PROPOSAL

ELECTRONIC VOTING SYSTEM (CASE STUDY OF SUG ELECTION)

1.1   INTRODUCTION

The Polytechnic Ibadan is a public institution established by Oyo State Government. This institution was established in the year 1970 and located in Ibadan, Oyo state. The Polytechnic Ibadan with more than ten thousand students has five faculties presently and they include Science, Engineering, Financial Management Science, Business & Communication Science and Environmental Studies. In The Polytechnic Ibadan, general elections are carried out every year where Student's representatives are elected. They are elected by the people. The students have many members representing them in each department. At the SUG level they also have many members. The representatives are all elected by the student of the polytechnic in the respective department. That is , in any given or general elections, TPI vote for both SUG and Departmental representatives, most Polytechnic Electoral bodies, TPI is not an exception right from their inception to date, even with latest advancement in technology, still use a primitive paper based method during voting; this system is characterized by manual form filling to choose leaders and transfer of the information from manual data capture forms to computerized datasheets, this has led to an excessive number of mistakes making their way into the final vote counts hence leading to confusion at the time of announcing the results. The main advantage of paper-based systems is that ballot papers are easily human auditable. The disadvantages outweigh the advantages for instance the need to print ballot papers are slow, expensive, inflexible, environmentally hostile process, visual impairment, or literacy limitations and also last-minute changes to the voter's registration are difficult to accommodate among others.

Over the last few years, there have been a number of election observers who have suggested electoral organizations should introduce electronic voting at State and Local Government election processes. A general observation is that as more business is done using electronic mediums, it should not be difficult to carry out voting using electronic equipment rather than turning up at the polling place on voting day to use paper and pen. The Online Voting System (OVS) under implementation mainly addresses the voting phase. Electronic voting using the OVS should be cheaper than the present paper. The phenomenal use of the Internet as a vehicle for improving communication, access to information and electronic commerce has led to the claim that the Internet could be used as either a replacement to attendance voting or as an additional voting option. Throughout history, election fraud has occurred in many electoral processes from which experience shows that the manual voting process is a major source of such vices and violence in many democratic countries. The Online voting system (OVS) also known as e-voting is a term encompassing several different types of voting embracing both electronic means of counting votes. Electronic voting technology can include punched cards, optical scan voting systems and specialized voting kiosks (including self-contained direct-recording electronic voting systems or DRE). It can also involve transmission of ballots and votes via telephones, private computer networks, or the internet.

Online voting is an electronic way of choosing leaders via a web driven application. The advantage of online voting over the common "queue method" is that the voters have the choice of voting at their own free time and there is reduced congestion. It also minimizes on errors of vote counting. The individual votes are submitted in a database which can be queried to find out who of the aspirants for a given post has the highest number of votes. This system is geared towards increasing the voting percentage in The Polytechnic Ibadan since it has been noted that with the old voting method {the Queue System}, the voter turnout has been a wanting case. With system in place also, if high security is applied, cases of false votes shall be reduced. With the "ELETRONIC VOTING SYSTEM", a voter can use his\her voting right online without any difficulty. He\She has to register as a voter first before being authorized to vote. The registration should be done prior to the voting date to enable data update in the database.

However, not just anybody can vote. For one to participate in the elections, he/she must have the requirements. For instance, he/she must be a registered citizen, must be 18 and above years old.

As already stated, the project 'Electronic Voting' provides means for fast and convenient voting and access to this system is limited only to registered voters.

This project done by Mayinje Nandasaba Wilson, a student at Masinde Muliro University of Science and Technology is geared towards addressing problems encompassing manual voting systems that have been in place ever since independence. Internet voting systems are appealing for several reasons which include; People are getting more used to work with computers to do all sorts of things, namely sensitive operations such as shopping and home banking and they allow people to vote far from where they usually live, helping to reduce absenteeism rate.

1.2   STATEMENT OF THE PROBLEM

The voting process by registered voters in The Polytechnic Ibadan is very cumbersome. So many cases of missing data in the voter 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 voters can also vote from anywhere around the globe, they don't need to travel back to School during election time.

1.3   JUSTIFICATION OF STUDY

The ELECTRONIC VOTING SYSTEM shall reduce the time spent making long queues at the polling stations during voting. It shall also enable the voters to vote from any part of the globe as explained since this is an online application available on the internet. Cases of vote miscounts shall also be solved since at the backend of this system resides a well-developed database using MYSQL that can provide the correct data once it's correctly queried. Since the voting process shall be open as early as possible, the voters shall have ample time to decide when and whom to vote for.

1.4   AIM AND OBJECTIVES
1.4.1   AIM

The aim of this project is to design an online voting (E-voting) system for Polytechnic of Ibadan, Ibadan, student union government elections.

1.4.1   OBJECTIVES

The specific objectives of the project include:

✓ Reviewing the existing/current voting process or approach in The Polytechnic Ibadan;

✓ Coming up with an automated voting system in The Polytechnic Ibadan;

✓ Implementing an automated/electronic voting system;

✓ Validating the system to ensure that only legible voters are allowed to vote.

1.5   SIGNIFICANCE OF THE STUDY

In view of the rapid development of computer technology in virtually all fields of operation in The Polytechnic, Ibadan and its use in relation to information management, it has become important to look into the development of electronic voter's registration system to enable the student's union government to achieve the following;

(a)   Conduct free and fair election.

(b)   Safeguard data and information in the system.

(c)   Reduce workload in the process of conducting election.

(d)   Keep accurate record of votes.

1.6   SCOPE OF STUDY

It is focused on studying the existing system of voting in The Polytechnic Ibadan and to make sure that the peoples vote is counts, for fairness in the elective positions. This is also will produce:

- Less effort and less labor intensive, as the primary cost and focus primary on creating, managing, and running a secure web voting portal.
- Increasing number of voters as individuals will find it easier and more convenient to vote, especially those abroad.

1.7   LIMITATION OF STUDY

Time factor was the greatest barrier to the successful completion of this exercise since it had to be done within the semester. I also had financial constraints since all the activities involved were self-sponsored.

1.8 METHODOLOGY

The project will be designed using HTML, CSS, PHP and SQL server database. A new voting system can be implemented, using login which requires the name of the candidate. It is a web application, which supports all browsers. Valid voters will have their name and other details in the government database in each state or district as seen fit. This application also ensures that the voting is anonymous, after the login, each user is given a unique and random id which will have no ties to the user's details, therefore there is no way to find out which user voted for which candidate. A simple, user-friendly interface in used, which will help even the illiterate voters. The focus in more on the visual representation of data, and no unnecessary links are used, the interface is made as simple as possible with only basic functionalities.

1.9 DEFINITION OF TERMS

1. **Student's Union Government:** This is a body, made of individuals (students) with the power to make and execute laws to control the students in a given institution. They are groups of people who hold monopoly on the legitimate use of force in a given institution.

2. **Active (status):** A voter is "active" if he or she (1) voted in the last general election, (2) recently registered to vote, or (3) updated his or her voter information since the last election. Active voters have no restrictions on the ability to vote or to receive election mailings. Many statistical counts (such as voter participation) and voter lists include only active voters.

3. **Ballot:** A pre-printed list of all candidates, ballot issues, and ballot questions upon which an eligible elector is entitled to vote at an election. A ballot may be paper or electronic, as in the case of a DRE.

4. **Ballot access:** The process by which a candidate, measure, question, or issue gets on the ballot.

5. **Ballot box:** The locked and sealed container in which ballots are deposited by electors after the ballots are cast.

6. **Candidate:** A person who has appropriately filed the necessary paperwork to run for an elected office, or a person who has declared that he or she wishes to run for an office and has accepted a contribution

7. **Canvass:** The process of reconciling ballots cast to ballots counted. A designated election official appoints the canvass board to reconcile these counts and to certify election results.

8. **Canvassing Board:** A bi-partisan panel of individuals appointed by the County Clerk and Recorder or designated election official to verify that election results are accurate and then to certify those results.

9. **Caucus:** A meeting held by members of a political party to elect representatives from each precinct to the party's assembly.

10. **Contest:** Refers to a measure, question, issue or candidate race on a ballot.

11. **Contribution**: A political donation of any kind. Contributions are subject to statutory limits as well as disclosure requirements under state and federal campaign finance laws. See *Campaign Finance*.

12. **Convention:** A meeting of delegates of a political party held for the purpose of selecting delegates to other political conventions, including state and national conventions, and making nominations for presidential electors or nominating candidates to fill vacancies in unexpired terms of representatives in Congress.