

Smart Voting System Using Fingerprint Sensor

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ABSTRACT

The main objective of our project is to interpose a new voting system which uses fingerprint for verification of a voter. Our recommend. system can be used to manage elections at different levels such as that of the Parliament, Panchayat and so on, on the same day which will reduce the cost of operating. elections on different dates. The Smart Voting System is an android application which enables user to vote in his smart phone using fingerprint. This is more progressive. compared to the present system because it doesn't need any workers. And voter doesn't required to visit the polling booth. The voting can be done from android mobile phone from anywhere. The application also reduces the complication of counting since it is automatic. Since voting can be done from anywhere, it will speed up the voting development for the voters as well as government as a result the security in voting can be ensured by preventing fake votes. Our system will provide a more agreeable. way for voting for people. This project contribute the specification and requirements for E-Voting using an Android platform. This mechanization. helps the user to cast the vote without drop by. the polling booth. The application follows proper authentication measures in order to eliminate. fraud voters using the system.

Keyword: - Android studio, fingerprint sensor, voting system, async, volley, mysql.

1. SMART VOTING SYSTEM USING FINGERPRINT SENSOR

The requirement for a reliable and odd identification of a person in the development of digital world has been a great actuation for the research in biometric, National ID, electronic commerce are some scenarios where declarations of a person's identity is very imperative. Voting too falls in such scenario where an individual's data serves such an important role in the process. The most severe and frequently happening situations while voting is rigging (One person give multiple votes). Right now, we are using an electronic voting machine and to identify whether someone has voted, an ink mark is done on the finger. But today because of rapid development in technology, that can be erased and there are chances of rigging. Through this project, we are going to create a unique Fingerprint based Voting system in order to avoid the issue of multiple votes, faking personality. and also completely eliminate the concept of applying ink thus leading to a fair election. Therefore, it ensures reliability, accuracy.

1.1 NUMBER OF MODULE OF SMART SYSTEM VOTING THROUGH FINGERPRINT SENSOR

Today is the world of Smartphone right from the villagers to city every one carries Smartphone. Among these about 84 percent of the market is covered by android and this share is growing continuously, considering this fact in mind, the very important issue of voting can be resolved using android phone.

In India after every 5 years election of government is held. Voters are expected to be come to voting booth and give their vote by standing in long queue to simplify the process of voting and allowing voter to vote by sitting at home with simple fingerprint verification. There are also scenarios where unregistered voters flock in the poll centers as “Dead Voters” to participate in the voting process.

1.2 COMPARISON WITH EXISTING VOTING SYSTEM

The current system which is present now is a machine and paper based voting system which needs much workers and requires lot of resources. The present voting system finds difficulty during the counting also because it is counted standard. The Smart Voting System is an android application which enables user to vote in his smart phone using fingerprint. This is more advanced compared to the present system because it doesn't need any workers. And voter do not need to visit the polling booth. The voting can be done from android mobile phone from anywhere.

2. FINGERPRINT AUTHENTICATION

Fingerprint recognition is one of the most well-known and publish bio-metrics. Because of their uniqueness and stability over time, fingerprints have been used for recognition for over a century, more recently develop into automatic due to improvement in computing skill. Fingerprint recognition is popular because of the essential ease in property, the numerous sources available for collection, and their customary use and collections by law imposition and immigration..

Fingerprint verification is the act of verifying an individual's recognition based on one or more of their fingerprints. Fingerprint verification or fingerprint scan is a form of fingerprint technology authorize users to entrance online services using images of their fingerprint. The biometric scan commonly rely on mobile and other device domestic sensing automation, as this has all but overcome software, third-party biometric conclusion.

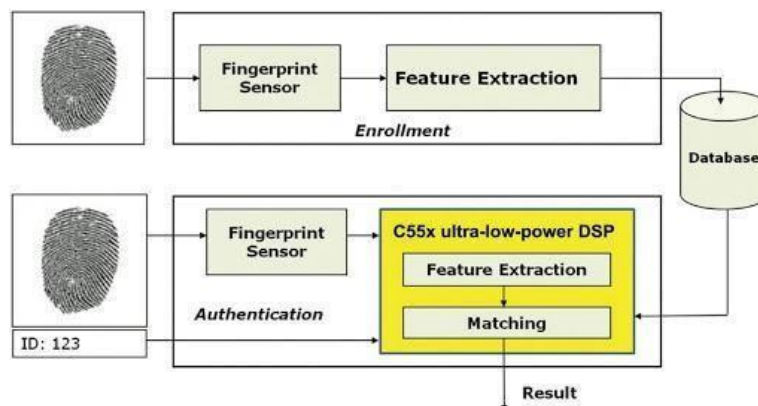


Fig -1 Fingerprint Authentication Process

2.1 Finger Print matching Algorithm

- **Minutiae Algorithm**

Fingerprints are the most used bio-metrics me for method personal identification. There are two main applications involving fingerprints: fingerprint verification and fingerprint recognition while the purpose of fingerprint verification is to verify the recognition of a person, the objective of fingerprint identification is to authorize the identity of a person. In the past three decagon, automatic fingerprint verification is being more widely than other techniques of bio-metrics such as face recognition and signature recognition.

Many fingerprint identification methods have proceed in literature over the years. The most popular matching advance for fingerprint identification is usually based on lower-level features decided by singularities in finger ridge patterns called minutiae. In general, the two most noticeable used features are ridge ending and ridge bifurcation. More complex fingerprint features can be expressed as a combine of these two basic features.

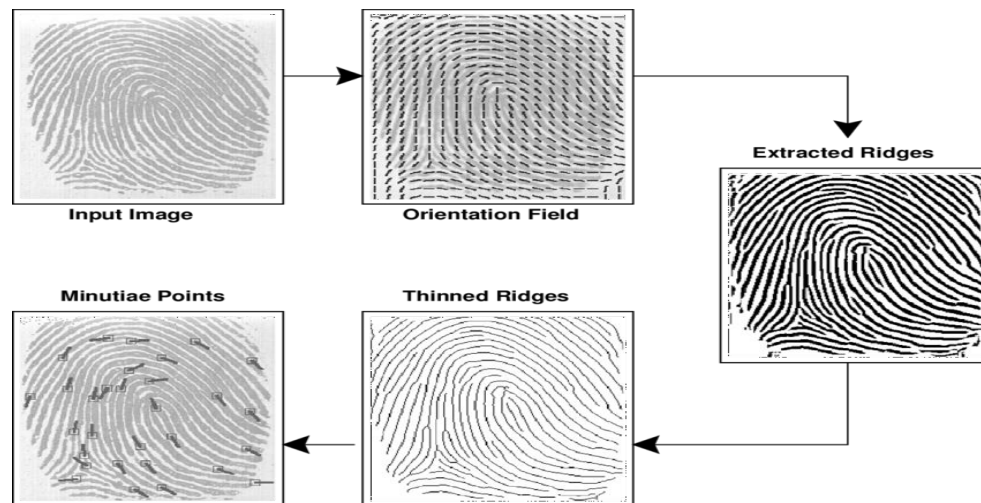


Fig -2 Minutiae Algorithm Working

2.2 Working

Android E-voting application on Smartphones gives user authority to vote, Even though system enables voters to poll their vote from anywhere initially voters should register themselves for voting purpose. This constraint is imposed to ensure that only the genuine person is allowed to vote int the election. The aim of this work is to design and appliance an electronic voting application for the android platform that will enable people to vote hard from anyplace.

To perform the voting on the system the user or voter needs to Register, is the mandatory process for to moving towards voting, for registration credentials required such as Name, Username, Password, EPIC no. and Pin code etc.; all legal credentials will stored in the database. For Login requirements, necessary valid credentials should be provided by the user to the next step credentials will be check by the valid credentials stored in the database if the all credential inputs are right then the user will be considered as the Authorized user and has the privileged to vote.

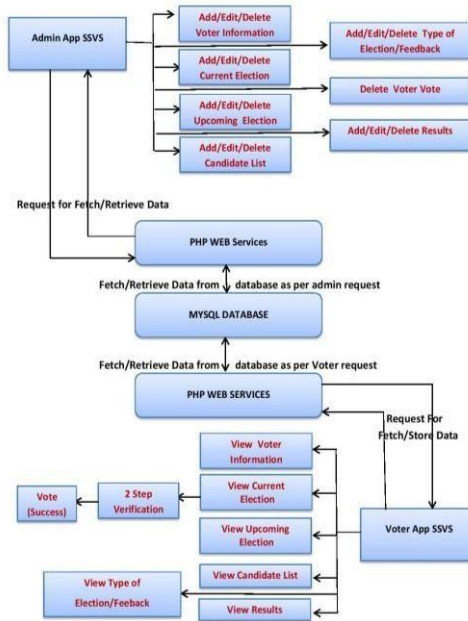


Fig -3 Architecture of Smart Voting System

3. MySQL Database

MySQL is a fast, easy to understand RDBMS being used for many small and big businesses. MySQL is developed, marketed and charitable by MySQL AB, which is a Swedish company. MySQL is change into so popular because of many good reasons –

- MySQL is released under an open-source license. So you have naught to pay to use it.
- MySQL is a very capable program in its own right. It easily operated a large subset of the purpose of the most at a superior and powerful database packages.
- MySQL uses a normal form of the well-known SQL data language.

MySQL is customization. The open-source GPL license allows programmers fabricate the MySQL software to fit their own separate environments.

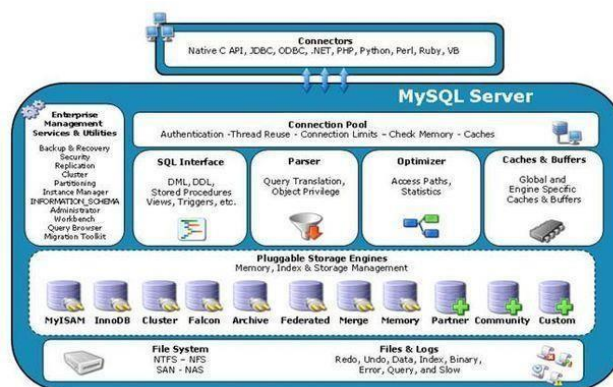


Fig -4 Architecture of MySQL

3.1 Advantages

- Faster vote count and tabulation.
- Improved presentation of complicated Ballot Papers.
- Potentially enlarge participation and turnout, particularly with the use of internet voting.

4. CONCLUSIONS

Throughout the long history of the democratic process, and with the progress of time and changes in people's needs, the election is a powerful tool for peacefully resolving conflicts, whether political, religious, or economic, based on the will of the majority. As such, an election leads to a period of contrarily in any country. Security, integrity, and availability form the cornerstone of any voting process, and the nature of that process can affect both the actual and perceived legitimacy of electoral outcomes.

5. ACKNOWLEDGEMENT

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