

Proposed Online Voters' Registration Automated System in Election

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ABSTRACT

Voters' registration is a process which qualifies a citizen to vote and also be voted for in any given election. A list of voter is generated from the voter registration called voter's list. The manual voters register maintained in most of the under developed countries is causing a lot of electoral malpractices. The proposed system will maintain a central database for all registered voters, which will include their pictures and voters ID to guide against having multiple registrations. This study examined electoral act: national register of voters and qualification for registration. Appropriate conclusion was made.

Keywords: Online voters, automated system, electoral act, elections.

INTRODUCTION

Voting is a means of selecting or picking leaders. It applies to more than only local governments, federal government, state government of Nigeria, it also applies to social organizations and different institution. The conduct of elections is therefore very important in a society of democracy because through it, a change of government is effected and it is the main form of political participation for most people. For democracy to be sound, it is mandatory that there is free and fair elections.

Since Nigeria's attainment of independence in 1960, Nigeria's political scene has witnessed many upheavals, wide scale dishonesty and societal bitterness which in most cases degenerated into lawlessness and destruction of life and property. These unfortunate situations paved the way for and served as spring boards for the emergence and growth of unskilled democrats and military leaders in the governance of the nation. For about five decades since the nations independence, the nation had shifted between parliamentary and presidential system of Government, with several military in crossing into politics over the years. Even the present presidential democratic dispensation is still undergoing experimentation with varying degree of trial and error approach. It is in this light that the project on voters registration is written to serve as a useful tool of enlightenment in the hands of voters, the electorate, and the general public.

Voters' registration is a critical aspect of the electoral process. A credible voter register is a prelude to free and fair elections. It is also important for people qualified to vote to know where, when and how to vote. A full knowledge of the process will encourage eligible voters to participate in the electoral process.

The voting/polling process by registered voters in Nigeria is very cumbersome. So many cases of missing data in the voters' registration files have been reported. There are also scenarios where unregistered voters flock in the polling centers as "Dead Voters" to participate in the voting process. Even after voting, malicious clerks and officers-in-charge of a polling station end up playing with the results figures. This

results in the release of wrong results leading to cases of post-election violence. The system guides against the above mentioned problems efficiently. It also makes the registration process less tedious for the people and also the registering staff.

Al- Ameen, et al (2012) opined that e-voting strives to be uniform and secret, only eligible persons are to be allowed to vote and a voter should only cast one vote and the collections are to be secure, reliable and accountable.

After the military first intervention, as a 'corrective regime' in Nigerian politics on 15th January, 1966 presumably to rescue the country from total collapse. Since that first intervention, Nigeria hardly knows any political stability. Consequently, the Nigeria state became characterized by continuous change of baton between civilian and military administrations. The scenario has therefore been that of crisis, bitterness and acrimony, mistrust, civil strife, a civil war, coups, and countercoups, all of which have continued to impact negatively on the nation's political life and security. The policy continues to be heated up as a result of jostling brought about by frenzied scramble for offices and preparation for future elections. A twilight of civilian rule interrupted between 1979 and 1983. The military returned power in December 1983 and continued to rule until the glorious revolution of 1999. It was that year that democratic governance finally returned.

Historically, elections have become a major singular problem that threatens the very foundations of the Nigerians, nation-state. The fundamental challenge facing Nigeria's electoral process is that of assuring that voters register is complete, votes are recorded as cast and tabulated accurately. Recording and tabulating the votes accurately is certainly a challenge in the conduct of elections in Nigeria, but it is not the 'fundamental challenge'. The quality and possibility of all players to follow the electoral law with fidelity. Finally, there are the practical mechanisms for the conduct of the election which include:

1. the voters register
2. free, fair and credible voting system.

This serves as backgrounds and guide to any technology being used positively to improve the conduct of elections.

According to Burke (2006) stated that registration in electoral system is the method usually used to identify voters who are qualified to participate in an election. The act of registration is not, in a strict legal sense, a qualification for voting in the way that age, residence, race, literacy, and religion have sometimes been. It is rather a technique for determining that prospective voters are properly qualified according to law. Voters commonly register by submitting proof to authorized officials that they have met the prescribed qualifications.

According to Ginsberg (2007) asserted that election is the procedure that allows members of an organization or community to choose representatives who will hold positions of authority within it. The most important elections select the leaders of local, state, and federal governments. The chance to decide who will govern at these levels serve as an opportunity for the public to make choices about policies, programs, and future direction of government action. At the same time, elections promote accountability.

THE ELECTORAL ACT

National Register of Voters and Voters Registration

1. The commission shall compile, maintain and update, on a continuous basis, a National Register of Voters, in this Act referred to as the ("Register of Voters") which shall include the names of all

- persons entitled to vote in any federal, state or Local government or Area council elections.
2. The commission shall maintain as part of the National Register of Voters for each state of the Federation and for the federal Capital Territory.
 3. The commission shall maintain as part of the National Register of Voters for each state and Federal Capital Territory a Register of Voters for each Local Government or Area Council within the State and the Federal Capital Territory.
 4. The register of voters shall contain, in respect of every person, the particulars required in the Form prescribed by the commission.
 5. The registration of voters, updating and revision of the register of voters under this section shall stop not later than 60days before any election covered by this Act.
 6. The registration of voters shall be at registration centers designated for that purpose by the commission and notified to the public.

Qualification for Registration

- A person shall be qualified to be registered as a voter if such a person-
- Is a citizen of Nigeria;
- Has attained the age of 18years;
- Is ordinarily resident, works in, originates from the Local Government Area Council or Ward covered by the registration center;
- Presents himself to the registration officers of the Commission for registration as a voter; and
- Is not subject to any legal incapacity to vote under the law, rule or regulation in force in Nigeria.
- A person shall not register in more than one registration center or register more than once in the same registration center.
- A person who contravenes the provision of subsection (2) of this section commits an offence and is liable on conviction to a fine not exceeding N100,000.00 or imprisonment for a term not exceeding one year or both.

Historically, election systems have been undergoing evolutionary and architectural changes to enable election bodies deliver results since a thriving democracy is a gauge of a nation's development. In adopting a new technology, INEC set clear objectives and undertook an extensive feasibility study. Attention was paid to the various options (from optical Mark Recognition (OMR), Optical Character Recognition (OCR), Intelligent Character Recognition (ICR), voice recognition, intelligent identity cards and Internet Appliances to Biometrics etc.). In choosing OMR scanner technology due to the attention was paid to its suitability to the Nigerian environment and the successful experience of Election Management Bodies in Africa that adopted it. OMR scanner is widely used in Nigeria by West African Examination Council(WAEC), joint admission matriculation board (JAMB), National Examination Council (NECO) and Banks. In a way therefore, Nigerians were already familiar with the technology.

According to Iwu (2008) opined that, voters registration is where the rigging starts. The electronic voters register has the potential of eliminating such vices as multiple registration and registration of ghosts and the under-aged, so it is important that a valid register is put in place and a way of identifying the voter, "apply scientific rigor to conducting Nigerians elections, starting with fixing the electronic voting register, which include the holder's photograph and finger print.

PROPOSED SYSTEM MODEL

The paradigm used in the development is the web application paradigm where we have a Database Server, a Client Browser, a Web Server and a Middleware for communication between the Web Server and the Database Server. The Waterfall Model was used throughout the Software Development Life Cycle (SDLC).

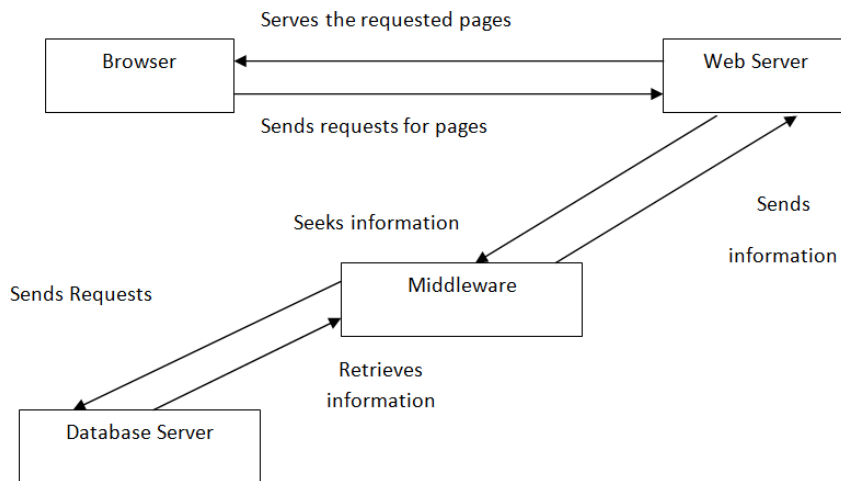


Figure1: The Web Application Paradigm

In the figure above, the user’s client browser sends a request to the web server, which retrieves requested data from the database server through the middleware and serves the requested pages back to the user.

The justification for the procedure chosen is as follows; among others

1. For a system that is to be used by multiple persons, a web application saves costs and time in that installation is done on only one central location. All users can then make use of the system from a remote location via a network.
2. Any update on the database only needs to be done on one system.
3. It is platform independent, removing any concerns about Operating System compatibility.
4. It is easy to install and transfer.
5. It aids collaboration among the many users.

UNIFIED MODELING LANGUAGE

The Unified Modeling Language (UML) is a general-purpose modeling language in the field of software engineering, which is designed to provide a standard way to visualize the design of a system (Unified Modeling Language, 2015).

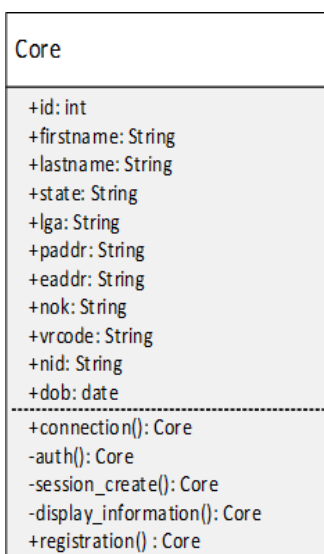


Figure 2: Class Diagram

USE CASE DIAGRAM

Use cases identify the individual interaction between the system and its users or other systems. Each use case is documented with a coded description. A use case identifies the actors involved in the interaction and names the types of interactions. Below is the Use Case Diagram that depicts the portal.

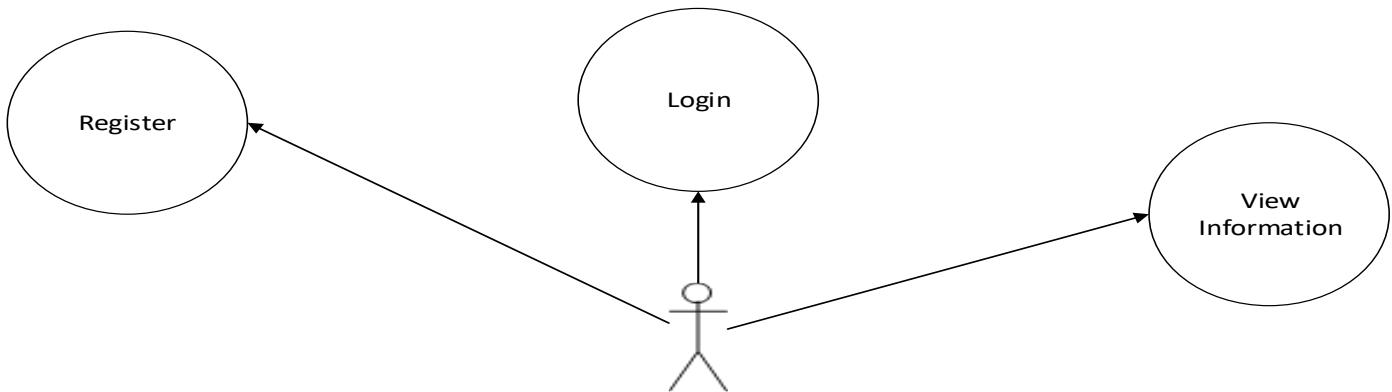


Figure 3: Use Case Diagram

PSEUDO-CODES OF THE PROPOSED MODULES

a). Login Module

The login module of the application follows the following pseudo-code

Get user username or verification code.

Check selected columns in database where username matches the password provided

Retrieve user data

Create session.

The Register Module

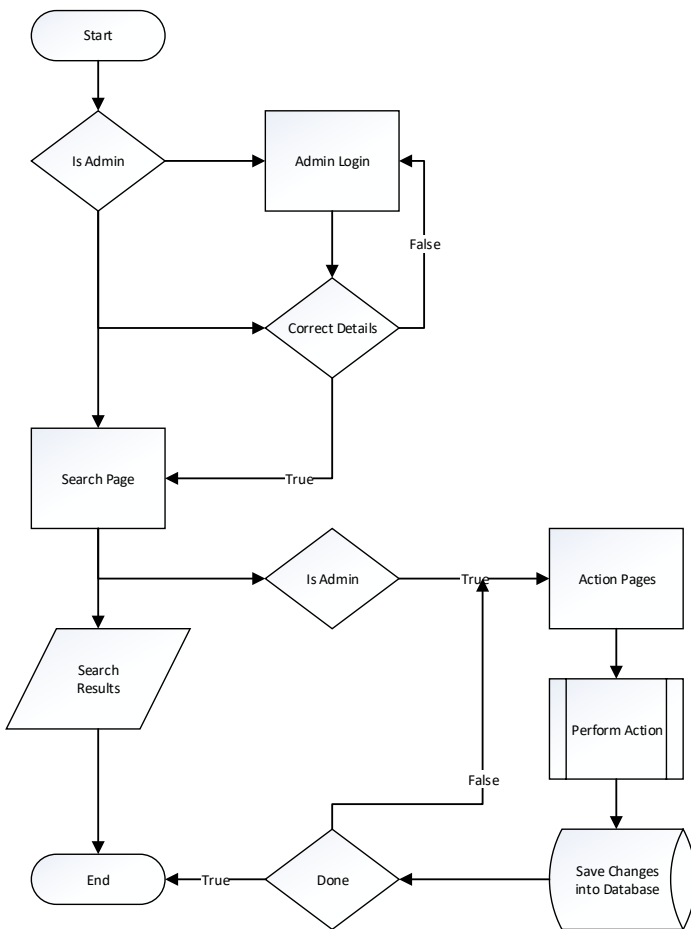
The login module of the application follows the following pseudo-code

Fill the form provided.

Submit

Enter your thumbprint

Figure 4: Program Flowchart



DATABASE DESIGN

The database design for the proposed system is done using MySQL which serves as the backend database.

A database refers to a collection of interrelated data known as tables which contain different fields. The tables in the database are related through entity relationship. The database design recognizes the voter:

1. Register; which has the following fields:

- a). 'id', stores the number used to uniquely identify the user
- b). 'first name', stores the voter's first name
- c). 'Last name', stores the voter's last name
- d). 'state', indicates the voter's state
- e) 'LGA', stores the local government of the user
- f). 'phone address', stores the phone number of the user
- g). 'email address', stores the email address of the user
- h). 'Age', stores the age of the voter
- i). 'next of kin' stores the voter's next of kin
- j). 'verification code' the user's login detail

STRUCTURE TABLES

Field Name	Type	Width	Description
Id	Int	11	This is used for auto increment

Name	Varchar	50	the voter's first name
LGA	Varchar	255	The local government of the user
Phone address	varchar	255	This captures the phone number of the voter
Email address	year	4	This stores the email address of the user
Age	Varchar	25	This is used to capture the age of the voter
occupation	text		this is used to capture the voter's occupation
state	varchar	50	The state of the voter

Input Design

This contains the various interfaces where relative information are entered by the user through forms as shown below:

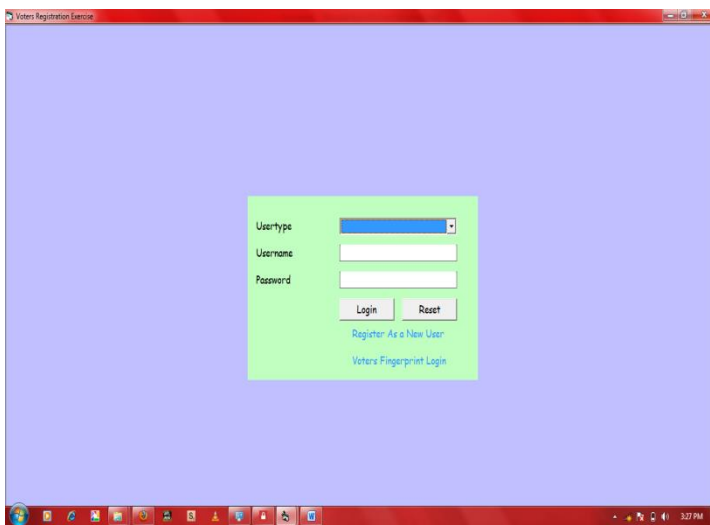


Fig 5 : Home Page

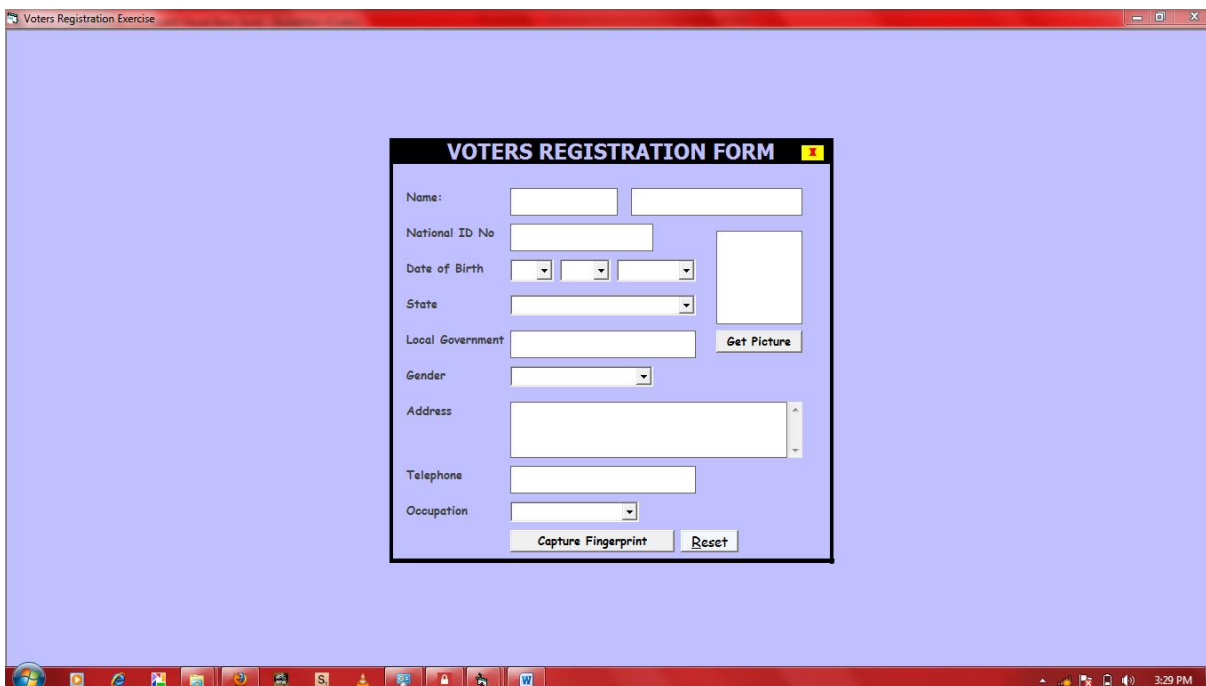


Fig 6 : Registration page



Fig 7 : System login for registered voter

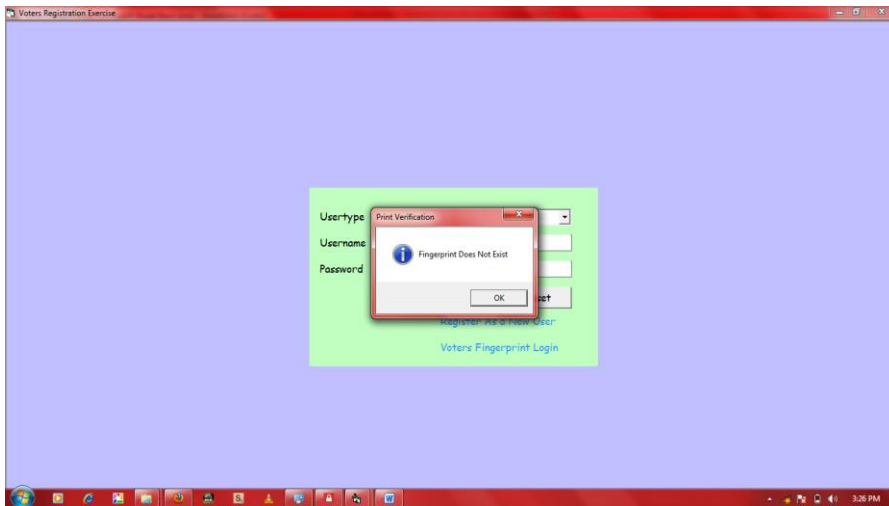


Fig 8: System login for unregistered voters

Output Design

This is an interface that involves designing necessary outputs in the form of reports that should be given to the users according to the requirements. The output design consist of the preview page where the user preview his/her personal details after the complete registration. The database at the admin end displays the lists of people who has registered as shown below:

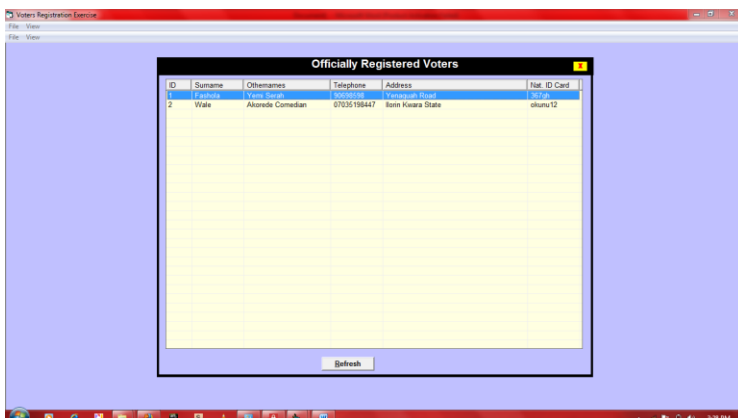


Fig 9: Database at the admin end

CONCLUSION

The proposed system is for efficient and effective performance and also to eliminate data redundancy and duplication. It is flexible in usage and data can be updated promptly on the system and can also be retrieved easily.

Limitations of the Proposed System

Irrespective of the benefits, the proposed system possesses some limitations such as:

- The proposed system could add to the growing list of unemployment in the country as it will reduce the size of the work force of the office.
- The efficiency of the proposed system depends on a good internet facility.
- Voters without National ID won't be able to register.
- The database of the proposed system might be hacked if not properly protected

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