

E-VOTING SYSTEM

USER MANUAL

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AIM

This manual describes the parts overview, safety instructions and operating procedures of the system. Please read this manual carefully before using. Keep this manual for future reference.

SYSTEM COMPONENTS AND GUIDE

The E-voting system comprises the following:

1. E-voting Server
2. E-voting Registration Software
3. E-voting Device
4. E-voting Administrator Application
5. E-voting Result Web Interface

These Software are contained in the e-Vote CD and can also be downloaded from [Web Repository](https://mega.nz/#F!phcRjIKD!piPUM834rNgAssCrLgjysA) (<https://mega.nz/#F!phcRjIKD!piPUM834rNgAssCrLgjysA>) and the installation and usage guide is contained below.

CAUTION !!!

Make sure you have all the units connected to the same network.

E-VOTING SERVER

This is a Node.js web server application. It is to installed locally in a computer for serving the e-voting application back-end.

Requirements

1. Windows OS (Window 8 upwards)
2. MongoDB database instance
3. Node.js and npm (version 10 up)
4. A good knowledge of the terminal (command prompt)
5. Make sure port 8000 is free.

Installation steps

1. Slot in the project CD.
2. Copy the e-Vote Server application (e-Vote server.exe) to the Documents directory.
3. Double click the e-Vote Server .exe file to start the server.
4. Leave the Server running, do not close the terminal window.

E-VOTING REGISTRATION SOFTWARE

This is a windows OS application for registering voters, to enable them vote on the e-voting device.
The registration software is contained in the CD.

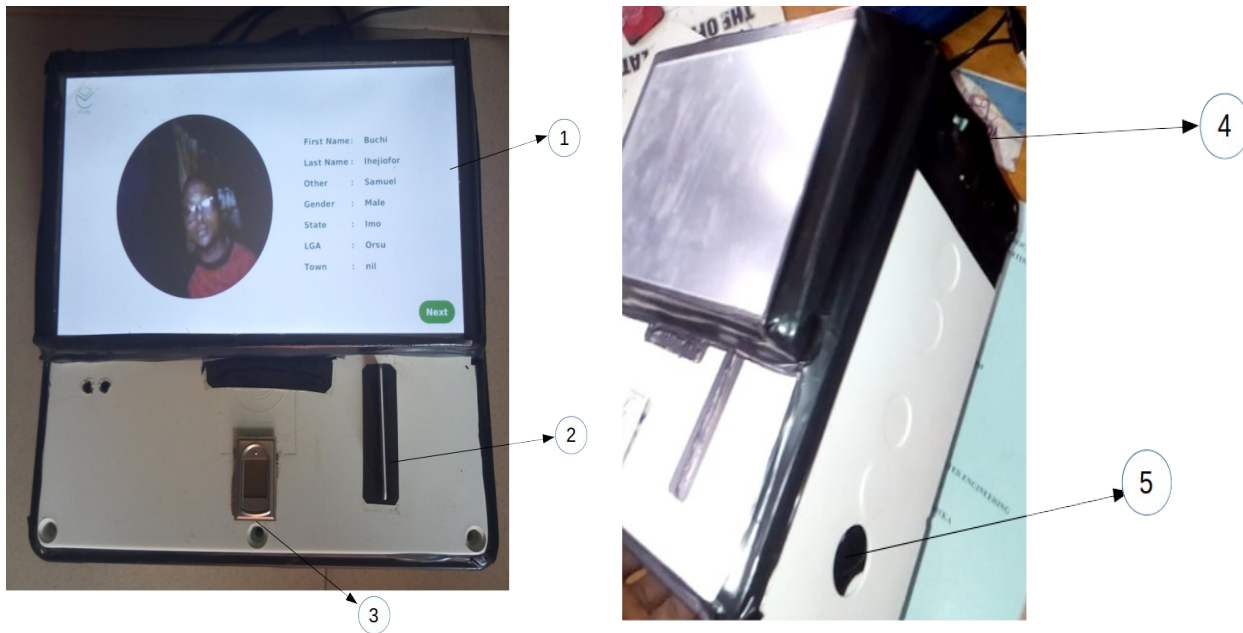
Requirements

1. Windows OS (Window 8 upwards)
2. A computer with good camera quality or get a plug n' play camera
3. Fingerprint scanner (R101S Capacitive or any compliant with the Adafruit fingerprint library).
(contained in the package).
4. Blank SLE4428 Smart contact cards.
5. Smart card reader.
6. A general network
7. e-Vote Server running on port 8000.

Installation steps

1. Connect the system to the general network.
2. Slot the CD into the computer.
3. Copy the e-Vote Registration software zip file to any folder of your choice.
4. Unzip the e-Vote Registration Software zip.
5. Open the extracted E-Vote Registration folder.
6. Double click on the EV-jar file to start the application.
7. Input Administrator details and login to register voters.

E-VOTING DEVICE



Labeled Parts

1. LCD touchscreen
2. Smart card slot with smart card.
3. Fingerprint scanner
4. Power Button and LED indicators
5. Charging point

Instructions

1. Handle device with care, place on a level surface of comfortable height to operate, keep in a cool dry place.
2. Charge the device battery using the charging cable, for 2 hours for effective usage.
3. Do not place any object on top of the device to avoid damaging the device screen.
4. Do not open the device, contact the Engineer in any case of replacement.

Requirement

1. E-Vote Server running on port 8000.
2. A registered SLE4428 Smart cards with valid voters account.
3. A general network.

How to Use

1. Push the power button to start the device.
2. Allow the device 30seconds to boot.
3. Select the general network from the network icon
4. Input the administrator password and press Activate.
5. Follow instructions on the screen to vote (Assuming you have registered already).
6. At the end, press End Election to view election results.
7. Push power button to turn off the device.

Replacement

1. The power unit can be replaced with a rechargeable power unit of 12000mah 12v.
2. The screen can be replaced with any 9 inch touch screen preferably capacitive type.
3. The fingerprint scanner can be replaced with any fingerprint sensor compliant with Adafruit fingerprint library.
4. The Smart cards can be replaced with SLE4428 smart cards.
5. The card reader can be replaced with any card reader that can read and write to SLE4428 cards and supports the communication protocol specified by ISO7816.

E-VOTING ADMINISTRATOR APPLICATION

This is the administrator dashboard for monitoring and fixing elections and updating voters details.

Requirements

1. Windows OS (Window 8 upwards)
2. Administrator privilege.
3. A general network
4. e-Vote Server running on port 8000.

Installation steps

1. Connect the system to the general network.
2. Slot the CD into the computer.
3. Double click on the Administrator application.

4. Follow the installation procedures to complete the installation.
5. Go to system applications
6. Double click on E-Voting Admin.
7. Input Administrator details and to login.

E-VOTING RESULT WEB INTERFACE

This is a windows application for viewing the election results.

Requirements

1. Windows OS (Window 8 upwards).
2. e-Vote Server running on port 8000.
3. A general network with good internet access.

Installation steps

1. Connect the computer to the general network.
2. Slot the project CD into the computer.
3. Double click on the Result application.
4. Follow the installation procedures to complete the installation.
5. Go to system applications
6. Double click on E-Voting Result to launch.