

ADVANCED DIGITAL VOTINGSYSTEM

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Abstract: In the election system policy referendum the system of voting or constituent framework is the mechanism used to make the choice among different choices accessible for voting. The existing election system uses a EVM electronic device to vote, where the person need to go to a particular voting station and vote where the ID exists. Also, the current election system does not allow the individual to cast his vote from anyplace due to the individual commitment during election time which causes the inconvenience and also sometimes they may not be able to vote at all. Another drawback of existing mechanism is that there is inadequate information in terms of displaying and the other modes. Due to this, there is a possibility of malpractice in voting. Consequently, it is important to develop a mechanism through which even when the person is out of station can also able to cast his/her vote wherever they are for the chosen constituency. Because of this explanation, this paper manages with the idea of an i.e., “**Advanced Digital Voting System**” using Microcontroller and cloud technology. This approach utilized in the development help us to achieve increase in percentage of voting than normal.

Keywords: EVM, Arduino, IOT, WIFI Module

I.INTRODUCTION

A system of voting is a technique by which citizens settle on a decision between choices, frequently in a political race or on a strategy mandate. A system of voting upholds rules to guarantee legitimate democratic, and how votes are counted and aggregated to get a final result. The current system uses a EVM to vote, where the person should go to a particular voting station where the id exists. Also, the current system does not allow the individual to cast his vote from anyplace due to commitment which causes the inconvenience and also sometimes they may not be ready to cast a vote at all. Another drawback of existing mechanism is that there is no adequate information in terms of displaying and the other modes. Due to this, there is a possibility of malpractice in voting. With majority rule, the people who are new to voting theory are much of the time amazed that another voting system exists, or on the other hand that conflicts might exist over the meaning of what it means to be supported by a larger part. Contingent upon the significance picked, the normal "majority rule" frameworks can create results that the greater part doesn't uphold. Assuming each political race had just two options, the champ would be resolved utilizing greater part rule alone. However, at the point when there are at least three choices, there may not be a solitary choice that is most liked or most hated by a greater part. A simple choice does not allow voters to express the ordering or the intensity of their feeling.

Different systems of voting may give altogether different outcomes, especially in situations where there is no unmistakable larger part inclination ELECTRONIC Democratic (otherwise called e-casting a ballot) is a term incorporating a few distinct sorts of voting, embracing both electronic method for making a choice and electronic method for counting votes. Electronic democratic technology can incorporate punched cards, optical output casting a vote frameworks and specific democratic stands (counting self-contained direct- recording electronic democratic frameworks, or DRE). It can likewise include transmission of polling forms and votes through phones, confidential PC organizations, or the web. By and large, two primary sorts of e-Casting a ballot can be recognized: e-voting which is actually managed by delegates of administrative or free electing specialists (e.g., electronic democratic machines situated at surveying stations); emotive e-Casting a ballot where casting a ballot is performed inside the citizen's only impact, and isn't genuinely managed by delegates of legislative specialists. Electronic democratic innovation can speed the counting of voting forms and can give improved openness for handicapped citizens. Nonetheless, there has been conflict, particularly in the US, that electronic democratic, particularly in the US, that electronic democratic, particularly DRE casting a ballot, could work with constituent misrepresentation. As we have gone through the below voter's chart, our voting ratio from 1957-2023 is very poor. Most of educated and uneducated peoples will not vote, since it is possible that they have moved to city for their job/higher education. If they want to vote, they have to travel back to their origin place where they got their voter ID and relevant information. Another important thing is that the current framework will not allow an individual to cast a ballot from anywhere, so this could be completely inconvenient system and does not help to increase the voting. Accordingly, it is important to educate about the voting facilities available and also importance of voting to all communities of uneducated peoples and encourage them to vote so that we can contribute substantial increase in the voting

percentage. So, this is reason has motivated us to implement the idea of “Digital votingSystem”. This approach can provide an opportunity to vote from anywhere and we can achieve more percentage in voting and can avoid the fake voting. The Bio-metric sensor with the cloud data storage is found to be the best solution for authentication of voting.

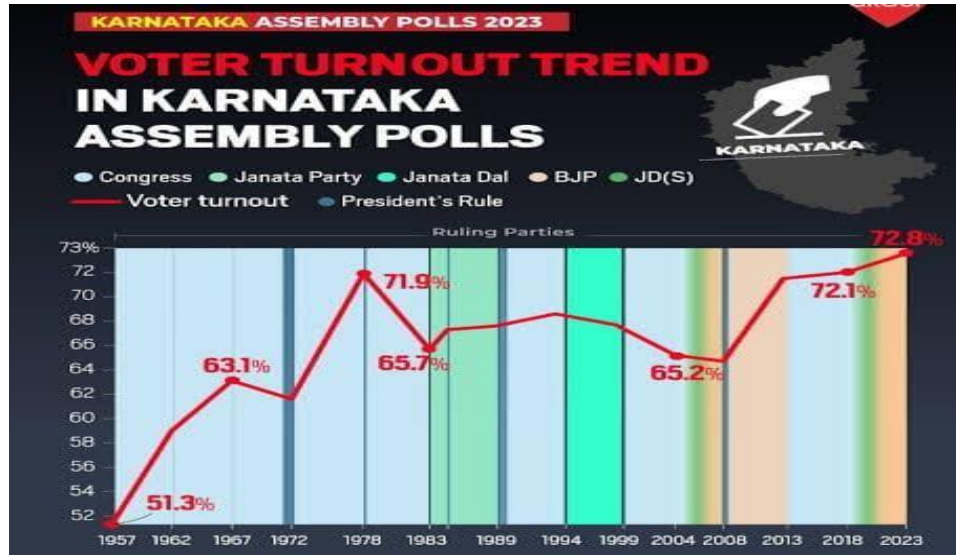


Fig. 1: voter turnouts in national election

II.BLOCK DIAGRAMS

The following schematic diagram shown in figure 2 for digital voting system consists of Arduino board for data processing, biometric sensor for scanning the image impression, Wi-Fi module for communication purpose and central station to finalize the counting of voters, and it consist of keypad and lcd to display the information.

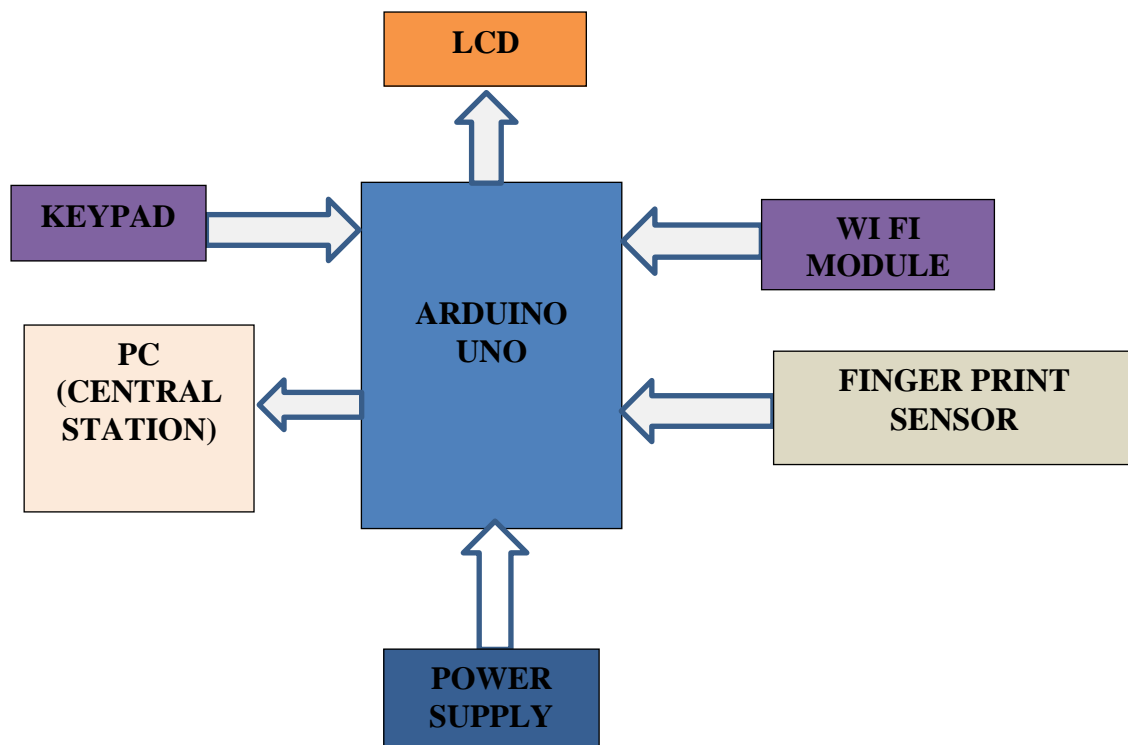


Fig. 2: Block Diagram of Digital Voting Machine

III.HARDWARE REQUIREMENTS AND THERE FUCTION

1. **Arduino Mega:** It is called as a heart of the project, which controls & process the input and output. It will process the data which is come from the finger print reader & compare with stored data.
2. **Finger print reader:** finger impression is to identify the voter thumb.it will fetch the information about voting candidate to Arduino Mega.
3. **LCD display:** LCD display is utilized to show the candidate's name & symbols.
4. **Buzzer:** Buzzer is to indicate voting has done or access denied, or unauthorized voting.
5. **Power supply:**12v 2amps regulated power supply.
6. **Max 232:** max 232 is a device which convert voltage TTL (transistors transistor logic) to RS 232 & vice versa.
7. **Key pad:** voting is done through the key pad.
8. **Crystal oscillator:** Generate the clock frequency of 11.0592MHz.
9. **WI FI module:** It is used for send the voting data to cloud in the central office.
- 10: **Central station:** Central station is to finalize the counting of voters.

IV.SOFTWARE REQUIREMENTS

I. THINGSPEAK: The data obtained from the sensors can be uploaded to the cloud using the IoT cloud platform called Thing Speak. WithMATLAB or other tools, one can likewise perform information investigation and visualization, as well as create your own apps. MathWorks runs the Thing Speak platform. You must either log in to your current MathWorks account or establish a new MathWorks account in order to register for Thing Speak. You may gather and store data of sensor in the cloud with Thing Speak Web Service (REST API) and create IOT apps. It functions with MATLAB (premade libraries and APIs are available), Arduino, and Raspberry Pi.

II. Arduino IDE: Writing and uploading code to Arduino boards is done using the open-source Arduino IDE program. Linux, Mac OS X, and Windows are just a few of the operating systems for which the IDE program is appropriate. It supports first two programming languages. The Integrated Development Environment, or IDE, is used here.

V.WORKING PRINCIPLE

The execution of the venture involves the IOT technology data is send to cloud. First the LCD, UART and WIFI Module are initialized.Place the finger print on the biometric sensor. If the finger impression matches with the stored original one then LCD will display at the station to which constituency the voter belongs to and the corresponding candidates of his/her constituency which are displayed in the station. Then press any switch to cast a vote depending on the candidate selection. After pressing the switch, the counting of vote for a particular candidate is incremented by one. This interaction will rehash for every candidate. The developed system has the ability to avoid so that no one can press the switch for the second time thereby avoids fake voting. If the switch is pressed for second time, then the LCD will display "you already voted" with beep sound. If unrecognized person finger print detected then LCD will display as "unauthorized person" with beep sound. If the voting is completed then the results are transmitted to the cloud via WI FI module (ESP8266), and wait for the acknowledgement from the Cloud. The message is sent and corresponding Results are displayed in the PC and the acknowledgement has been sent to both the stations.

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VLMETHODOLOGY

Implementation of project is explained along with the flow chart as displayed in figure 3.

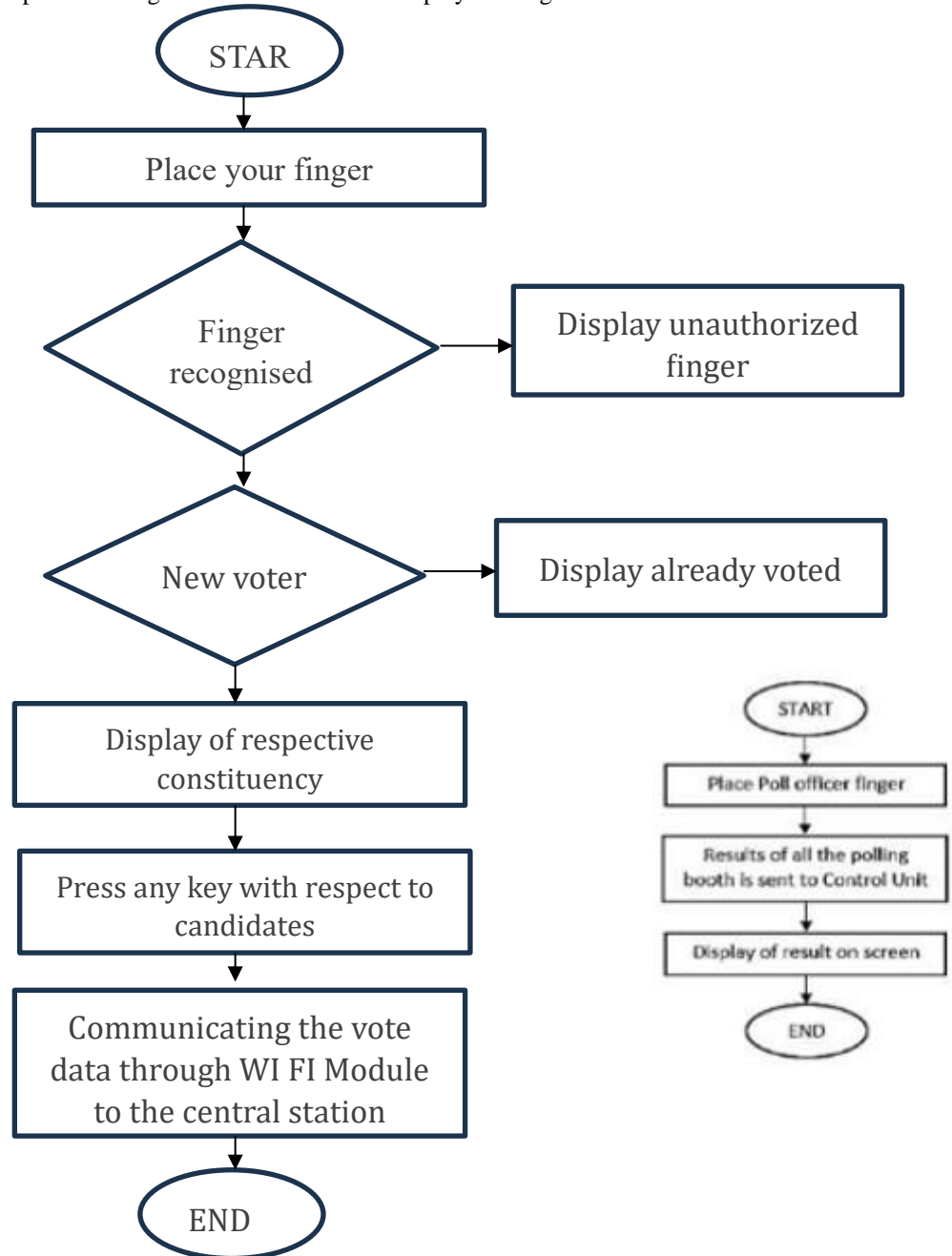


Fig .3: Flow diagram

VII.RESULTS

The present two stations for voting which all voters' data will registered in both station 1 and station 2. Here station 1 is where voters vote in their original place where their id exit. Station 2 is where voters will vote at the point when they are for away from their original voting station. When the voter wants vote in station 2, he has to following the below steps.

STEP 1: In the below figure 1 when voter is in front of voting booth it will show put your finger print to vote. After that voter has to put their thump on finger print reader.



Fig .1: Step 1 in booth 2

STEP 2: In the below figure 2 and 3 Once we place the finger whether it matches with the stored data then it will display the person Name, ID and which constituency that person belongs to if finger is not recognized with stored data it will display “unauthorized person” as shown in below figure.

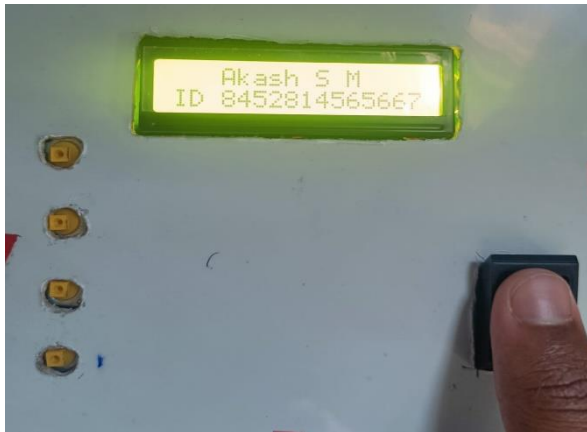


Fig .2: Step 2 in booth 2



Fig .3: Step 2 in booth 2

STEP 3: The below figure 4 shows the different parties with candidate’s name for voting. The voters can make choice between the option candidates.

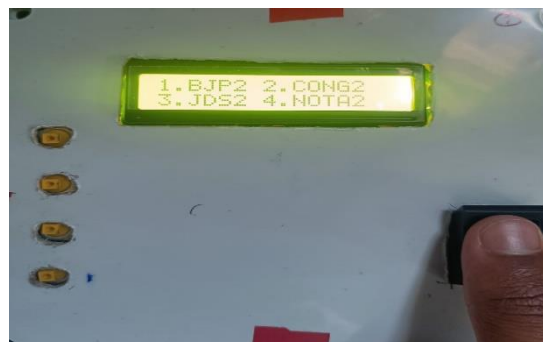


Fig .4: Step 3 in booth 2

STEP 4: After voting with a press button for a candidate the same data will be shown on the LCD with a beep of alert buzzer as displayed in figure 5.



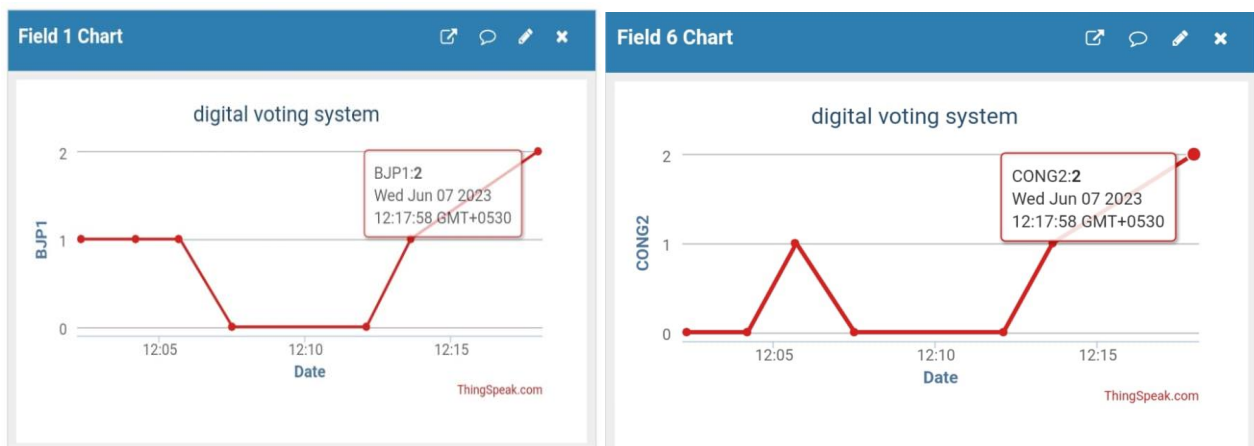
Fig .5: Step 4 in booth 2

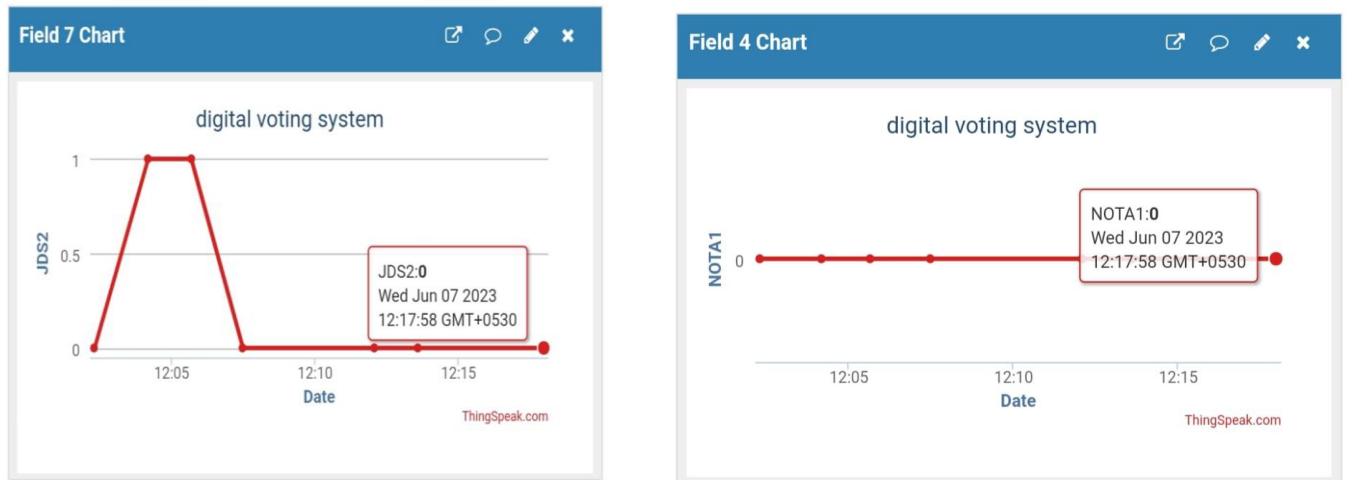
STEP 5: The below figure 6 shows that if already voted person to vote again it will display “you are already voted”



Fig .6: Step 3 in booth 2

STEP 6: After all, casting a ballot is finished polling officer send the total voting data to central station.



**Fig .7: parameter data recorded at website**

VIII.ADVANTAGES

- Avoid human interference.
- secured voting.
- Expect 100% voting.
- Distant voting is possible.
- Easily find out the fake voting.
- This system provide vote from any two stations.
- We can save money and time.

IX.CONCLUSION

The developed and implemented prototype model “Advanced Digital Voting System” has been tried for its legitimacy where it concludes that it works satisfactorily to vote from original station1 and new station 2. The station 2 is the new station where the person votes for another constituency has been recorded correctly in the main station which will be taken to account at the time of counting. This also as the advantage of not only allowing the authenticated person to vote and if any malpractices are found in terms of fake voting can be identified and recorded this developed system is able to expand the present age voting substantially.

X.REFERENCES

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