Project final phase

**Introduction:**

A solution to improve India's voting system is the development of an online, fingerprint-based voting machine. Voters no longer need identification cards because their fingerprints serve as identification. The machine reads the voter's fingerprint and verifies it with stored data. If the data matches, the person can cast their vote manually using push buttons. Anonymity is ensured through unique and random IDs, protecting personal details. The interface is user-friendly, focusing on visual data representation and basic functions

**Objectives:**

1. It eliminates the possibility of fake votes and provides immediate results, with the entire process automated by the voting machine.

2.A system that securely captures and stores voters' fingerprints, performs real-time matching and authentication, integrates with voter registration databases, and offers a user-friendly interface to prevent fraudulent activities during voting.

**Implementation:**

ARDUINO UNO

FINGERPRINT SENSOR

LCD DISPLAY

POWER SUPPLY

RS 232 CONVERTER

Power Supply: 12V DC - Provides the necessary electrical power to operate the system components.

Microcontroller: Arduino - Controls and manages the overall functioning of the system, including data processing and communication with other components.

RS 232 Converter: MAX 232 - Facilitates serial communication between the microcontroller and other devices, such as the fingerprint reader or LCD display.

Fingerprint Reader - Captures and verifies the fingerprints of users for authentication purposes.

16x2 LCD Display - Provides a visual interface to display relevant information and system status for easy user interaction.

**Method:**

Initially the voters should register their fingerprint with the voting system by placing their finger on the fingerprint reader.

• After registering the fingerprints of different voters, the voting process is conducted further.

• The voter enters the ballot room, places his fingerprint on the fingerprint module to identify his details and if it matches with the details given during registration, he is further allowed to cast his vote

• If the fingerprint matches with the already registered fingerprint, the LCD will display that the voter is authorized.

• Candidate options are given to the voter, and he is allowed to vote for the candidate whom he decides to cast his vote for.

• If a voter is voting for the first time, they can vote without any interruption. However, if the voter attempts to vote for the second time, the buzzer will signal an alert.

• At the end, the admin can view the results of the voting process.

**Results:**

Case1: Enroll

After successfully enrolling the fingerprint LCD will display “Stored”

Case 2: Real-time Fingerprint Matching

In verification process if fingerprint is matching with pre-stored fingerprint data LCD will display “Authorised user please wait”

Case 3: Fingerprint not registered

If the Fingerprint is not matching then LCD will display “Fingerprint not found try later”

Case 4: Voting interface

After biometric verification LCD will display the message “Please place your vote”

Case 5: Fraud detection

If person is trying to fake the vote, then LCD will display “Already voted” and buzzer will give signal

Case 6: Result analysis

After voting process admin can view the results