# ONLINE FINGERPRINT VOTING SYSTEM

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**Abstract -** *India is the world's largest democracy and the essence of any democracy lies in the fact that people choose their own representatives. But in the present era, the fair election process is facing a lot of problems like booth capturing, rigging, fake voting, tampering with the Electronic Voting Machines (EVMs) etc. Being responsible engineers, it's our duty to do something to curb this menace. In the commonly used EVMs, the voting process takes place electronically and this eliminates the use of ballot paper to cast votes in elections as it is very time consuming and errors might crawl in intentionally or unintentionally. Today the authenticity of the voter is a big concern and it also should be made sure that a same voter is not able to vote two times. This issue can be dealt with by introducing a biometric based voting system, where the authenticity of a voter is established based on fingerprints. Hence, the principle shall be one person, one authentic vote. In the present work, a prototype fingerprint based biometric voting machine has been developed. It is proposed that a feature that will link the Aadhaar database of Unique Identification Authority of India (UIDAI), Govt. of India, New Delhi; can be embedded. This shall facilitate all the voters to get registered on the portal automatically, which can be classified on the basis of regions and constituencies based on their unique identification i.e. their fingerprints. This shall enable the device developed in the present research work, at the national level of application by using it in elections conducted around the country. This shall lead significant contribution for the betterment of the Indian election system.*

**Key Words:** Election Commission, Employee, Voter.

## 1.INTRODUCTION

The most severe and frequent problem faced during conducting elections is rigging (i.e. one person casting multiple votes). Although, to identify people who have already casted their vote, voters are given an ink mark on their finger. But still there are a lot of ways by which that ink mark can be removed easily and this leads to chances of fake voting. Through this project, we propose developing a novel Biometric based Voting framework in order to curb the above illustrated problem of rigging. Fingerprint Sensor Module is a device that captures the scanned image of the fingerprint, transforms it further into a digital code and stores it into its memory. It is also proposed to introduce the concept of "Remote Voting" which will enable people to sit at their homes and vote, just by using their identity number and fingerprints. The system proposed in the present paper, shall serve with a set of innovative advantages namely, i) Reduced rigging and fake/invalid votes, ii) ease of carrying the machine, iii) faster and more accurate voting process and iv) remote voting capability.

## 2. LITERATURE SURVEY

1. S.Charan et.al[1] proffered the System based on "Finger Print recognition system", consisting of four stages : first stage, a sensor which is used for enrolment and recognition for capturing of biometric data. Second is the pre- processing stage which is implemented to remove the unwanted data and increase the clarity ridge of structure by using enhancement technique. Third is extraction stage, which acts as the input for outputof pre-processing stage to extract the finger print features. Fourth is the matching stage, to compare the acquired feature with template available in database.

2. M.Venkata Rao et.al[2] proposed "Anti-rigging Voting System Using Biometrics BasedOn Aadhaar card Numbering". In the recent years process of voting is exercised by using Electronic Voting Machine which is based on embedded project and its implementation. In this paper it is presented the implementation and execution of the progress of anti rigging voting system with the use of finger print .The purpose of implementation of the project is to make available a good environment and safety to the users for electing the candidates by using the intelligent electronic voting machine by providing the name of all the candidates to every user by using the technology of FINGERPRINT IDENTIFICATION. This project paper ensures give the security as it takes FINGERPRINT for the purpose of authentication.

3. Samarth Agarwal et.al[3] proposed "Biometric Based Secured Voting System" which is gives the idea of authentication based on Aadhaar ID and Aadhaar number. Entering the required Aadhaar details the biometric is been recognized. They developed a circuital system which uses Arduino for controlling the process.

4. S. Jehoo. Jireh et.al[4] proposed "Online Smart Voting System Using Biometrics Based Facial and Fingerprint Detection on Image Processing and CNN" which is an exemplary model of recognition of image of each individual face and their respective fingerprint for voting with authorization of Election Commission using the concept of CNN(Convolution Neural Network).

5. Kadhija Hasta et.al[5] proposed "Fingerprint Based Secured Voting" which explains us about anti-fraud voter registration and voting system by using a data-card which is used as storage resource for candidate details, which is further used for casting vote. The card has the limited access for its use, implemented for avoiding casting of multiple votes from single person this deploys fraud.

6. Shubranil Chakraborty et.al[6] proposed "Designing of Biometric Fingerprint Scanner- based Secure and Low-cost Machine for India" that describes about the electronic voting machine using fingerprint impression for identity and authenticity. This system used for pre-poll procedure for storing details. Fingerprints are matched on the day of elections for security purposes. In this paper they implemented master-lock feature for safeguarding information and how many votes have been aggregated from particular polls.

## 3. PROPOSED METHODOLOGY

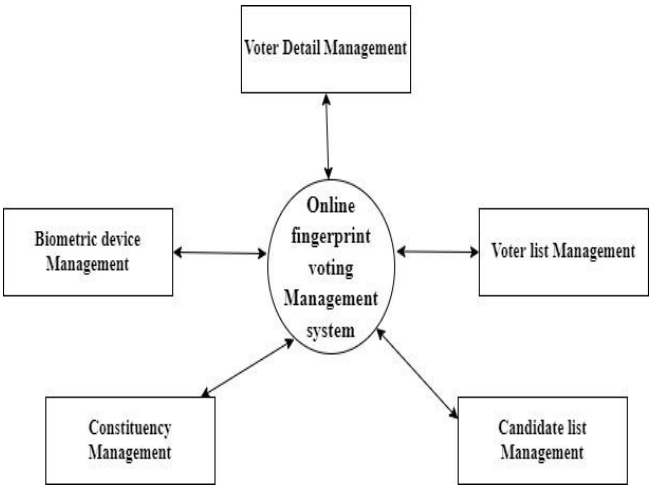



**Fig 3.1:Block diagram of Online Fingerprint voting system**

**Election commission:** Election commission is the administrator who has the authority on all activities. EC can add constituencies into the database. EC can add the employees, the employees will login with their credentials.EC can view the list of employees. The EC can add the election into the database and will initiate the election process. EC will add the candidate for a particular election and also can view the added candidates list. EC can view electronic results after the

**Employee:** Employee login with their accounts which are received by email. Employees will add voters into the particular constituency. Employees can view added voters details.

**Voter:** Voter's can login into their accounts with email and OTP. When a voter enters an email the auto generated OTP will reach the voter's email. The Voter's can login with the OTP. voters can view elections that they are eligible to vote for, voters can vote for election with fingerprint sensor. Voters can view their votes. Voters can view election results.

## 4. RESULTS & DISCUSSIONS


**Fig 4.1:** Finger print based Voting system Which recognize the finger

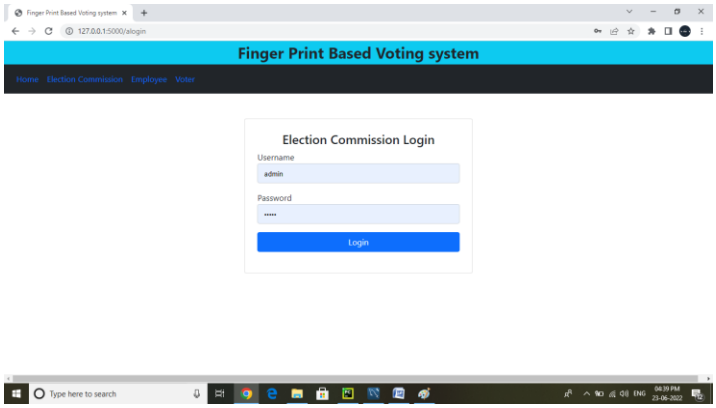



**Fig 4.2: Login page**


**Fig 4.3: Add Constituency**

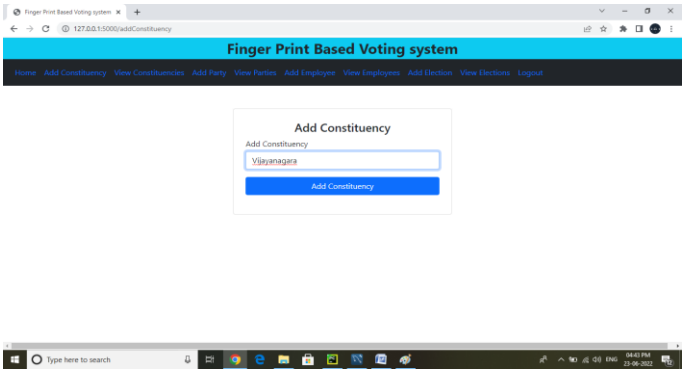



Fig 4.4: View Constituency

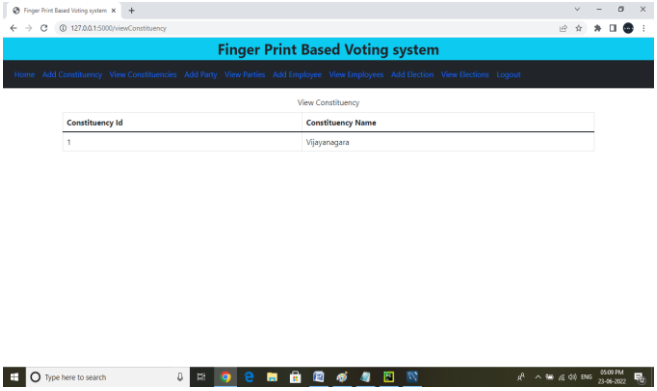



Fig 4.5: Add Political Party

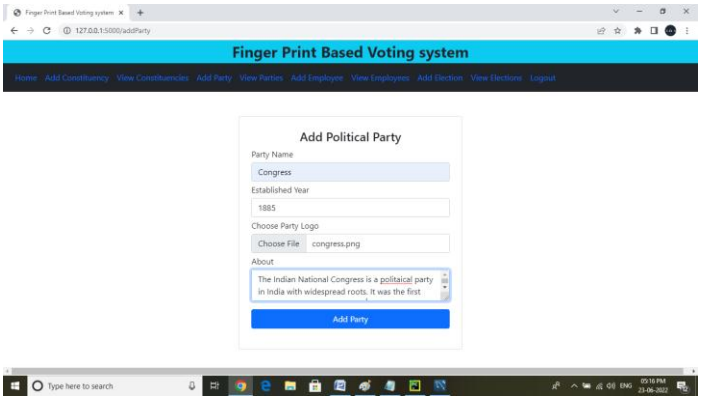



Fig 4.6: View Parties


Fig 4.7: Add Employee

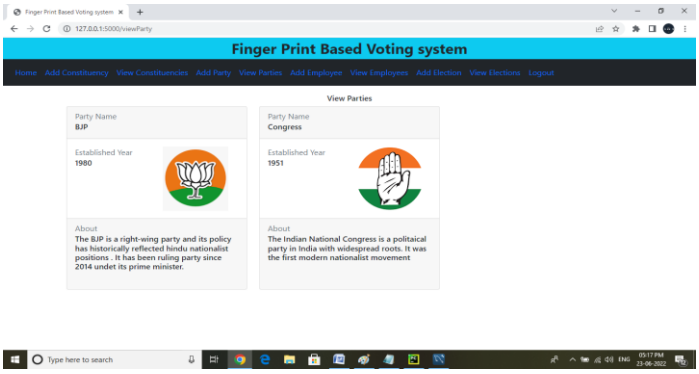



Fig 4.8: Employee List

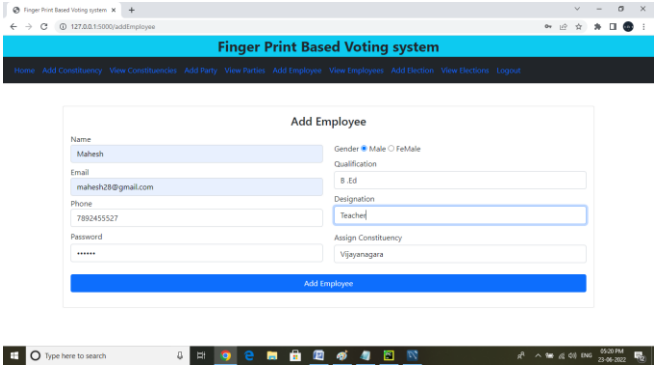



Fig 4.9: Add Election

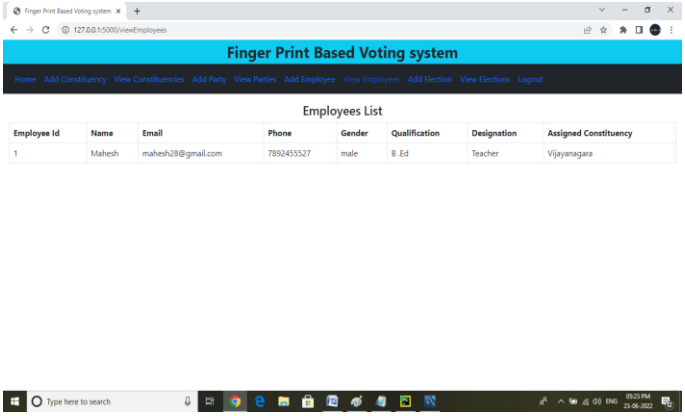



Fig 4.10: View Election

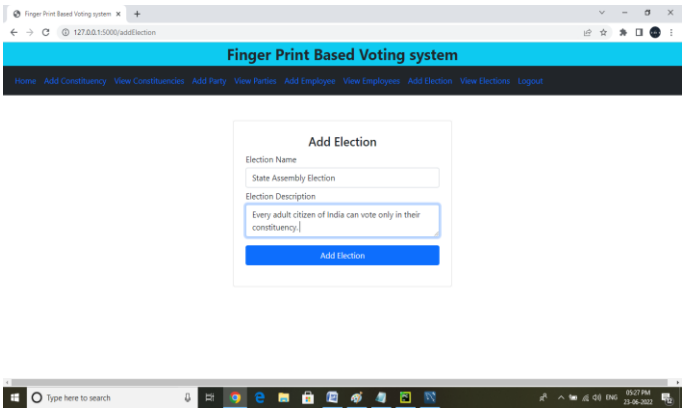
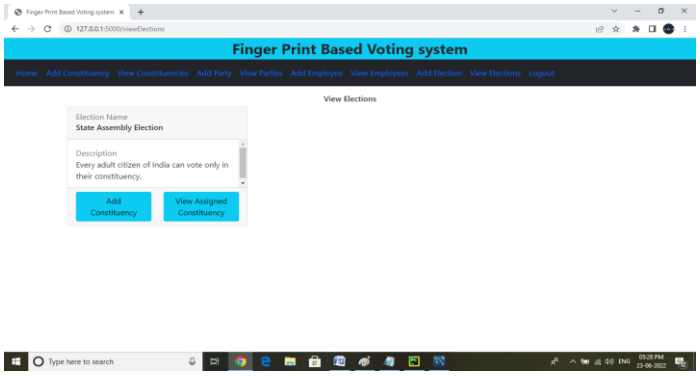



Fig 4.11: Choose Constituency

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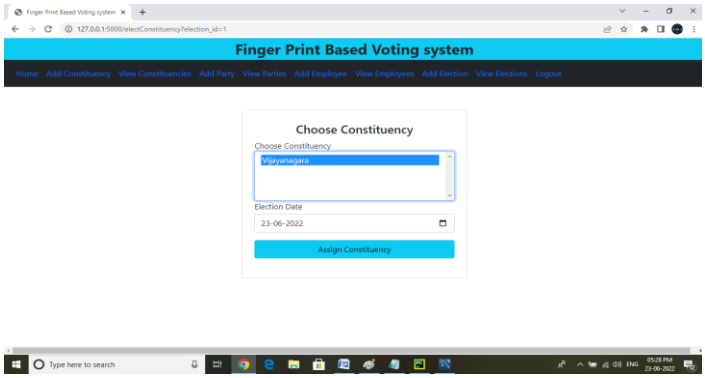


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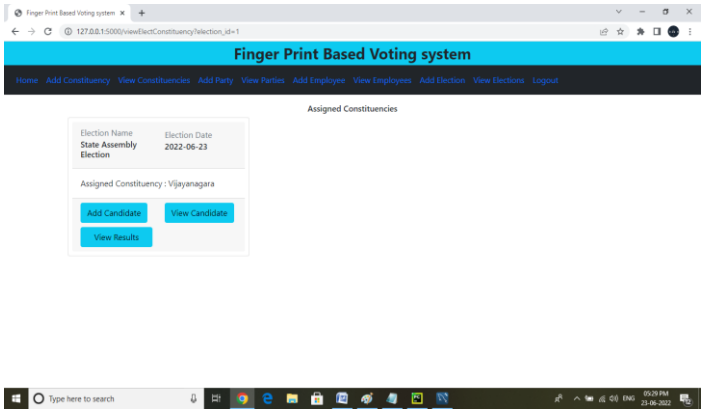


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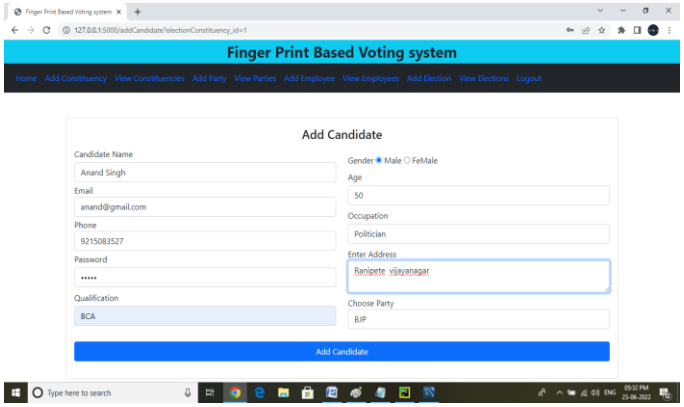


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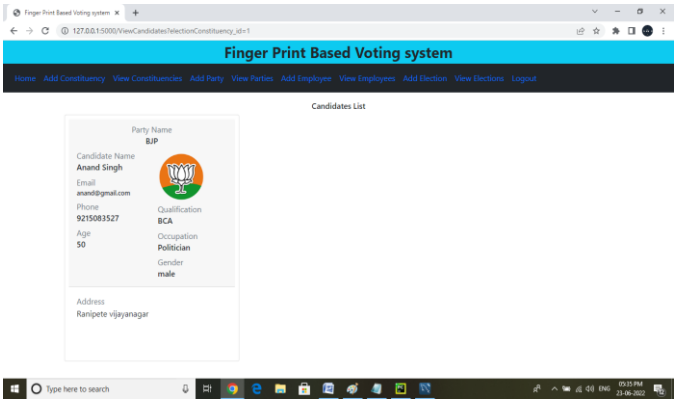


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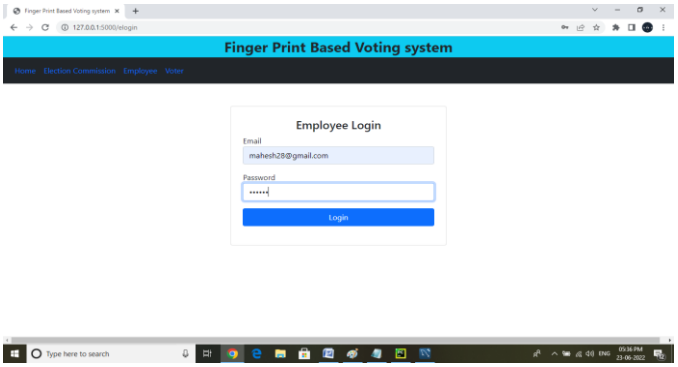


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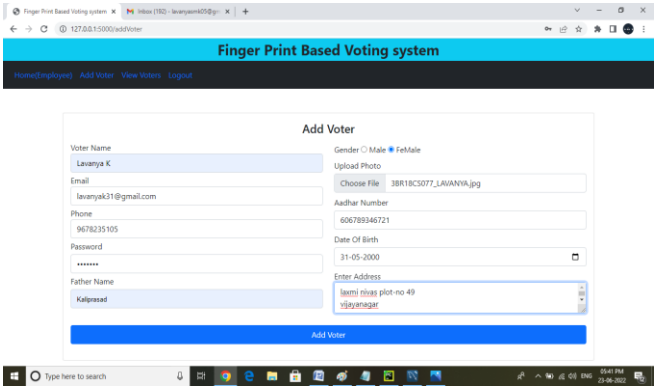


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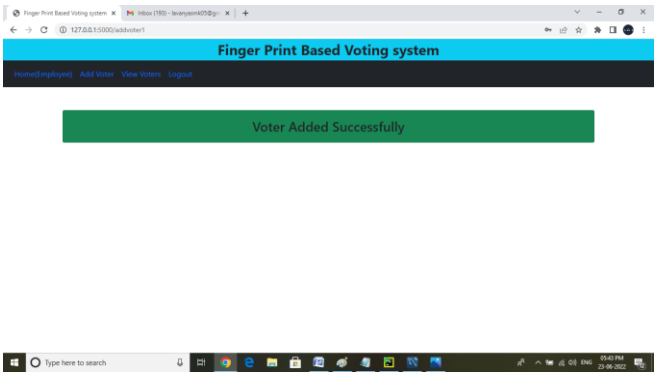


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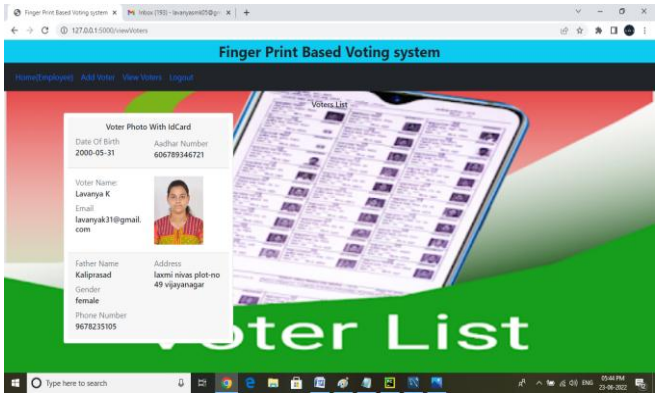


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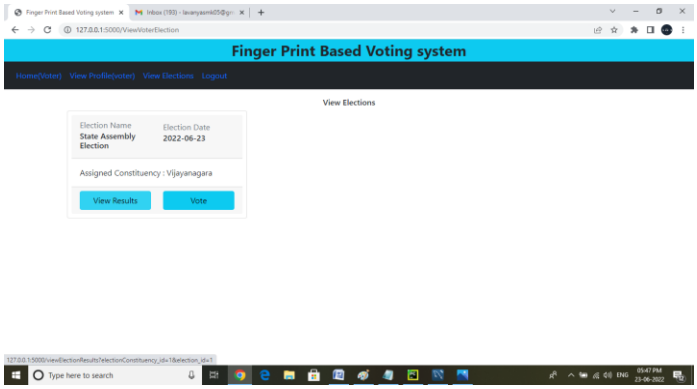


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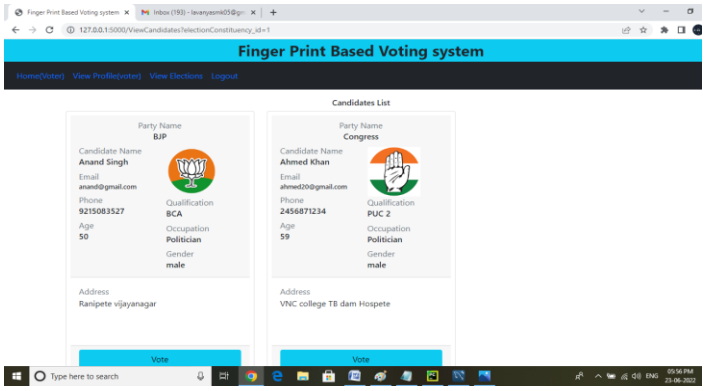


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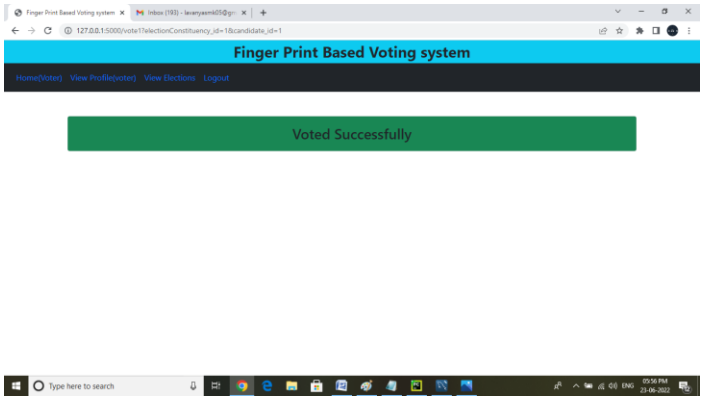


**Fig 4.23**

## 5. CONCLUSION

To make the voting system faster and more secure, an attempt has been made so that the voting system can be acceptable to all citizens of the nation. Security was the main concern of the whole project. More security has been added compared to usual electronic voting machines by adding the fingerprint feature so that there cannot be any kind of cheating. By using this system, the national voting system will be more secure, faster, easy to use and more economical. The system also consumes very low power and the device is easy to carry. The total cost of one machine would be less than BDT 5500. In one word, the system will make the voting system more reliable and more secure. It is better than the traditional ballot-paper system. The government is trying to bring technologies in every case to make the country more developed. The voting system is a very good place to apply new technology like this, by which the common people will elect their right representative in a smarter and secure way.

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