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Election using Satellite

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Abstract: *The citizens of country are proactive for choosing the government and they are contributing in every aspect through election however, there are several cases when a citizen wants to be a contributing member but due to some circumstances, he/she is not able to do so. Moreover, to set up an election several utilities likewise, stationaries, time and accommodation. Also, different training programs are required for the execution of the process. Notwithstanding, these satellite modules will provide solution over such problems by providing a mobile earth station by which voting can be done from our home, real time data sharing will be available between the voter and the election commission department that will provide immunity over spams and fake votes and will also help the disabled so that they won't have to go to the booth.*

Keywords: *Election, Satellite.*

1. INTRODUCTION

Elections have been a major part in deciding the country's growth, but sometime this crucial process is hindered and shunned by some serendipity such as lack of availability of resources during election, in capabilities of voters and other factors too. The conventional way of practicing election can itself cause declivity in number of voters too. To overcome this problem especially in developing countries like India, the idea of using satellites in election must be implemented to achieve greater number of voters. The voters who stay in remote areas where sometimes its not possible to place a polling booth due to some natural calamities or other reasons can also vote using a mobile van with an antenna placed over it, thus helping the voters to participate without any problem. Moreover, voters with physical disabilities can also freely participate. Several mobile vans can rotate in a highly populated area and collect the precious votes of the voters. This model in highly secure and can be employed with high level of encryption too A vote captured with the details of sender is send to satellite in real time to election commission thus can prevent the cost of transportation of currently used Electronic voting machines. A live counting mechanism can also be employed with this to showcase results instantly. In addition, this system can also eliminate the probability of fake votes and vote duplicity, as, once captured vote is verified in real time. Employing this system will be helpful.

In vote theft, Electronic voting Machine (EVM) theft and reducing efforts and cost in significant amount.

2. OVERVIEW OF E-ELECTION

Election using satellite can be achieved by employing general principal of satellite in mobile vans. A transceiver is placed on mobile vans can transmit and receive signal to and from satellite placed in geo stationary stationery orbit. A bar code scanner or a QR code scanner placed over transmitter captures the code and a vote machine equipped with it captures the vote, this vote is sent to another Transceiver i.e. satellite placed in geostationary orbit where the vote is transferred to receiver placed at Election office. A record is maintained in the office notes the voter ID obtained from the code and vote too, this can result in real time counting of the votes. As the process gets complete a successful acknowledgement is then sent to voter that his vote is registered. In this way a satellite communication can be employed in Election schemes.

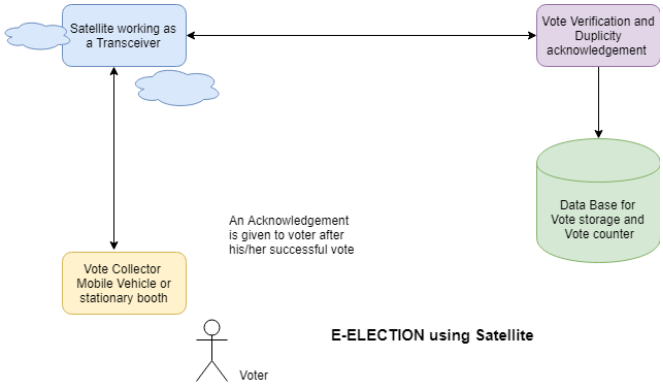

Fig. 1: Flow Diagram of Election using Satellite process

3. PROPOSED ARCHITECTURE

For making up the working E-Election satellite module on a low scale and frequency range of 137MHz to 525MHz up to 15 KM, we used Arduino boards 2560 along with 3 AI Thinker SK1276 a sensitivity of over -128 DBM can be achieved. This module also provides significant advantages in both blocking and selectivity over conventional modulation techniques, solving the traditional design compromise between range, interference immunity and energy consumption. Arduino board 1 is equipped with the finger print sensor or a QR code reader, Bar code reader which reads the code placed over the card. Input schemes 1,2,3 and 4 buttons having different voltages can be used to represent different voting option which can be equipped with Arduino 1.

Upon successful scanning of code and button press a real time message is sent to Arduino 2 which has a primary job to resend the message to Arduino 3, where vote is obtained and details of voter is registered. A message "success" is sent as acknowledgment once vote gets successfully registered.

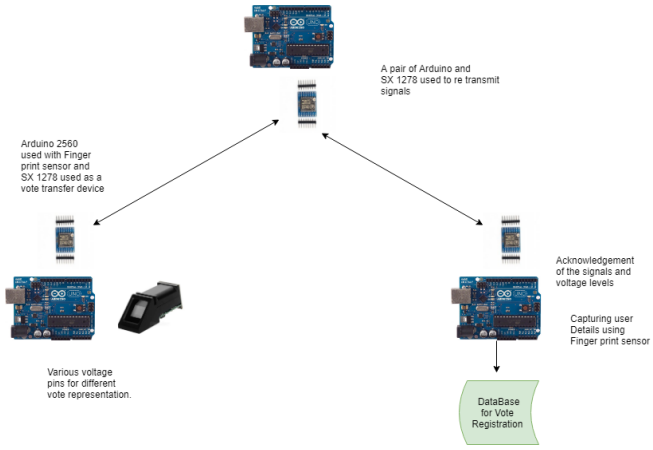

Fig. 2: Proposed Architecture

4. RESULT ANALYSIS

A student voter registration system made based on the following architecture has been successfully tested while 10 voter details were already placed in Database. 3 Election candidates were assigned indistinct voltages to register their vote also a QR code is used to assign identity to voters through the E-Election system.

5. CONCLUSION

In this paper, I have tried to explain the idea of making E-Election i.e. Election using satellite pragmatic. The concept of E-Election can achieve to minimize the efforts, cost also the training and stationery required for conventional election practices. The Arduino Microcontroller can be used with several other devices to ameliorate the efficiency.

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