LCD & Biometric Based Voting System

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Project Abstract:

Our project aims to develop an innovative and secure voting system using Arduino, incorporating LCD, fingerprint, button, and LED modules. Traditional ink-based verification methods are replaced with fingerprint authentication to prevent fraudulent voting. Voters will authenticate their identity via fingerprints, then cast their votes by pressing corresponding buttons assigned to candidates. The system will tally votes in real-time and display the winner on an LCD screen. LED indicators will provide visual feedback on successful authentication and voting. This system offers enhanced security, accuracy, and efficiency compared to conventional methods, ensuring fair and transparent elections.

Hardware Requirements:

- Arduino Uno
- AS608 Optical Fingerprint Sensor
- Fingerprint sensor module (e.g., Adafruit Fingerprint Sensor).
- LCD display (16x2 LCD).
- Push buttons
- LEDs for visual feedback.
- Breadboard and jumper wires for circuit connections.
- Power supply (e.g., batteries or connect to laptop).

Sensor Details:

Fingerprint Sensor: Captures and verifies fingerprints, ensuring secure authentication of voters.
Push Buttons: Enables voters to select their preferred candidates by pressing corresponding buttons.
LCD Display: Provides visual output showing real time and final results.

LED Indicators: Offers visual feedback on successful fingerprint authentication and vote casting.

Circuit Diagram: