used R350 finger print sensor, ATmega328P microcontroller, button switches & 16*2 LCD display. The finger print sensor has at max had 25 finger print entries. The voter will have to register his finger print (placing the finger on the sensor) &enrolling for casting vote, maximum 25 voters can cast the vote. If same finger is tried to be registered again system will throw an error for duplication. To initiate cast, the match button needs to be pressed, there are 3 candidates for election.

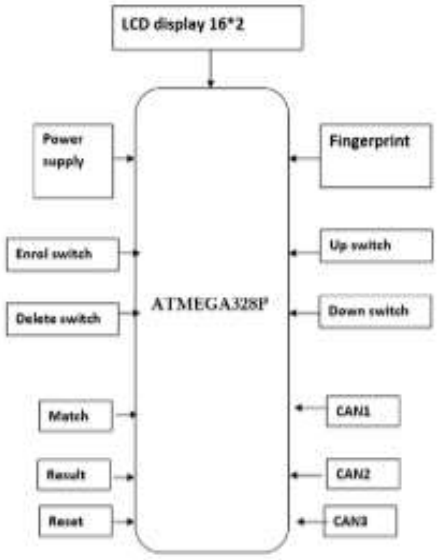

Fig 1. Block Diagram of System.

Once match button is presses, the message "Place your finger" will be displayed, if matched with already stored data, system will allow to cast the vote, if not system will deny for casing vote At the end, after the voters have casted vote, we can get a result as in which candidate (CAN1, CAN2, CAN3) got how many votes & who wins

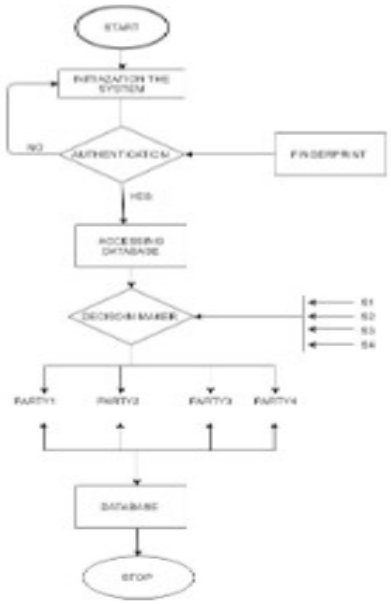

Fig 2. Flow chart of the system.

III. CONCLUSION

In big elections there are a huge number of people want to cast their votes, in order to avoid the congestion at the voting point there is need to provide a number of personal computers each one will be connected to the main computer/server in order to allow many people to perform voting at the same time and prevent congestion.

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