Project Design Phase - I

Solution Architecture

Team ID	NM2023TMID04400
Project Name	Project – Biometric security system for voting platform

SYSTEM DESIGN :

The aim of system design is to formulate a procedural solution that can fulfill the functional equirements for secure scheme for e-democratic governance.

Requirements Definition for the Secure E-voting System:

Authentication:

- Only the authorized and certified electorates can cast vote.

Integrity:

- Ensure that the system cannot be reconfigured during operation and ensure that each vote is recorded as intended and cannot be tampered with in any manner, once recorded.

Flexibility:

- The system shall be flexible in that it allows a variety of ballot question formats including open-ended questions.

Uniqueness:

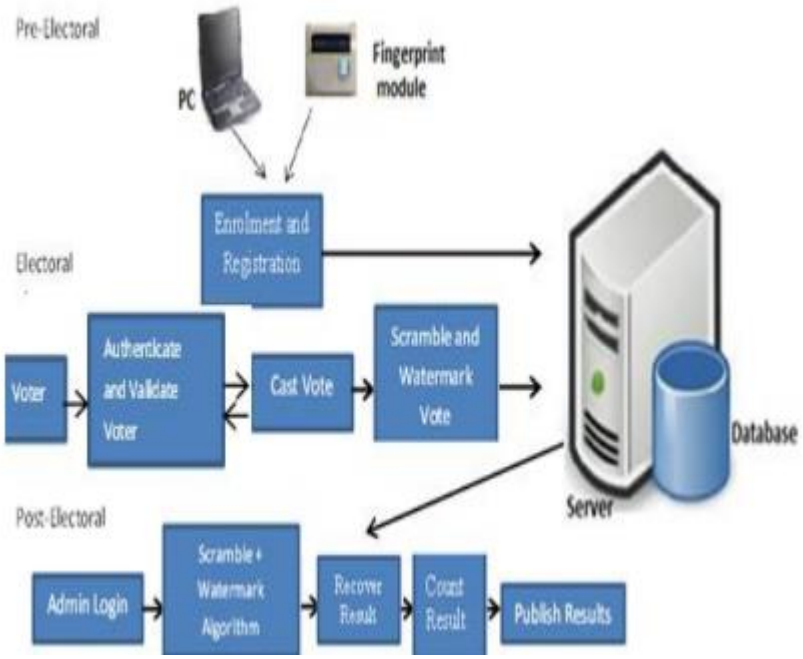
- No voter should be able to vote more than once.

Transparency:

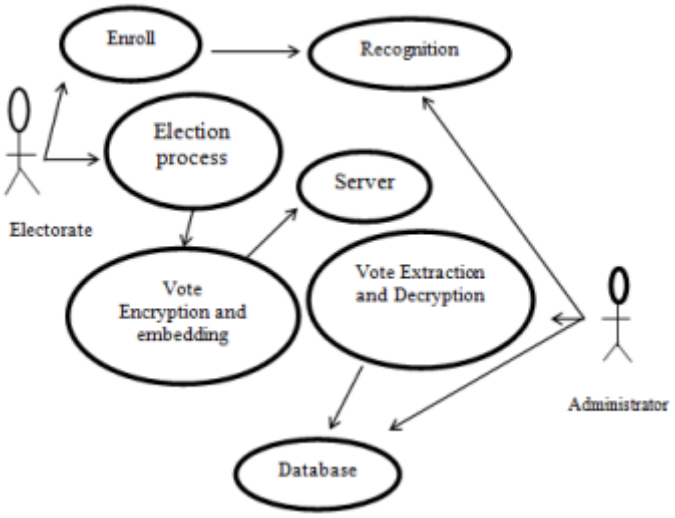
- Voters should be able to possess a general knowledge and understanding of the voting process.

Architecture of Secured Model for E-Voting System :

The proposed electronic voting system was developed to allow the general public to vote via a desktop computer, the system is an open-ended type that accommodates both the administrator and the voter.



Use Case Diagram of proposed e-voting System :



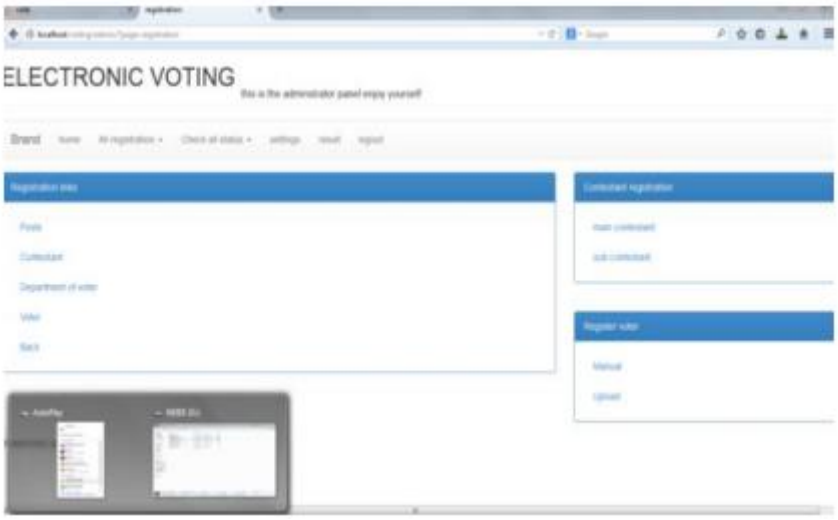
Voting system :

The voting interface in appears to every user at login, requests for valid fingerprints impression on the fingerprint module so as to grant access into the registration or voting menu of the system as the case maybe.

Home page of E-voting System

Registration Page :

- The registration interface in permits voters to input their personal details for verification during voting.
- The voter fills in a form that contains field for serial number, full name, matric number and voter‘s department.

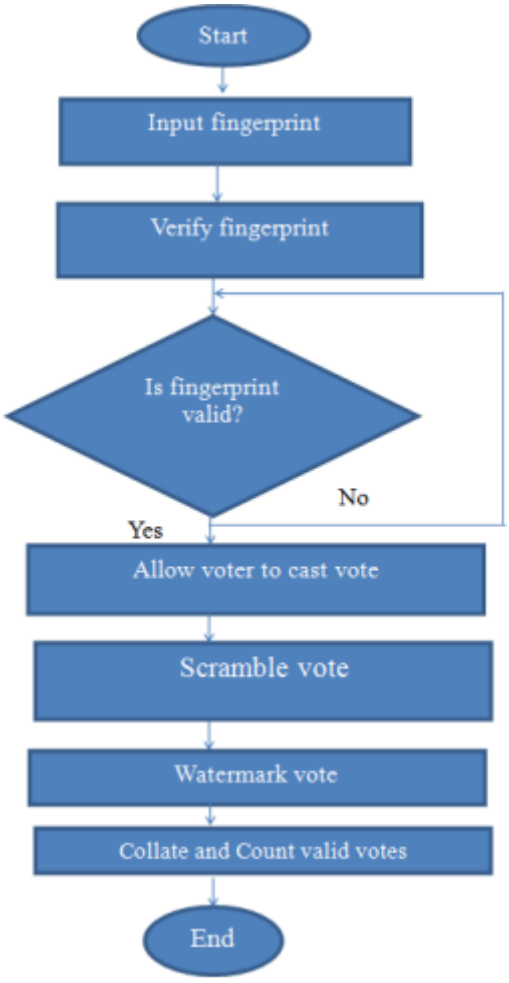


Personal Details Registration Page of E-voting System

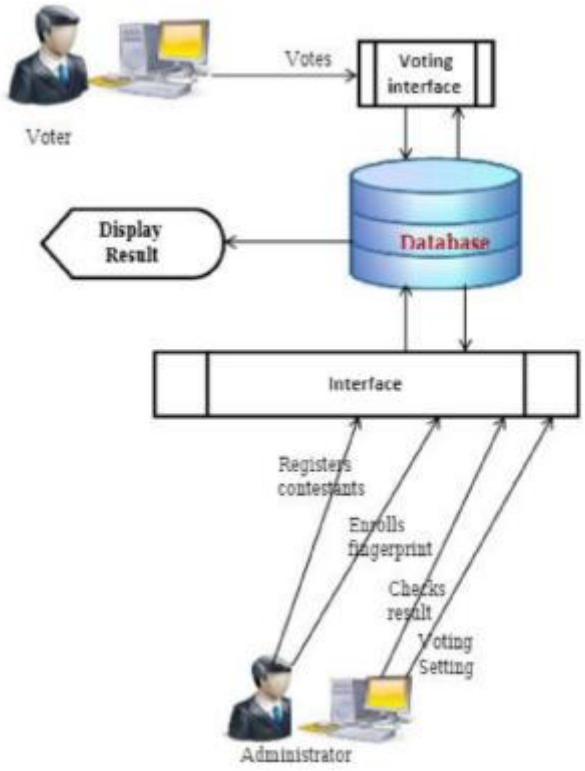
- Design of Secure Electronic Voting System Using Fingerprint Biometrics and Crypto-Watermarking Approach

Fingerprint Registration Page of E-voting system

Overall Secure E-Voting System Flowchart :



SYSTEM DESIGN AND FLOW:



Advantages:

- Increased Security - Provide a convenient and low-cost additional tier of security
- Reduce fraud by employing hard-to-forge technologies and materials
- Eliminate problems caused by lost IDs or forgotten passwords by using physiological attributes.
- Prevent unauthorized use of lost, stolen or "borrowed" ID cards
- Offer significant cost savings in long run
- Greater Accuracy, Faster Tabulation of Result
- Make it possible, automatically, to know WHO did WHAT, WHERE and WHEN!