

**ENVOTE: AN ONLINE VOTING SYSTEM FOR STUDENT GOVERNMENT
ELECTIONS OF BULACAN POLYTECHNIC COLLEGE**

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I wholeheartedly dedicate this study to my beloved parents, Marita Javier and Alfredo Elgario, who have been my source of inspiration and gave me strength when I thought of giving up, who continually provide their moral, emotional, and financial support.

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ABSTRACT

This research study was developed to provide an online voting system for the student government elections of Bulacan Polytechnic College (BPC). The system covers voting processes, filing of candidacy, viewing candidate profiles, managing announcements, managing elections, managing user accounts, managing candidates, and report generations. Frequent IT issues that arise when deploying a web-based management information system were also discussed in this study. This study was evaluated using the ISO/IEC 25010:2011 software quality evaluation criteria by its relevant users and experts. The researchers conducted interviews and surveys to obtain the necessary data for this study. The descriptive approach was the research methodology used for this study. This method was applicable to this study because it aims to describe and solve the problems regarding the previous manual election processes of Bulacan Polytechnic College. The researchers utilized the Agile methodology in developing the web-based system. It was utilized to provide the desired output rapidly while enabling the researchers to go back to earlier steps without completing the entire cycle. Using the ISO/IEC 25010:2011 software quality evaluation criteria, the overall mean of the study was 4.32 and 4.22, both with the descriptor "Very Acceptable", indicating that the system was regarded well by professionals and end users, respectively.  The developed system was able to reduce the time for tallying the votes and it also made the voting process manageable for the voters. Lastly, the proponents of this research have devised a few recommendations for those that are planning to study and develop a similar system. These include using Web Sockets for live data communication, integrating a liking system for similar competitions, and adding a wide variety of scheduling functionalities.

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CHAPTER I

INTRODUCTION

In this chapter, the project context is defined by discussing the background of the study, the background of the client, and the solution developed. This section also includes the objectives of the study in which features of the developed system were listed. In the last part, scope and limitations are included where the coverage and constraints of the study were discussed.

Project Context



An online voting system is a system that is created specifically to help a group of people to elect their officials and help the voter to cast their votes. Usmani et. al. (2017), stated that the voting system is the backbone of every organization. There are several techniques used in voting systems such as paper ballot voting system, electronic voting system and internet voting system. The objective of the voting system is to operate multi platforms in every system.

Every year, a student government election is crucial for Bulacan Polytechnic College (BPC). For BPCians, as part of students' requirements and clearance, it is important for them to participate in student government elections and show a certificate of participation to MIS as a proof. The Bulacan Polytechnic College's (BPC) previous process used manual voting which requires manpower to count the votes manually. They also don't have a COMELEC that handles elections, but the Management Information System (MIS) takes over the task of initiating a student government election. The Student Government helps the MIS process the required documents to lessen the workload that the MIS handles.

Bulacan Polytechnic College (BPC) was known as the Bulacan Public Community College (BPCC). It was formed on June 8, 1971, with the Secretary of Education's assent, and began operations in 1972. From 1972 to 1974, two courses were initially offered: a two-year Junior Secretarial course with 15 students and a General Education course with 29 students. Classes ran from 5 p.m. to 9 p.m. at the Marcelo H. Del Pilar High School Main Building. In 2003, BPC accomplished a big achievement, this year, the school introduced two new courses: the 2-year Certificate in Industrial Technology (CIT) and the 2-year Certificate in Hotel and Restaurant Services Technology (CHRS). As a result, BPC was established in different municipalities of Bulacan, including San Miguel, Obando, San Jose del Monte, Bocaue, Angat, San Rafael and Pandi. Then, the Senior High School level was a new addition to BPC based on the K-12 program of the government.

Bulacan Polytechnic College consists of over 6000 total students in all their campuses and conducts a student government election yearly, which usually takes 11 hours and needs 20 faculty members to finish tallying the votes which is time consuming and needs manpower to accomplish.

Online Voting Platforms have the most helpful algorithm for voters and organizers of elections, it requires less effort for both (Govindaraj et al., 2020). According to Mohanty et al. (2019), manual tallying of votes can risk the confidence of the public about the accuracy of the results, while it could be expensive and time-consuming. ENVote is an online voting platform that enables administrators to manage elections in different campuses simultaneously, while having time to do their dedicated tasks aside from elections, and they can rely on the tallying of votes of the system without needing so much manpower and time to count the votes manually.

General Objective

The main objective of the study was to design and develop a web-based online voting system for Bulacan Polytechnic College used for student government elections to enhance the process of student government elections.

Specific Objectives

Specifically, the researchers aimed to consider the following objectives:

1. To integrate features on a web-based online voting system the following:
 - 1.1. Candidate selection;
 - 1.2. Certificate generation;
 - 1.3. Candidate profile view;
 - 1.4. Tally of votes display;
 - 1.5. Announcements; and
 - 1.6. Filing of Candidacy.
2. To integrate a management system on the developed online voting system that allow organizers of SG election to perform the following:
 - 2.1. Administrative privileges; and
 - 2.1.1. Report Generation;
 - 2.1.2. Accounts management;
 - 2.1.3. Elections Management; and
 - 2.1.4. Candidate Management;
 - 2.2. Student Government privileges;
 - 2.2.1. Announcement Management; and
 - 2.2.2. Candidate Platforms Management.

3. To evaluate the developed system using the ISO/IEC 25010:2011 software quality evaluation criteria as perceived by the respondents on the following:
 - 3.1. Functional Suitability;
 - 3.2. Performance Efficiency;
 - 3.3. Compatibility;
 - 3.4. Usability;
 - 3.5. Security;
 - 3.6. Reliability;
 - 3.7. Maintainability; and
 - 3.8. Portability.

Purpose and Description

The researchers who are pursuing this study to fruition endeavor to develop a system that would provide an optimized and systematic process for the online elections that are to be held at BPC.

The following beneficiaries are:

Students of Bulacan Polytechnic College. The system developed in this study is useful for the students of Bulacan Polytechnic College, they can cast their votes and run for student government positions with convenience.

Administrators. The organizers of student government elections are the administrators, the study enables them to manage elections and candidates using the system developed.

Researchers in the field of Information Technology. The study may serve as a reference to researchers wanting to develop the same system. With the existing technology of the proposed system, future researchers/developers will have an easier time innovating this kind of technology.

Scope and Limitations

This study that was conducted in December 2022 is focused on developing a web-based online voting system for college and senior high school student government elections specifically for Bulacan Polytechnic College. The system is used by the students, student government officials and the Management Information System (MIS) head of Bulacan Polytechnic College.

The system has three user levels, user, officer, and administrator. Users have these features on them: Sign in page where the user is asked by the system to log in first before entering the site, after the login, **user** would be directed to the homepage, this contains guidelines on how to use the system and announcements. Users can apply for a candidate if there is an open election in their campus, a button would show on the homepage. Users can cast their votes by selecting on what elections they are planning to vote. Users are given instructions on how to vote properly. After the user voted the system will give a certificate of participation for their credentials. Upcoming elections on the voter side is where the user can view the upcoming elections for their assigned campus. Election results on the user side is where the voters can view the previous election and its result. And the user's profile page contains the information of the voter, the users can change their photo and their passwords on this page.

The officer has ongoing elections, they are the one that can view how many voters already voted and the total number of voters. Officers can edit the platform of each candidate on the student officer's managed candidate profile page; this page also contains the elections that were conducted in the system. Officer's content management page contains the announcements and news about the elections. Officers can add or edit the existing announcements.

Admin has a dashboard, this page contains the statistics of the active, absentees, and turnout of the voters. This page also contains the activeness of the system about the performance. The admin side has an election management page where this page contains all the elections that were conducted in the system. The admins can edit, archive or view the election. When an admin views the election, they can see the voter turnout and the candidates. User management contains the students accounts, the admin can change the users' passwords or reset it. The admin can also add students manually in this page. The admin side candidate management contains all of the candidates' applications. The admin can also manually add a candidate. The admins side reset password contains the reset passwords request. If the admin approves the user request the user will receive a default password and then the user can change it again. Admin side settings contains the setting page of the admin where the admin can change the basic information such as name, username and change their passwords. The admin can also reset the administrator and student officer passwords. The developers used the FaceIO Api for facial recognition for voter authentication. It can detect the facial identity of a user, but to enable liveness detection such that it asks the user to perform live actions. Lastly, the certificate handed out to the user after voting is not editable.

Chapter II

REVIEW OF RELATED LITERATURE/SYSTEMS

This chapter contains literature, studies, and systems gathered from online resources that are used by the researchers as a guide to have a more accurate study and development of this paper. The presented literature, studies, and systems helped the researchers have a wider vision and understanding of the topic gathered.

Related Literature

Online Voting System

The study conducted by Guevarra (2018) digital era had transformed the way we lived our lives. Most of our transactions were too overwhelming or too complicated before, and now it becomes a simple task just by clicking or swiping a screen. The internet led to so many advancements, from social networking to online voting. The internet voting system became the fastest advancement available for voters in a certain country. Some countries like Canada and Estonia have conducted legally binding internet voting in their national and local elections. Here in the Philippines, an online voting system is also introduced and also for overseas Filipino voters. This is important because this gives rights to voters overseas to cast their votes and participate in the election. The study showed that every vote of overseas Filipino voters is important. Internet voting will provide a better voting experience and it will be more accessible, inclusive, and reliable.

 According to Dwumfuo (2015), the basic feature of democracy is the act of election, which allows people to choose their representatives and leaders while also allowing them to freely express their opinions. The voting process is constantly evolving, and with an

increasing number of voters, the paper-based voting system is finding it difficult to keep up.

A voting system must be transparent and understandable for voters and candidates to accept the election results. Some important criteria must be met for a system to become transparent and understandable. The first is anonymity for the voter because having no evidence that the voter vote can prevent harm and buying votes, tamper-proof to prevent any wide range attack and incorrect tallying, and finally user-friendly. This means that the system is simple to use and understandable to everyone (Dwumfuo, 2015).

Offline vs Online Voting vs E-Voting

Mellan et al. (2017), analyzed and compared the vote casted online (which is equivalent to 1.3 million) and offline (which is equivalent to 5.7 million) in the Rio Grande do Sul in June 2014 non-electoral participatory budgeting process and found that there is no difference on the choice between online and offline but there is a significant difference between the online and offline voters on their demographics, and it turns out that online voters are most likely male, university educated and high-earning and there are also different demographic on online voters who would not have voted if the online voting platform does not exist, despite the differences on the demographics, they found a strong relationship on choices between online and offline and would have not greatly affected the outcome of the process. Another finding of the study is the increased rate of participants voting but the author suggests that it will not generalize every e-voting setting and will require further research about it.

India's general elections in 2019 included the use of electronic machines for the purpose of voting and to produce audit trails. These audit trails provide a way for a voter

to verify if his/her vote has truly counted. But manually tallying these trails can prove to be quite expensive and laborious (Mohanty et al., 2019). By applying the strategies of RLA, the confidence in the integrity of the election results is proven to be much higher.

Web-based interactions to support and improve the democratic process.

In the study of E-Democracy by Insua and French (2010), they study the issues that are rising when using web-based interactions to support participation in democracy. The study wants to concentrate on how they might improve the democratic process using web-based decisions. Many studies and experiments are ongoing, according to (Grima & Insua R., 2010), typical examples include technologies of e-voting, which mainly refers to organizing voting through electronic means. This study will investigate the next logical step of the implementation of approaches through the web and point out the important challenges and questions that need answers from group decisions to achieve a valid e-participation process in the future. 

The Application of ISO/IEC 25010:2011 to Software systems and products

According to Estdale and Georgiadou (2018), the industry-leading models for evaluating software products are found in the ISO/IEC 25010: 2011 standard. This makes a significant contribution to measuring the effectiveness of software delivery methods and suggested upgrades. These models provide guidelines or standards that determine a system's quality in terms of its use. This standard for software quality is now more vital than ever considering the increase of developed web applications designed for important tasks (Hussain & Mkpojiogu, 2015).

In light of this information, the proponents have utilized ISO/IEC 25010:2011 standard for the evaluation of their own system to be developed, which is an online voting system.

Related Systems

An Efficient and Flexible Online Voting System Among the Students

According to Lakshmi et al. (2015), for a voting system to be ideal, it must meet four criteria: anonymity for the voter's privacy, scalability for a larger group of people or a larger community, speed to avoid wasting the voter's time, and accuracy to display the final tally correctly. The online voting system is developed to facilitate elections and surveys online. This process simplified the organization election and allowed voters to register in advance, avoiding proxy voting or double voting. It is also quick to access, highly secure, and easy to maintain the information, as well as highly efficient and flexible. Additionally, using the voting system can eliminate unwanted human error, is dependable, can handle multiple modalities, and can provide better scalability for larger communities.

Similar to the system that the researchers are developing, accounts that will be more secure, less manpower is needed, and faster than counting votes manually because our client is struggling with manually counting votes. Their manual counting of votes usually takes a day to complete. And as for the tally of the votes, users can see the live broadcast in the tally votes.

Innovation of system towards the Students' Voting Experiences

de los Santos et al. (2020) studied that the development of the Web App transformed the students' voting experience. The said system eliminates the workload and redundancy task of counting the casted ballots manually on their Supreme Student

Government (SSG) election. It offers accuracy unlike the paper-based method of election and provides security and reliability of the day during the election in the university, and since it is web-based, its flexibility and compatibility to run on multiple devices are highlighted. The ISO 9241-11 which the researchers used as a research instrument, measured the system's efficiency, effectiveness, and user satisfaction which helps the developers to develop a system that will meet the user's needs while maintaining its quality in effectiveness, efficiency, and user satisfaction.

In conclusion, using ISO 9241-11, determined that the voting experience of the students in Eastern Visayas State University -Tanauan Campus has leveled up to a new era. The design and its functionalities have met the user's requirements that allowed the students to cast their votes efficiently and effectively without any trouble or difficulty. Overall, the system helped the university and its data shows that it has increased its voters' turnout rate in the university. The researchers suggested its system upgrade to implement biometrics for validation of identity, and connectivity restrictions outside the university, convert it to a cross-platform software that will cover the majority of the operating system of every device, and always consider the ISO 9241-11 in developing user requirements and usability system components.

The Structure of a Secured and Efficient Online Voting Application Among Students

Potbhare et al. (2020) stated that in a democratic country, voting is very important because it determines the next leader. The most established way of voting is paper ballots which use paper to cast their vote. This voting system has many drawbacks such as being time-consuming and not secure. Another is the electronic voting system which fixes the issue of security but is not time-consuming because every individual still needs to wait for

their turn to be able to vote. To overcome this issue, they structure a secured and efficient online voting system. This voting process is divided into three parts: registration in which the voter registers for him/her to be able to vote, vote capture to count the voters' vote, and result computation which tallies the total vote counts.

The voting system is a web-based portal that requires internet access. To use the voting system, one must first log in to be a registered voter. After completing the log-in page, the student's information is stored in a database, and if the data matches with the information in the database, then they can only be given a formatted password that they need to change when received, and by entering that information, the login page is opened. The student can check the data of the candidate on that page and vote by tapping vote. The student can check the data of the candidate on that page and give their valuable votes to the candidate by tapping to vote. The voter can also cast their votes remotely from any location because it is a website, making it a time-saving solution.

The Utilization of a Safe Voting System Through the Internet

Jambulkar, S. M., Chakole, J. B., & Pardhi, P. R. (2014) found that the elections and vote castings are often popular in present times of the republic. Most people see the convenience of E-voting which is performed through the internet. Since it is performed online. Voters are more efficient to vote anywhere. The offices of some companies are likely located in different areas. These offices can be used as internet voting to vote during elections, and its employees from all offices will undertake an election through their own offices. E-voting denotes the process of voting which is conducted electronically. With the use of computers and other devices. The utilization of a safe voting system through the internet appears to be another process of system security and cryptography. Many took

interest in studying E-voting over the decades. Therefore, many voting systems have been suggested in recent years, and both safety and efficiency have been refined. Forming a secured e-voting system over the network is indeed challenging. Thus, the requirements of the voting system must be met. Any mistake that has been made in one of the specifications can lead to errors and glitches that can be exploited by a facilitator to falsify or manipulate any complex details. The conclusion of the election is then calculated from the total of the votes, which is deciphered by the authorities together. And they ensure that the voting scheme keeps the voter's vote confidential.

This system is related to our system because our system is also online voting which creates for others to vote efficiently without being required to go to a specific location. Making sure that they don't need to go to a specific location just to cast their vote. And only those who have authority can see the vote to keep the voter's vote confidential.

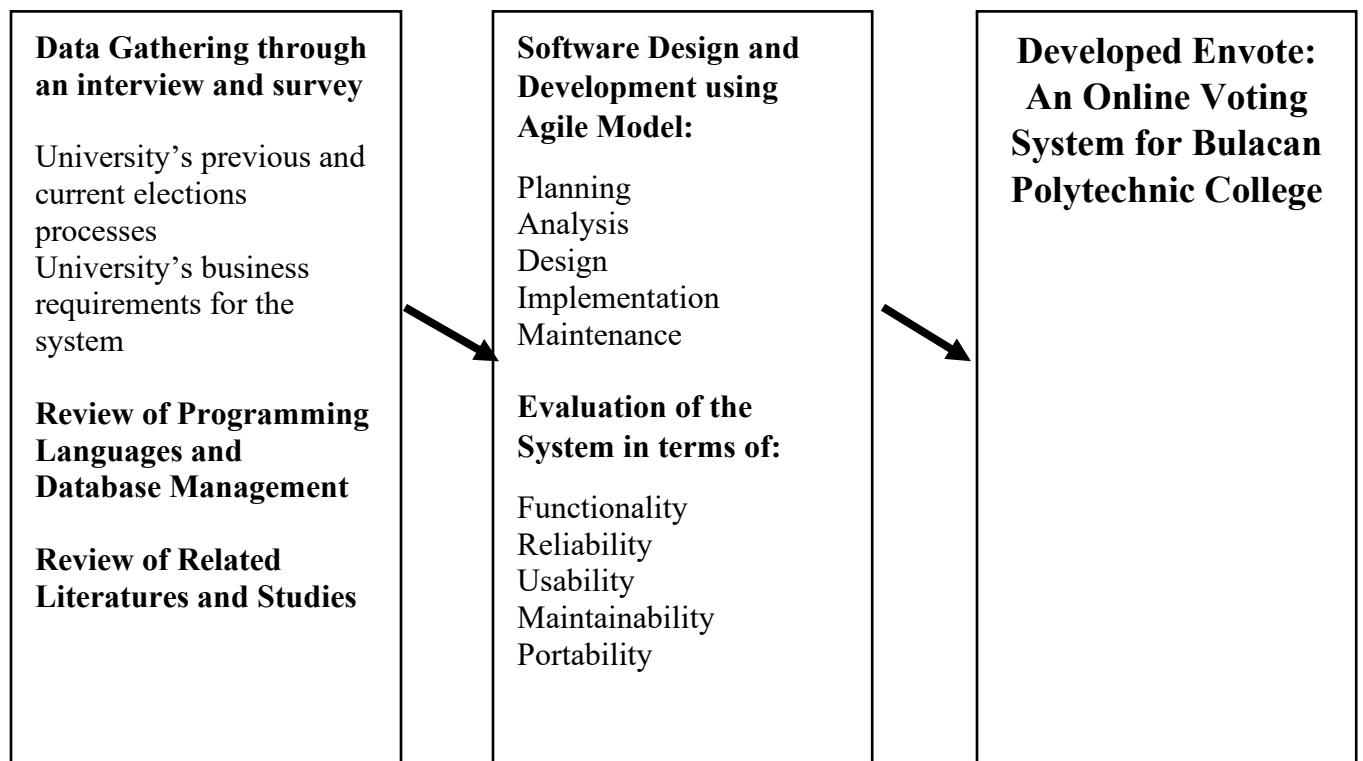
Online Voting System using Cloud

Elections and voting procedures are frequently connected to politics, and corruption is frequently used to influence these procedures, particularly when voting is done manually, and a voter must wait in line. In regard to this, there is a need for the implementation of an online voting system. The main benefit of such a system is that the users are not required to physically present themselves to cast their votes (Govindaraj, et al., 2020).

Govindaraj et al, (2020) stated that an online voting system can benefit both voters and organizers because it reduces the stress and work that both parties must do. This demonstrates that having a voting system will greatly assist the organizer in managing the vote and reducing the time required for the voter to cast their vote. The use of an online

voting system in Bulacan Polytechnic College, which is having difficulty managing their elections, is extremely beneficial.

Figure 1. Conceptual Framework



CHAPTER III

TECHNICAL BACKGROUND

This chapter contains the methodology, software and hardware requirements, diagrams, and tables that the researcher would be needed to create and understand the flow of the system.

Research Methodology

Descriptive research is employed in this study. Atmowardoyo (2018) stated that descriptive research can include both quantitative and qualitative analysis, as well as some subtypes such as questionnaires and qualitative research. The researchers applied quantitative analysis, which is a questionnaire to collect data on the software's quality, after using qualitative analysis by interviewing the client to understand the requirements.

Software Development Methodology

According to Gurung (2020), Software Development Life Cycle (SDLC) focused on a step that involves developing software in every phase. The goal of SDLC is to provide a cycle of development, regarding all the tasks which involve planning, creating, testing, and citing a software product.

In addition, SDLC defines phases such as requirement gathering, designing, coding, testing, and maintenance. It is the domain to stick to the phases that provide the product in a systematic manner.

One of the software developments, which is called agile, centers on the idea of iterative development. In agile, developers determine the requirements, plans, and results. It administers solutions between self-organizing and cross-functional. Agile is described

as iterative, time-boxed, people-oriented, and result-focused in software delivery that builds step-by-step software from the beginning of the project. Instead of distributing it all at once.

Agile is a combination of incremental and iterative approaches and will fit well with flexible requirements, which is why the researchers decided to choose this method.



Figure 2. Agile Methodology

Image Source:

<https://inoxsoft.com/blog/how-to-create-an-lms-learning-management-system-from-scratch/>

Project Planning Phase. According to Neelu (2020) planning is crucial to the creation of any project since it allows for the calculation of the project's costs and labor requirements. Planning is necessary in creating a project, it will be useful for managing cost, time and task of individuals in the team. The researchers observed and noticed the problem, which is why they decided to think of a solution. The researchers took interest in

making a system called ENVote. The researchers found that there is no existing online platform for Bulacan Polytechnic College Student Government Elections. The benefit of creating an ENVote system is to lessen the burden on the students, such as falling into long lines during pre-pandemic time consuming, not being schedule-friendly, and so on (Govindaraj et al., 2020).

Requirements Phase. Agile methodologies gradually change the requirements, making it difficult to determine which requirements should be kept and which should be changed (Neelu, 2020). Agile methodology is incremental and iterative making the requirements to change from time to time. During this phase, the researchers analyzed what the system users will need to run the system. In the proposed system, the researchers gathered data and identified the study of software and hardware requirements for both end-users and developers. They ensured that the system would render a better outcome and run smoothly on devices.

Design Phase. Neelu (2020), The software's design and development are interleaved. Design and development phases are constantly changing because of the agile methodology, requiring periodic updates. During this phase, the researchers decided to make a prototype using Adobe XD and they used a various diagramming tools to create flowchart, context diagram, data flow diagram, use case diagram, entity relationship diagram, and visual table of contents to have an overview of how the data will flow for the users to understand the system. The researchers made a clear User Interface and User Experience (UI/UX) design with the help of the diagrams created.

Project Development Phase. According to Neelu (2020) Essentially, the project development phase separates the projects into small groups with minimal preparation, so

that change is possible, failure risk is reduced, and swiftly put into practice. By separating each task into small parts can aid in preventing major risks. In this phase, the researchers began writing the code for back-end using PHP: Hypertext Preprocessor and for front end using Cascading Style Sheets (CSS) and JavaScript which will be used to develop the entire system. The UI/UX produced using Adobe XD was considered and the diagram was used as a guide for implementation of the data flow.

Testing Phase. The second stage of the development process is testing (Neelu, 2020). It was essential to test each development that had been made. In this phase, the researchers performed a test to check if the ENVote system that they plan to publish is working. Before starting a development, a website testing happens to see whenever there are features that need to be added. Testing verifies if the system is properly working, the researchers are working to provide a complete test where it includes conducting several lodes, the efficiency of the website and if there are bugs in voting, predicting errors that may be encountered, and so on. The researchers utilized a black box testing technique use case testing, a step-by-step approach testing technique.

Deployment Phase. According to Neelu (2020), After deployment, that project cannot simply be abandoned. Means that before deploying, the developer must ensure that the project is error-free. The researchers deployed the ENVote website on a web-hosting platform, where the BPC utilized the technology for student government elections. The objective of ENVote is to perform most of the tasks in accordance with implementing a better and simpler election. The students should not worry about the accurate tally of votes since the ENVote provides transparency of data through the website.

Project Maintenance Phase. As an agile model, the project's requirements will change on a regular basis, making maintenance critical in order to satisfy project users (Neelu, 2020). Because the agile model is incremental and iterative, the maintenance phase will be continued. The researchers reassure that the website is in good condition and if there are failures that may be encountered. The researchers monitor if there are problems that need to be resolved. They conduct tests to check if they maintain the website properly.

Requirements Analysis and Documentation

In this section, the researchers discussed the user and system requirements, as well as the findings of the requirements elicitation and analysis processes. These processes involve gathering and examining the requirements that are necessary for the system to function properly. By conducting a thorough analysis of the requirements, the researchers can ensure that the system was able to meet the needs of its users and operate efficiently and effectively.

System/Technical Requirements

To ensure that the system functions properly, the hardware and software must meet certain criteria. The development of the system requires specific coding and program development requirements, which will determine the success or failure of the program. By carefully considering these requirements and ensuring that they are met, the researchers can develop a system that is able to function efficiently and effectively. Conducting a thorough analysis of the system requirements can help to identify and minimize any potential errors or issues that may arise during the development process.

Software and Hardware Requirements End User

Table 1

Mobile Requirements

	Minimum	Recommended
OS	Android 6 Marshmallow	Android 10
API LEVEL	API Level 21	API Level 30

Table 2

Desktop Requirements

	Minimum	Recommended
Processor	Intel Pentium	Intel I3
RAM	4GB	8GB
Storage	256GB	512GB
Resolution	1366x768	1600x900
System Type	32-bit	64-bit

Tables 1 and 2 show the software requirements for the Online Voting System for the end users. For mobile, the minimum operating system requirement is Android 6 Marshmallow and API Level 21 for the system to run smoothly. The researchers recommended Android 10 and API Level 30 as operating system specifications. In terms of computer requirements, the minimum processor is an Intel Pentium with 4GB RAM and

256GB storage, the resolution is 1366x768 and the system type is 32-bit. The researchers recommended Processor Intel I3 with 8GB of RAM and 512GB of storage, Resolution 1600x900, and System Type 64-bit.

Software and Hardware Requirements for Developers

Table 3

Hardware Requirements

	Minimum	Recommended
Processor	AMD A6-3500 APU	AMD Ryzen 5 4300U
RAM	4GB	8GB
Storage	256GB	512GB
Resolution	1366x768	1600x900

Software Requirements

Operating System	Windows 7
System Type	64bit/32bit
Text Editor	Visual Studio

Table 3 shows the requirements for the developer to create the Voting System. The minimum processor is an AMD A6-3500 APU with 4GB RAM, 256GB internal storage, and a resolution of 1366x768. The recommended hardware includes an AMD RYZEN 5 4300U processor with 8GB RAM, 512GB internal storage, and a resolution of 1600x900. In terms of software, a Windows 7 operating system, a system type of 32bit/64bit, and Visual Studio for the text editor.

Design of Software, Systems, Product, and/or Processes

System Flowchart

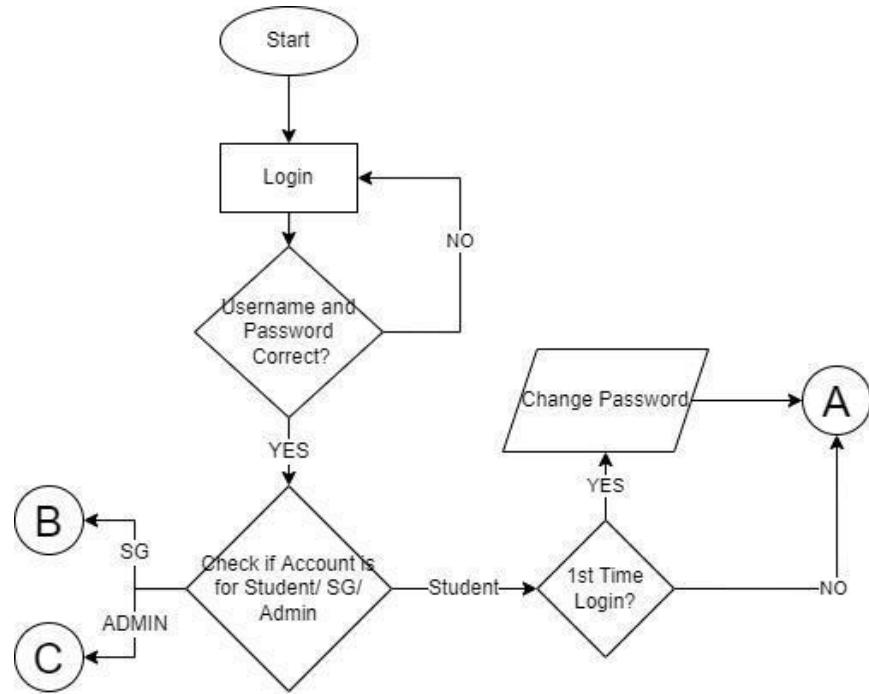


Figure 3. Login Flowchart

Login flowchart shows the process if the user tries to log in. The system verifies the credentials entered by the user, then it will check if the account is for Student, Student Government, or Admin lastly if the user 1st time logging in then the system will ask to change the password

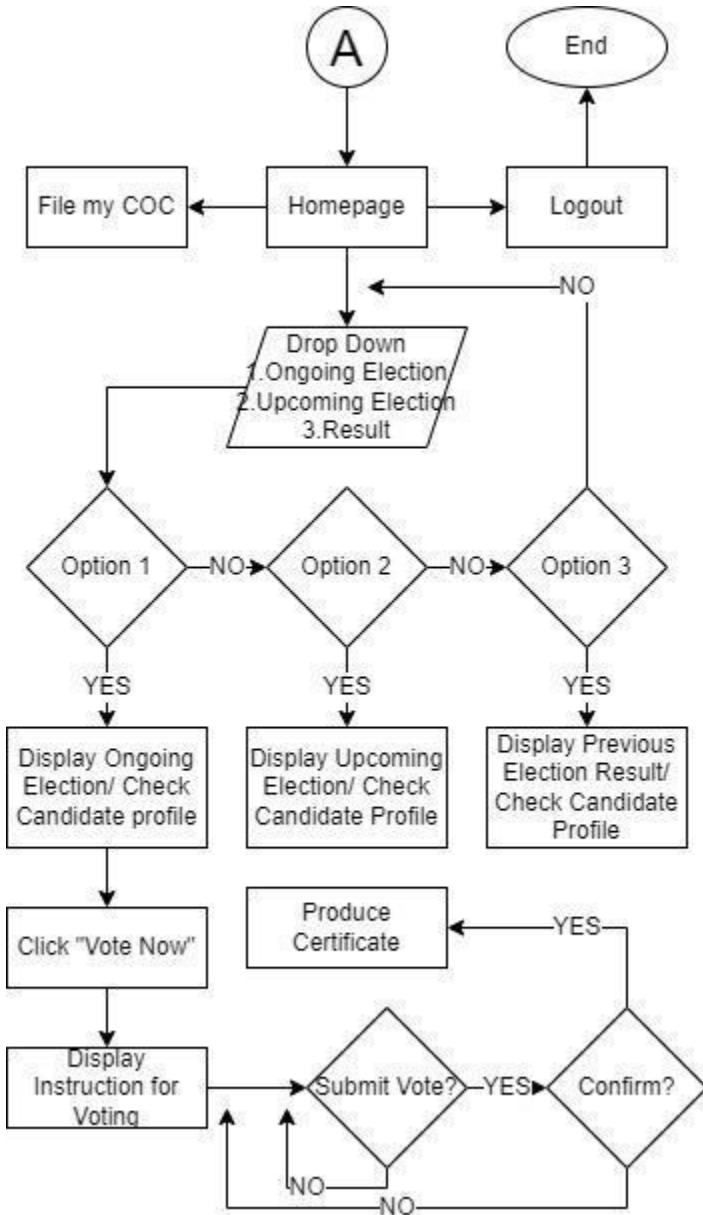


Figure 4. Voter Side Flowchart

After successful login as a student the voter can apply for candidacy to run for election. By going to drop down they can decide if they want to vote for the current election, check the upcoming election, or the result of the previous one. If they decide to vote, they will be given an instruction and after casting their vote they will be given a certificate as proof that they already voted.

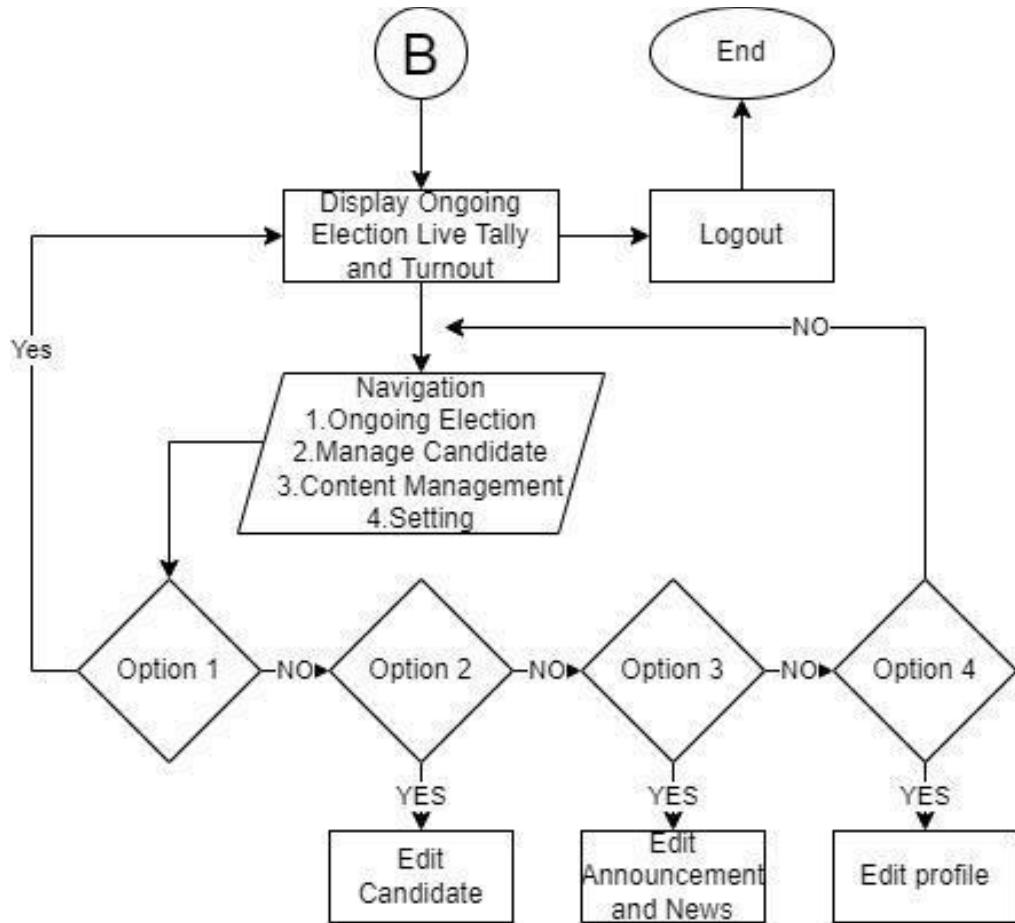


Figure 5. Student Government Side Flowchart

If the account they entered is an officer account, they will be redirected to the SG side of the system where the purpose is to help the admin to manage the voting system. The system will display the live election tally and turnover. By going to manage candidates the user will be able to edit the candidate information, in content management the user will be able to edit announcements and news that will display for students and lastly in setting the user can edit their own information.

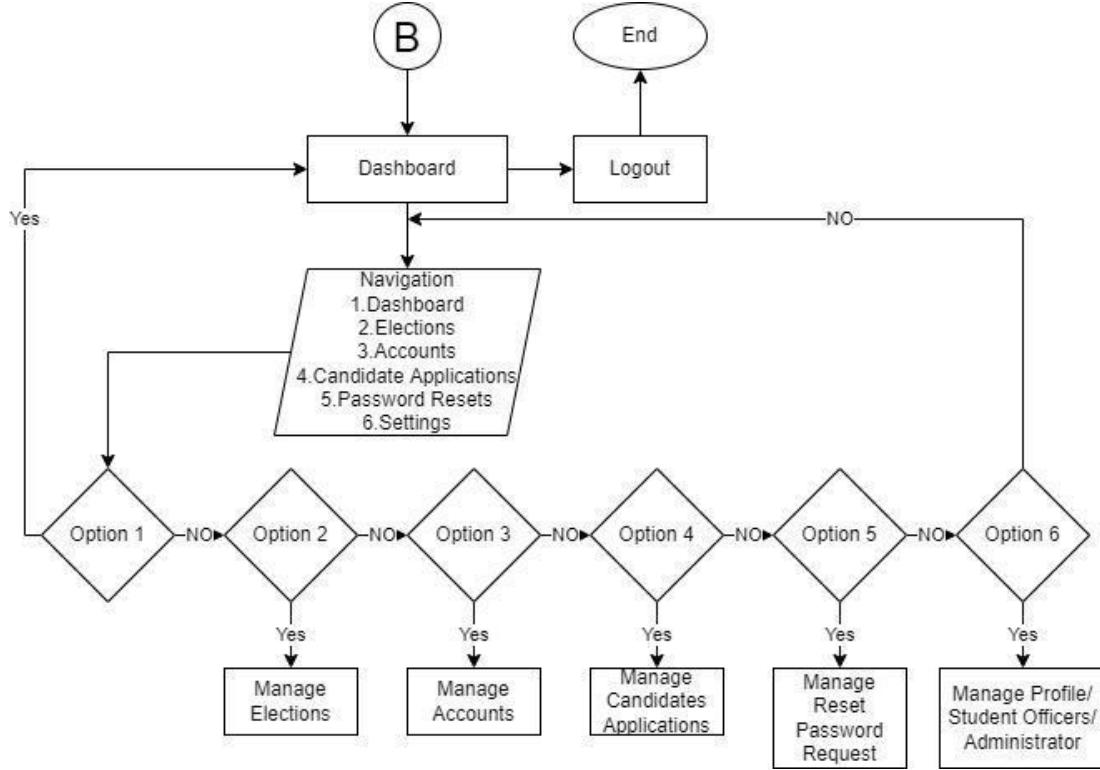


Figure 6. Admin Side Flowchart

If the account they enter is for Admin they will be redirected to the admin side of the system. The dashboard contains the active user, voter's turnout, and candidates. By going into navigation, they can select elections which is where the admin can manage the election, account to manage the account of users, candidate application where they can accept or reject the applicants, password resets where they can accept and reject the user who want to reset their password and settings manage their own profile, the admins and the student officers.

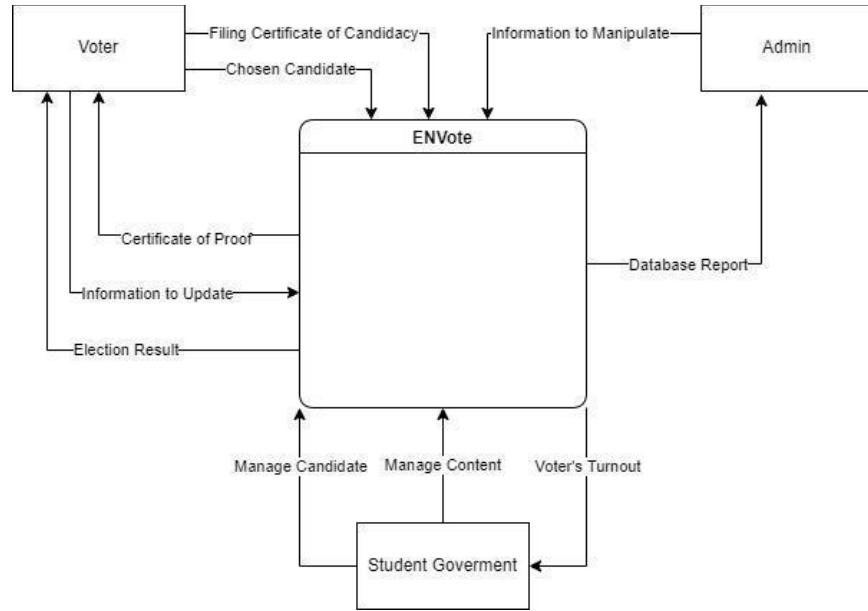


Figure 7. Context Diagram

The figure presents information incoming to the system and outgoing from the system to both voters and administrators.

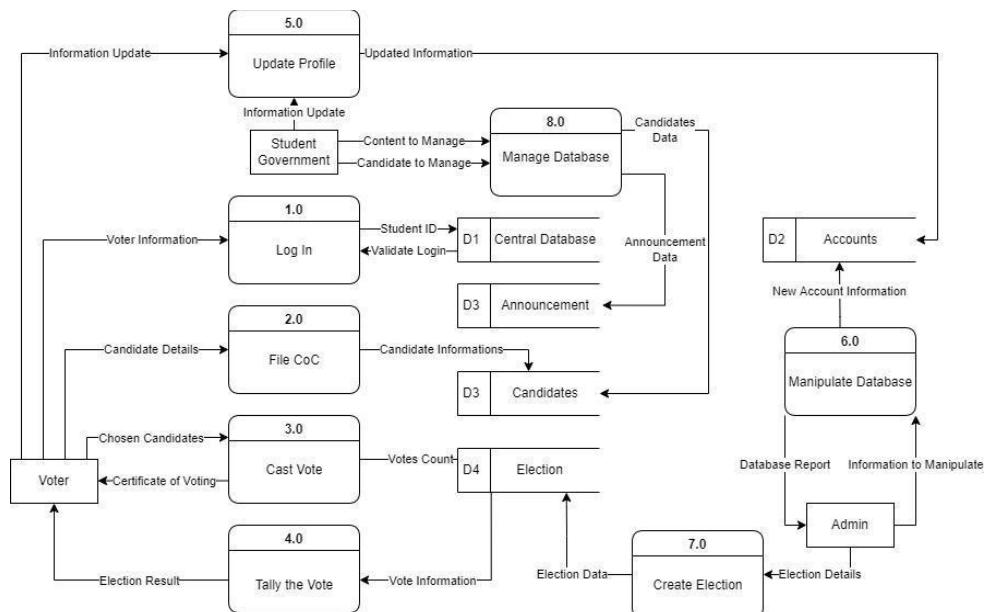


Figure 8. Data Flow Diagram

The data flow diagram (level 1 data flow diagram) shows the expanded version of the context diagram that proves that both are balanced because the number of information incoming and outgoing to the voter and administrator is the same.

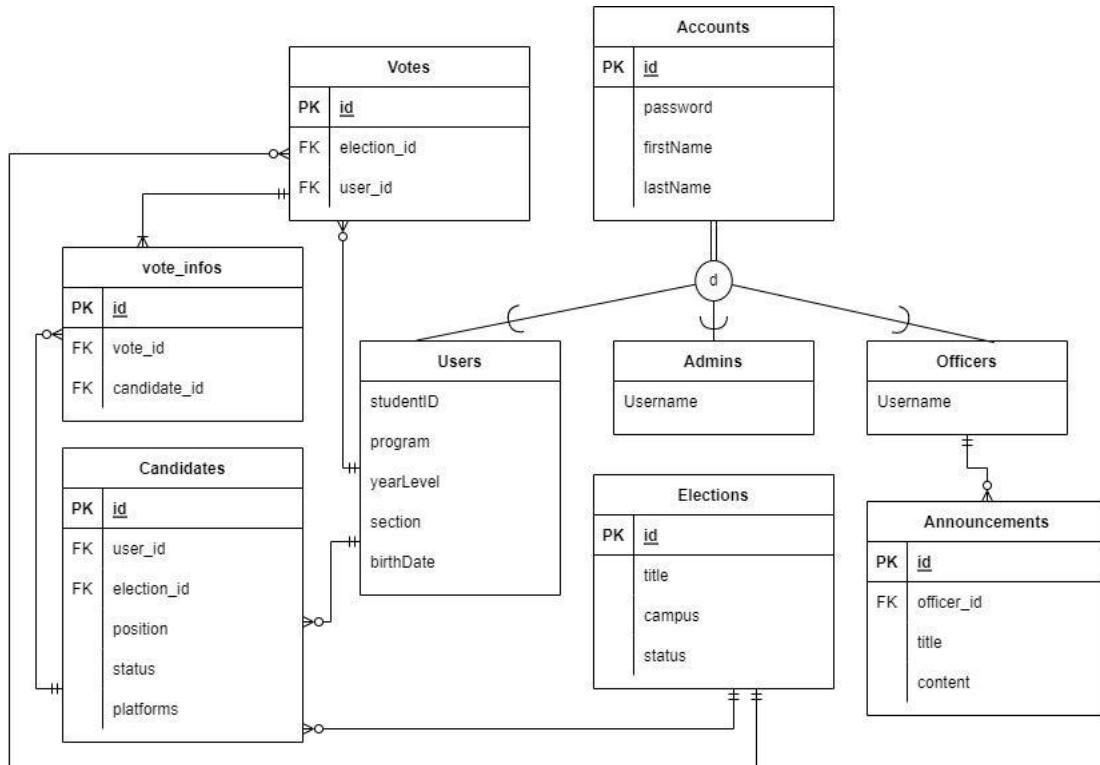


Figure 9. Enhanced Entity Relationship Diagram

The enhanced relationship diagram shows that there are three user levels, accounts as supertype and the three user levels as its subtype. It also showed the relationships between entities in the system, and which tables are connected as one-to-many, many-to-many, and one-to-one.

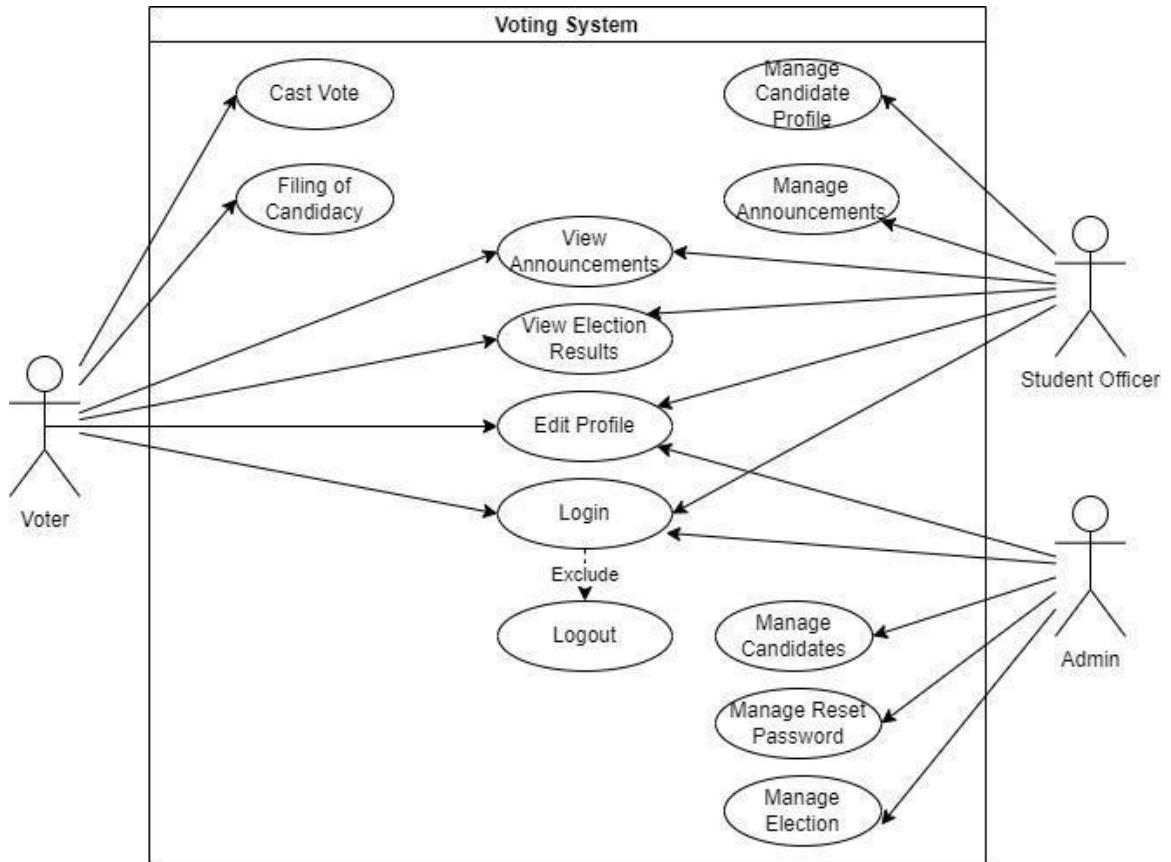


Figure 10. Use Case Diagram

The user can cast their vote and can file their candidacy after they log in. The user will have the ability to view the announcements, and election results, and edit their profile. Admins can edit profiles, manage candidates, manage reset passwords and manage elections when they log in. And student officers manage the candidate profile, manage announcements, view announcements, view election results, and edit profiles.

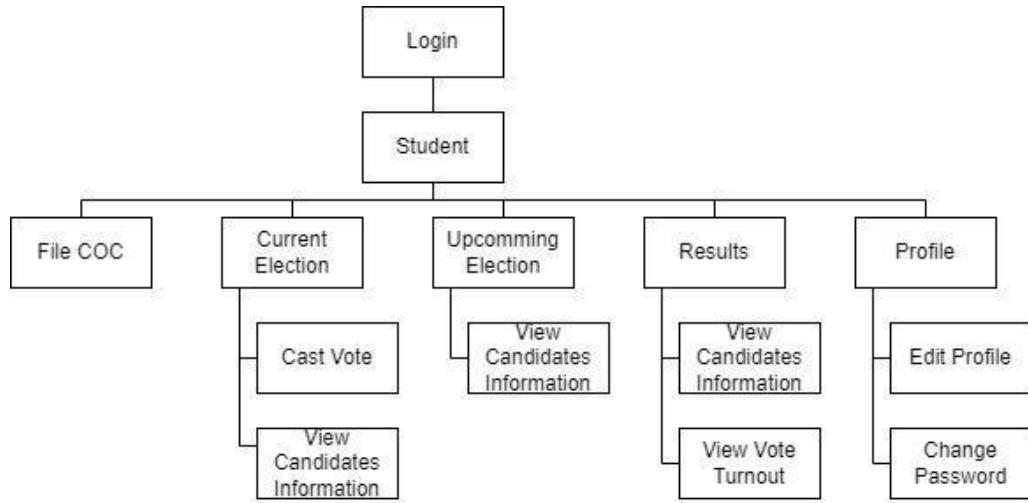


Figure 11. Student's Visual Table of Contents

After logging in as students, they can file their candidate applications, view current elections, cast their votes, and view candidates' information. They can see the upcoming elections, results, and view voter turnout. They can edit their profile and change their passwords.

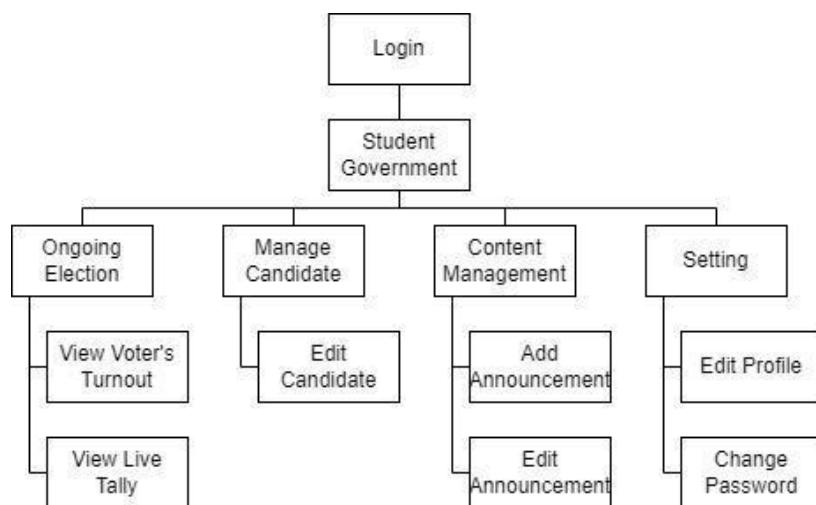


Figure 12. Student Government's Visual Table of Contents

If the logged account was from a student government, it can monitor the ongoing elections, can view voter's turnout, and live tally. It can manage candidates' profiles, can add, and edit announcements. They can also edit their profile and change their passwords.

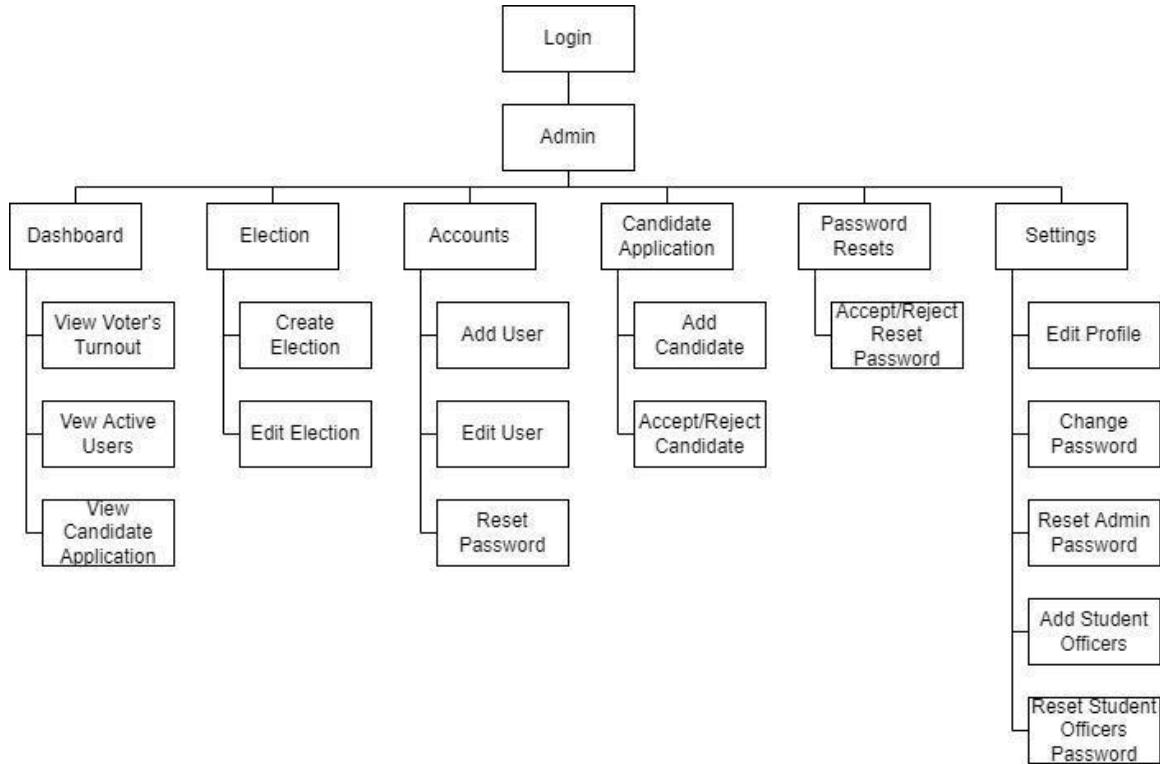


Figure 13. Admin' Visual Table of Contents

If a user logs in using an admin account, they will have access to a range of administrative features that allow them to monitor the activity of the system and manage various aspects of the election process. For example, they can view the activity of other admin and officers, manage user accounts and passwords, and oversee the candidates running for an election. Additionally, they can have the ability to make changes to their settings and perform other important tasks that are necessary for the smooth operation of the election process.

Development and Testing

Black Box Testing

Upon the completion of the system's development, the researchers created a test plan for the system. Tests were carried out, specifically Black Box Testing for manually testing the system to record how the system responds to an action that the user applied in the system.

The technique used is the State Transition Technique, which is used in a variety of step-by-step processes. This technique can be used to test positive and negative input in the system and record it. This would be generated to ensure that the system's various functionalities are functioning properly. To ensure the project's quality, every feature of the system will be thoroughly tested using the State Transition Technique. Additionally, the researchers also used other testing techniques, such as boundary value analysis and equivalence partitioning, to ensure that the system is functioning correctly and meeting the user's needs.

Software Quality Evaluation

The researchers decided to utilize the Probability Sampling Method, specifically simple random sampling. This refers to the method of giving equal chances of being selected to the population. The method of data gathering to be used by the researchers is in the form of surveys/questionnaires to collect concise data from the respondents.

The Likert scale was utilized by the researchers to measure the gathered responses towards evaluating the system. The level on which the responses agree or disagree on a particular statement is also shown on the scale, as seen in Table 4.

Table 4**Five Point Likert Scale**

Scale	Range	Descriptive Interpretation
5	4.50-5.00	Extremely Acceptable
4	3.50-4.49	Very Acceptable
3	2.50-3.49	Acceptable
2	1.50-2.49	Fairly Acceptable
1	1.00-1.49	Not Acceptable

The weighted scores and their equivalent descriptions would be used to analyze the computed mean of each criterion from the ratings of respondents.

Table 5**Representation of the responses**

Respondents	Frequency (N)	Percentage (%)
IT Experts	5	10%
Students of Bulacan Polytechnic College	36	72%
Student Government Officers	8	16%
MIS Head	1	2%
Total	50	100%

As seen in Table 5 above, the greatest number of respondents came from the category of the students of Bulacan Polytechnic College. The reasoning behind this is that all students at the university are eligible to vote in the student government elections, which is the primary focus of the system. As for the IT experts, their input will be beneficial to the overall development of the system, especially in the most technical aspects of it, while the MIS Head and Student Government Officers are the operators of the system in an election.

In accordance with the Data Privacy Act of 2012, all data and information gathered and received from the respondents shall solely be used by the researchers for tabulation, data interpretation, and analysis. The researchers pledge to adhere to professional ethical standards, ensuring that no data nor information from the respondents would be publicly disclosed.

Description of the Prototype

This part presents some ideas about the system, which contains descriptions and design of the prototype of the ENVote system.

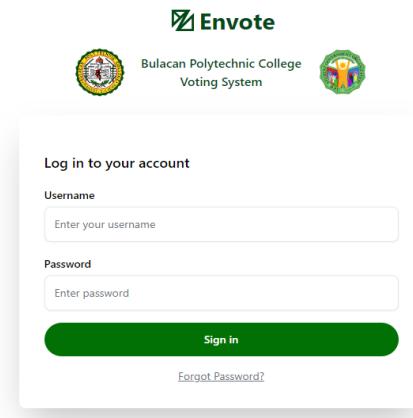


Figure 14. Sign in Page

The system will ask the user to log in first before entering the site's landing page. It will ask for username and password. The username of the user is their own student id and the password is a combination of the user's program, year and section and birthday. The system will ask the user to change his/her password.

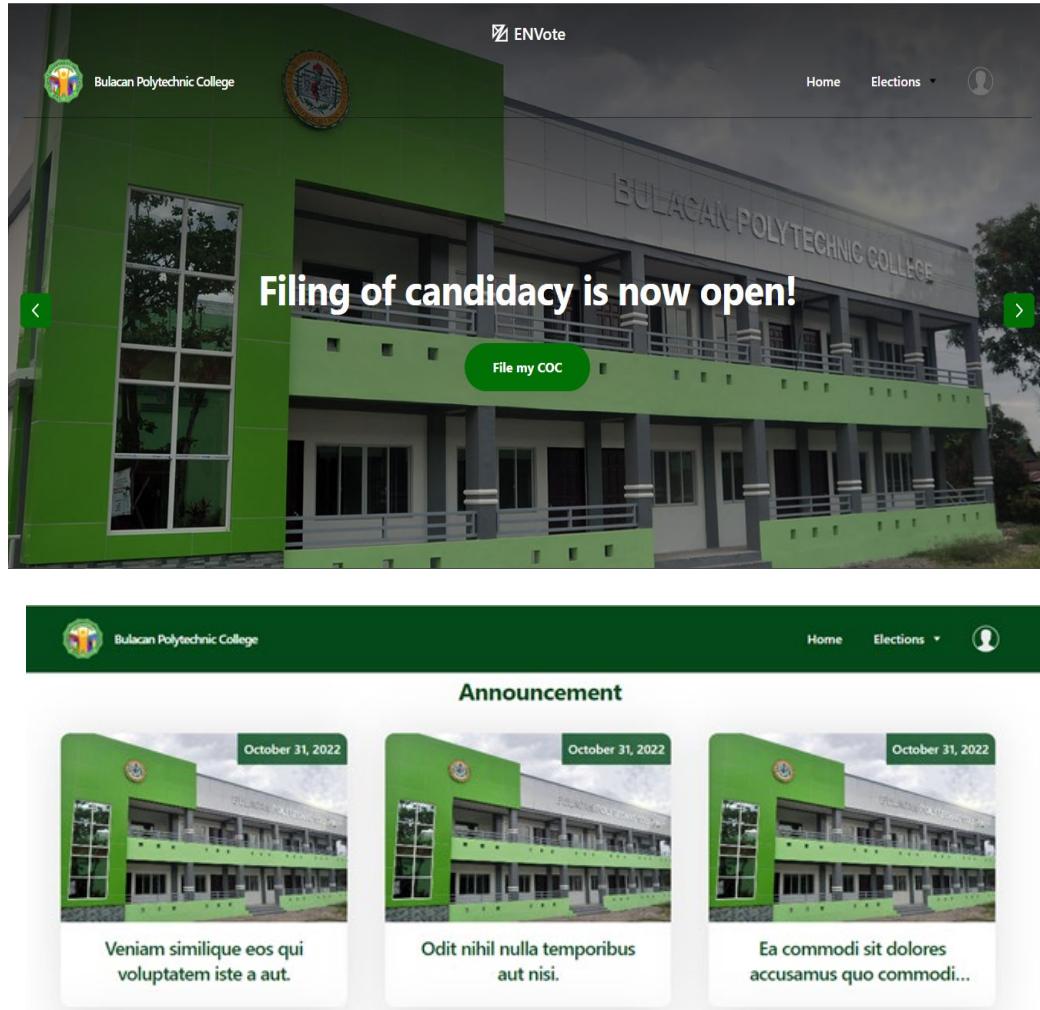


Figure 15. Voter's Side Homepage

The home page contains a hero section which the user can slide to the guidelines on how to use the system and filing of candidacy if there is an ongoing election. Below the hero section are the announcements which can be viewed by the student to be updated in the news.

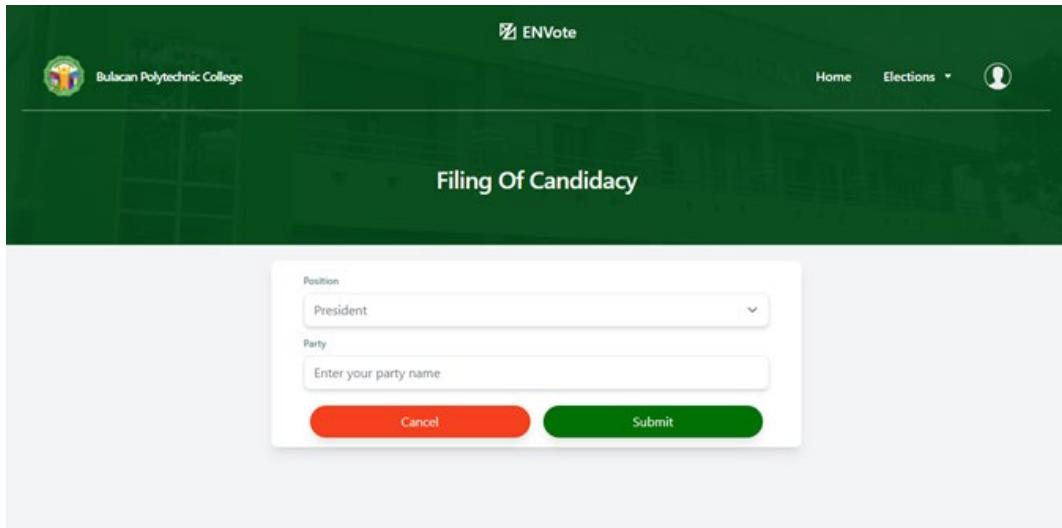
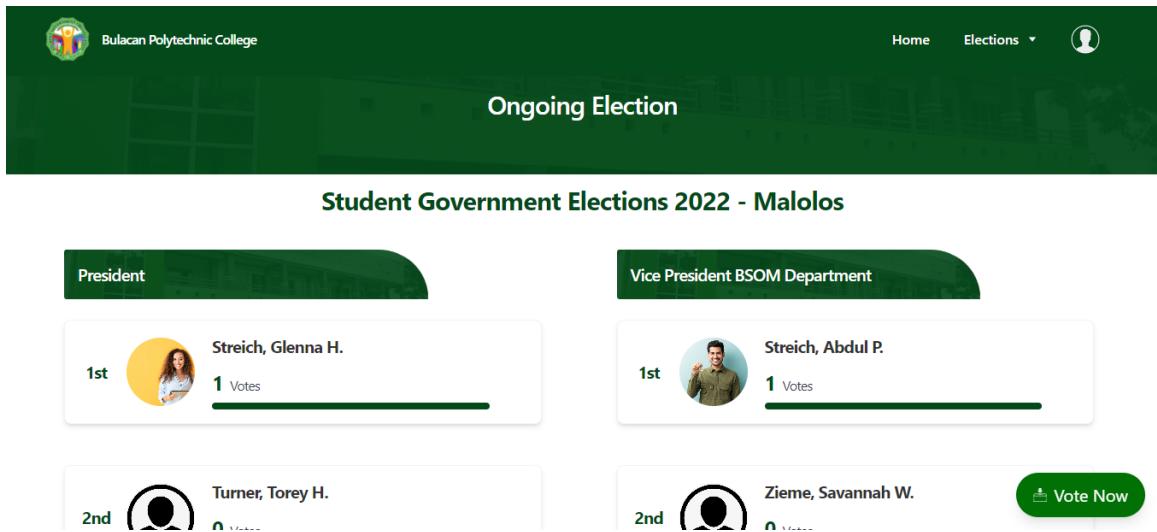


Figure 16. Voter's Side Filing of Candidacy

The page contains the filing of candidacy. If the user wants to become a candidate this is the page where they can submit their candidacy. This page can only access if there is ongoing election in their campus.



Bulacan Polytechnic College

Student Government Elections 2022 - Malolos - Malolos Campus e-Ballot

Instructions

Step 1: Select your desired candidates from president to the last position.

Step 2: You can see that you have selected a candidate by checking if the card's background turned to gray

Step 3: Click submit vote on the lower part of the page.

Step 4: Confirm if you have selected the right candidates.

Step 5: Click confirm on the lower part of the page.

Step 6:

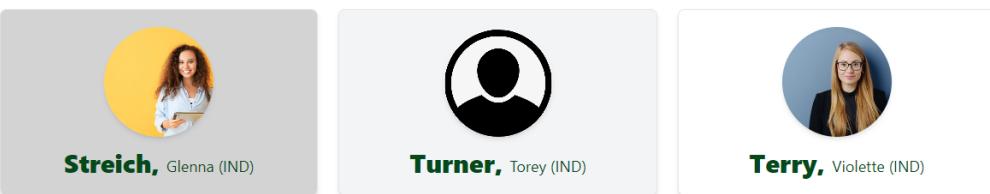
I understand

Streich, Glenna (IND) **Turner, Torey (IND)** **Terry, Violette (IND)**

Bulacan Polytechnic College

Student Government Elections 2022 - Malolos - Malolos Campus e-Ballot

President



Vice President BSOM Department

Bulacan Polytechnic College

Please confirm that you voted for the following candidates:

President



Vice President BSOM Department





Figure 17. Voter's Side Ongoing Election

The ongoing election is where the users cast their vote by selecting on what election they are planning to vote. The users will be given instructions on how to properly vote. After that the user can select which candidate they want to vote for and after submitting the system will show who they selected as a confirmation. After casting the vote, they will be given a certificate as a proof of voting.

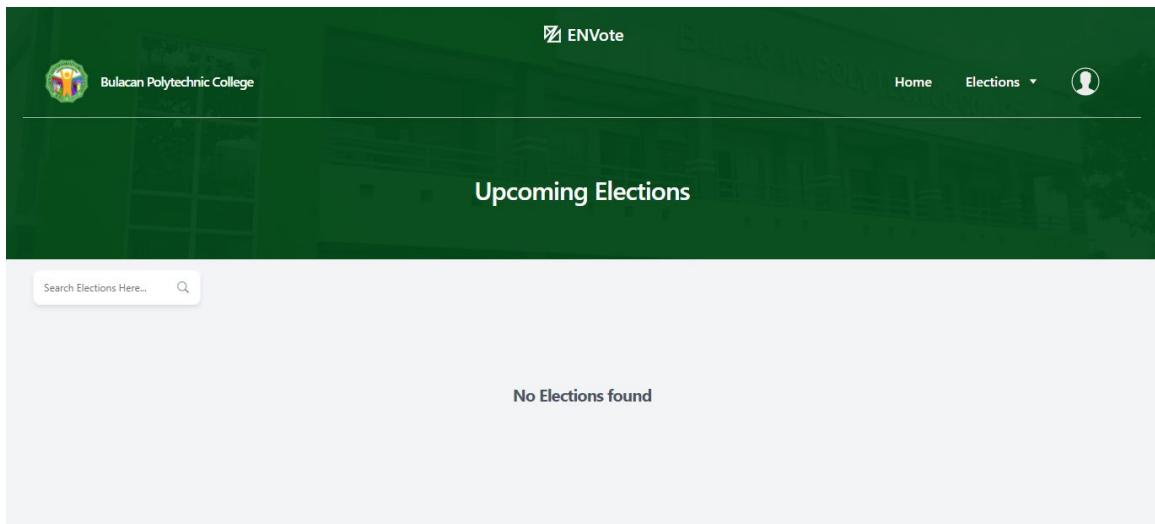


Figure 18. Voter's Side Upcoming Elections

In figure 18, users can view the upcoming election for their assigned campus. A user can check the candidate and their platforms.

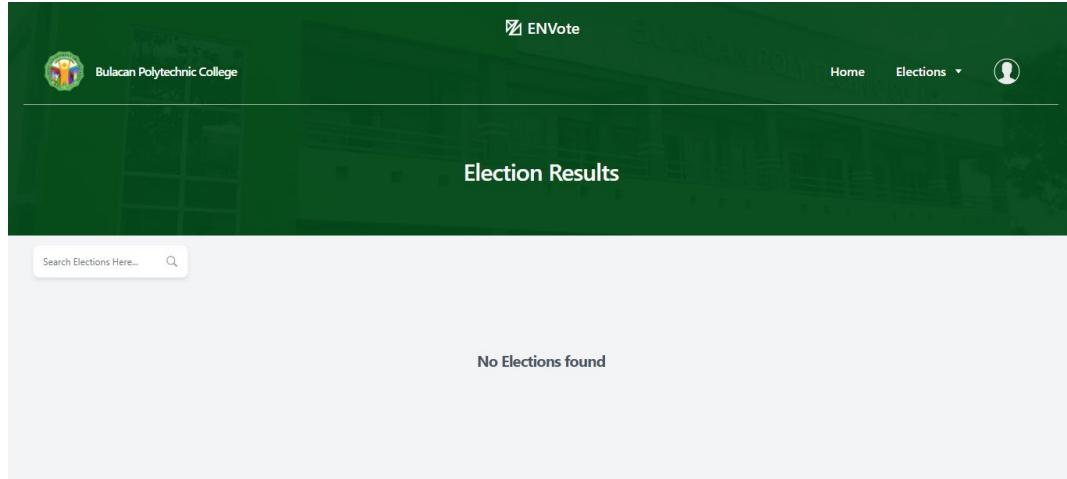


Figure 19. Voter's Side Election Results

In election results the users can view the previous election on their campus. The user can also view the voter turnout and the candidate.

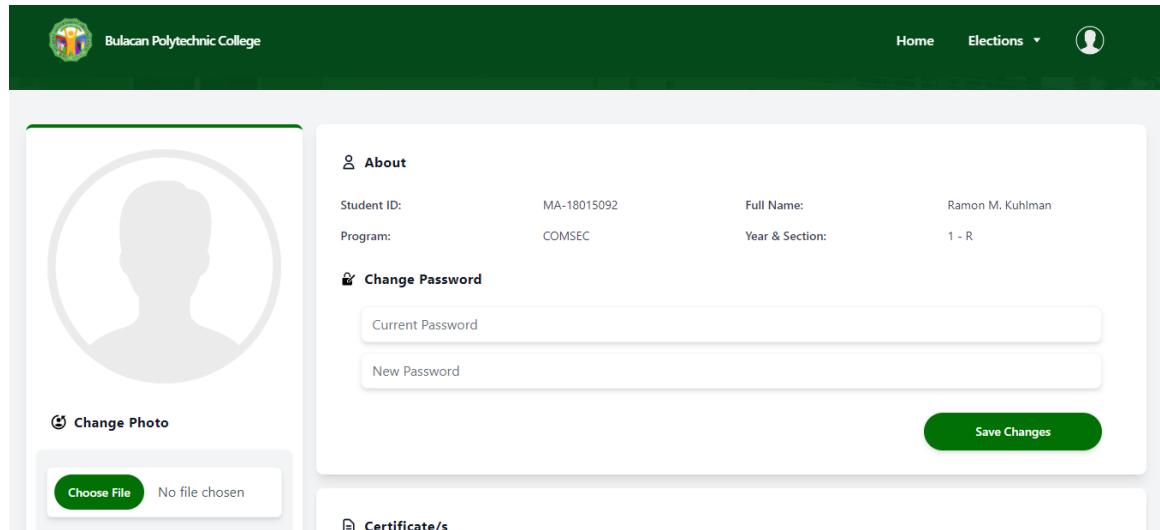


Figure 20. Voter's Side Profile

This page contains the information of the voter, they can change their photo and change their password in this page. The user can also view their student ID, program and year and section.



Figure 21. Student Officer's Ongoing Election

In this page the officer can view how many voters already voted and the total number of voters. The user can also view the live tally of the election that they chose.

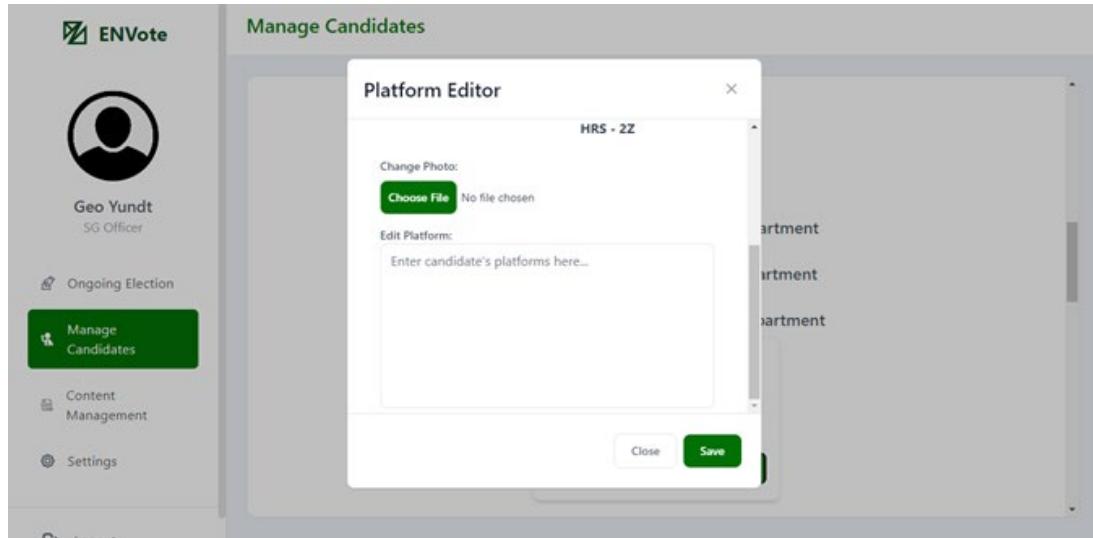


Figure 22. Student Officer's Manage Candidate Profile

This page contains the elections that were conducted in the system. The officer can edit the platform of each candidate.

Figure 23. Student Officer's Content Management

This contains announcements and news about the election. Officers can add or edit the existing announcement. It can edit the titles, content, and add photos.

Figure 24. Student Officer's Setting Page

This page contains the information about the officer. The officer can edit their first name, last name, username and change photo. They can also change their password.

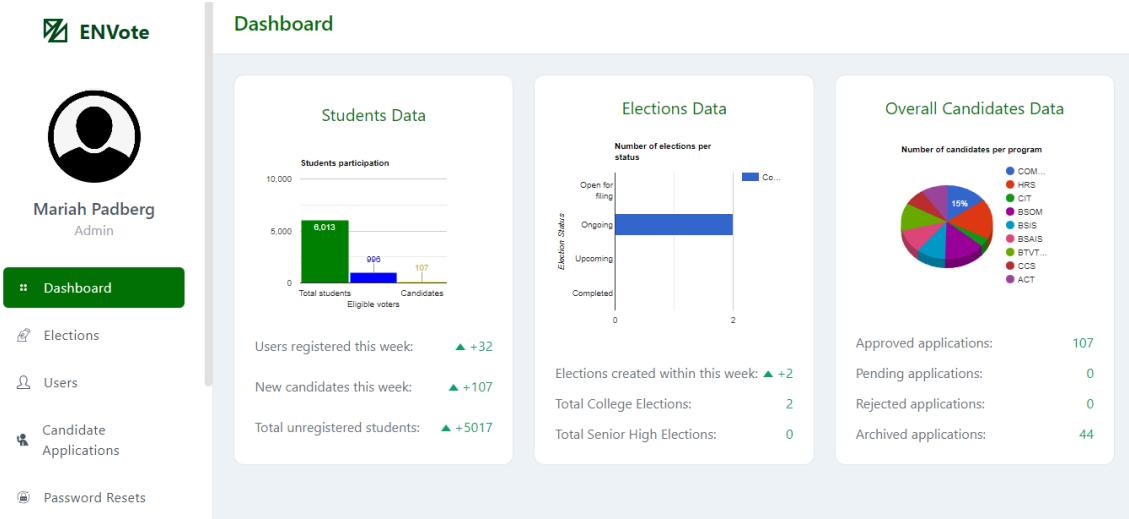


Figure 25. Admin Side Dashboard

This page contains the statistics of the active, absentees, and turnout of the voters.

It also contains the activeness of the system about the performance.

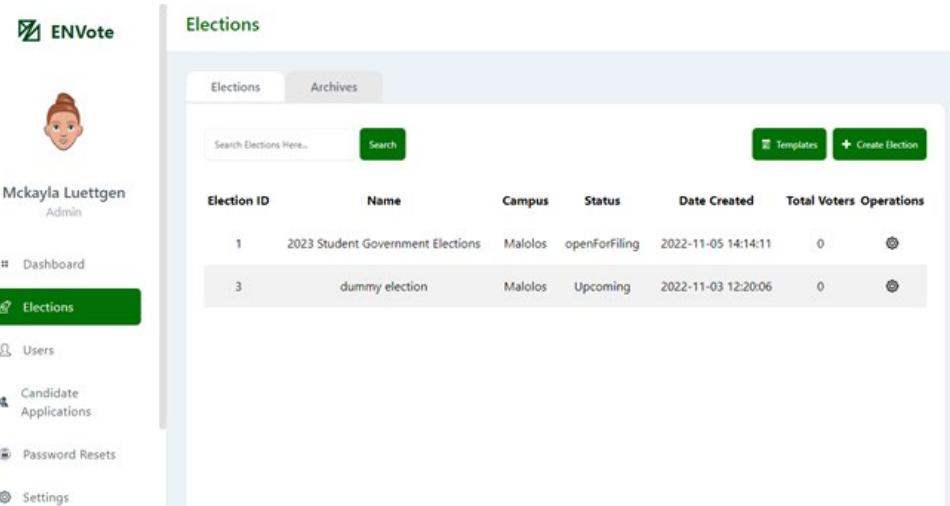


Figure 26. Admin Side Elections Management

This contains all elections that were conducted and will be conducted in the system.

The admin can edit, archive, or view the election. By viewing the election, the admin can see the voter turnout and the candidates.

The screenshot shows the 'Users' management interface. On the left, a sidebar menu includes 'Dashboard', 'Elections', 'Users' (which is highlighted in green), 'Candidate Applications', 'Password Resets', and 'Settings'. The main area is titled 'Users' and contains a table with columns: Student ID, Full Name, Program, Year/Section, Birthday, Password, and Operations. The table lists several student records, each with a 'Edit' icon in the operations column.

Student ID	Full Name	Program	Year/Section	Birthday	Password	Operations
PA-21034767	Carlotta Stroman	BTVTED	3 - H	2019-11-26		
SM-17052632	Lue Stroman	BSAIS	3 - B	1986-08-15		
SM-17055990	Julius Stroman	BSIS	4 - M	2019-03-28	\$2y\$10\$Z8Uazi3lh1XPj0Udz...	
SR-20073824	Afton Stroman	ACT	4 - V	1982-08-03	\$2y\$10\$59yualtmwG5ICW8...	
SR-20075138	Aida Stroman	ACT	3 - X	2015-03-21	\$2y\$10\$vnngkCv9aJbPcckeg...	
AN-16081862	Cortney Streich	BSAIS	1 - Q	2017-11-19		
AN-16084865	Sunny Streich	ACT	4 - B	1983-10-22		

Figure 27. Admin Side User Management

This page contains the student's account where the admin can change the password or reset it. The admin can also add students manually in this page.

The screenshot shows the 'Candidates' management interface. On the left, a sidebar menu includes 'Dashboard', 'Elections', 'Users', 'Candidate Applications' (which is highlighted in green), 'Password Resets', and 'Settings'. The main area is titled 'Candidates' and contains a table with columns: Student ID, Full Name, Program, Year/Section, Election, Position, Party, Status, and Operations. The table lists four candidate applications, each with an 'Archive' button in the operations column.

Student ID	Full Name	Program	Year/Section	Election	Position	Party	Status	Operations
OB-18021748	Rhea Zemlak	HRS	1 O	2023 Student Government Elections - Obando Campus	Auditor	IND	accepted	
OB-16024023	Sophia Zieme	BSOM	2 I	2023 Student Government Elections - Obando Campus	Auditor	IND	accepted	
OB-22025908	Leora Zulauf	BSOM	3 X	2023 Student Government Elections - Obando Campus	Auditor	IND	accepted	
OB-	Garnet	COMSEC	2 R	2023 Student Government Elections -	2nd Year Board Member COMSEC	IND	accepted	

Figure 28. Admin Side Candidate Management

This page contains the candidate applications. The admin can accept or reject the candidate application. If already accepted or rejected the admin can archive the applicant. The admin can also manually add a candidate.

Figure 29. Admin Side Reset Password

The page contains the reset password requests; users can request the admins to reset the passwords. Then the admin will approve or reject the request. If approved the user will receive a default password and then the user can change it again.

Photo	Username	Name	Action
BPC_Envote5273	Mariah Padberg	Mariah Padberg	Reset Password
BPC_Envote5342	Mckayla Luettgen	Mckayla Luettgen	Reset Password
BPC_Envote7167	Delphia Jenkins	Delphia Jenkins	Reset Password
BPC_Envote9366	Raphael Ernsler	Raphael Ernsler	Reset Password
BPC_Envote9997	Jena Cronin	Jena Cronin	Reset Password

Figure 30. Admin Side Settings

Figure 30 contains the setting page of the admin where the admin can change his/her basic information such as first name, last name, username and change their own password. The admin can also reset the administrator and student officer password.

CHAPTER IV

RESULTS AND DISCUSSION

The findings, analysis, and interpretation of the data are presented in this chapter. This study aimed to offer an efficient and organized method for conducting online elections.

1. Integrate features on a web-based online voting system the following:

The system's various features are displayed in the following features. Each feature's description will be briefly discussed. The user side is the focus of the first section.

1.1. Candidate selection

Figure 31 shows the voting page of the user. The voting page contains the candidates that are currently registered in the selected election. The user can select their desired candidate and vote for it.

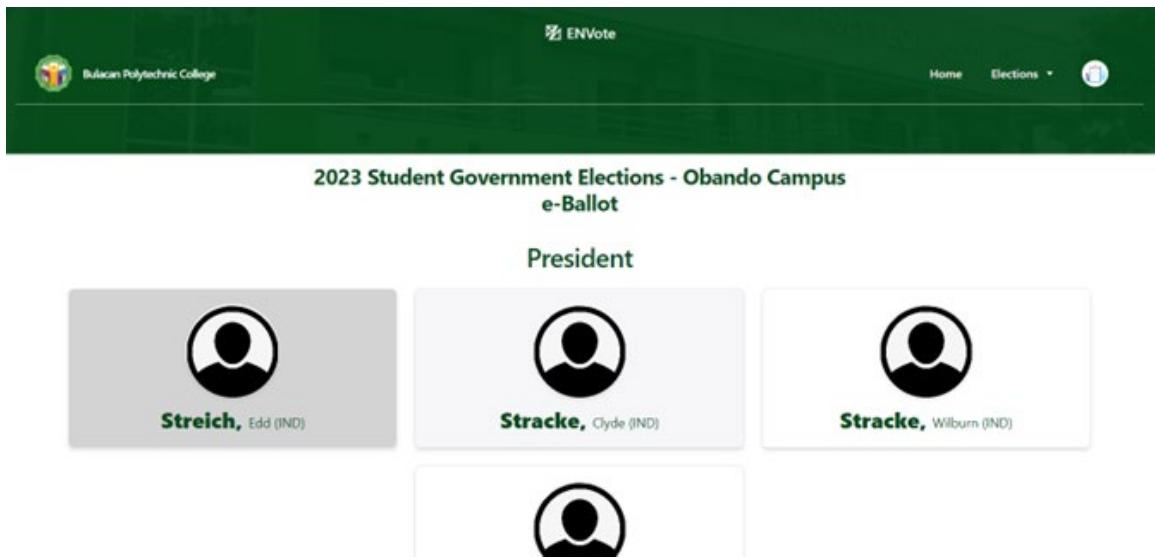


Figure 31. Candidate Selection Page

1.2. Certificate generation

Figure 32 shows the generated certificate. The certificate is the proof that the user has already voted. The certificate contains the voter's name, campus, signature of the head of MIS and QR code for proof of originality of the certificate.



Figure 32. Certificate Generation Page

1.3. Viewing candidate profile

Figure 33 shows the candidate profile of the voter's side. The voters can view the candidate profile before selecting the candidate that they want.

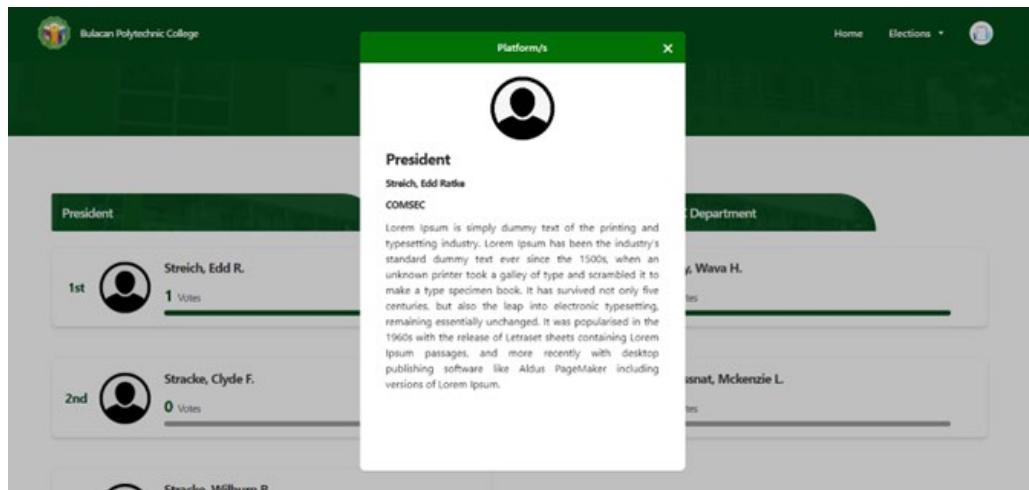


Figure 33. Viewing Candidate Profile Page

1.4. Tally of votes display

Figure 34 shows the total number of the votes for each candidate. The tally of votes can be viewed before or after the user vote. The user can also view the vote tally of previous elections.

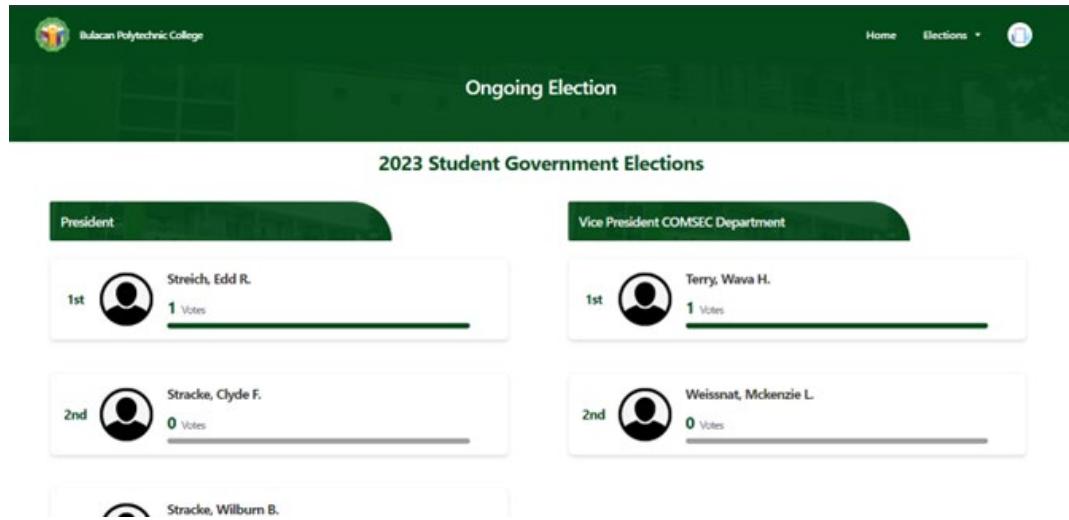


Figure 34. Tally of Votes Display Page

1.5. Announcements

Figure 35 shows the main page of the user page. This page contains the announcement that the student officers posted. The voter can view or check the details of the announcements.



Figure 35. Announcements Page

1.6. Applying for a candidate

Figure 36 shows the main page of the voter's page. If there is an ongoing election in their campus the voters can submit their certificate of candidacy. If the admin approves of the candidacy the user will become a candidate.

The screenshot displays the ENVote application interface. At the top, there is a dark green header bar with the ENVote logo and the text "Bulacan Polytechnic College". Below the header, the main content area has a title "Filing Of Candidacy". A central form is shown, containing fields for "Position" (set to "President") and "Party", along with a text input field for "Enter your party name". At the bottom of the form are two buttons: a red "Cancel" button and a green "Submit" button.

Figure 36. Candidacy Page

2. Integrate a management system on the developed online voting system that allow organizers of SG election to perform the following:

Second part are the features that can be seen on the admin side. It will show the management and organizing of the admins on the system.

2.1. Administrative privileges

These are the features that can be used by the admin. The features consist of management of elections, accounts, candidates' application, student profiles and officer profiles.

2.1.1. Report Generation

Figure 37 is an example of a report that the system can generate. The system can generate reports such as elections, election results, candidates and users. These reports can be viewed and printed by the administrator.

Student ID	Full Name	Program	Year/Section	Birthday
AN-16083705	Wilma Peacock	BSIS	2 - Q	1979-10-16
PA-21034767	Carlotta Stroman	BTVTED	3 - H	2019-11-26
SM-17052632	Lue Stroman	BSAIS	3 - B	1986-08-15
SM-17055990	Julia Stroman	BSIS	4 - M	2019-03-28
SR-20073824	Afton Stroman	ACT	4 - V	1982-08-03
SR-20075138	Aida Stroman	ACT	3 - X	2015-03-21
AN-16081862	Cortney Streich	BSAIS	1 - Q	2017-11-19
AN-16084865	Sunny Streich	ACT	4 - B	1983-10-22
AN-17080828	Keon Streich	BSAIS	3 - A	2016-11-07
BD-16084142	Dale Streich	BTVTED	3 - N	2019-02-23
BD-16061106	Jedediah Streich	BSAIS	3 - W	1993-12-23
MA-16071499	Gloria Streich	HRS	2 - Z	1979-02-14
MA-16071584	Abdul Streich	BSOM	2 - R	1995-08-21
MA-17015860	Jensen Streich	ACT	4 - P	2017-04-20
MA-22014520	Judy Streich	ACT	3 - D	2005-12-06
OB-21021956	Edd Streich	COMSIC	3 - Y	1998-10-24
PA-20034711	Gabriella Streich	BSIS	4 - N	1976-07-27
SM-16050821	Olive Streich	BSOM	3 - N	2020-02-22
SM-16053274	Leonne Streich	BTVTED	4 - J	1982-02-17

Figure 37. Report Generation

2.1.2. Accounts management

Figure 38 shows the account management page. In this page the admin can change or reset the voters' password. The admin can also add a student manually.

Student ID	Full Name	Program	Year/Section	Birthday	Password	Operations
PA-21034767	Carlotta Stroman	BTVTED	3 - H	2019-11-26	...\$2y\$10\$Z8Uazi3lh1XPj0Udz...	...
SM-17052632	Lue Stroman	BSAIS	3 - B	1986-08-15	...\$2y\$10\$59yualTrmwGSIiCW8...	...
SM-17055990	Julius Stroman	BSIS	4 - M	2019-03-28	...\$2y\$10\$vnngkCv9aJbPcckeg...	...
SR-20073824	Afton Stroman	ACT	4 - V	1982-08-03	...\$2y\$10\$59yualTrmwGSIiCW8...	...
SR-20075138	Aida Stroman	ACT	3 - X	2015-03-21	...\$2y\$10\$vnngkCv9aJbPcckeg...	...
AN-16081862	Cortney Streich	BSAIS	1 - Q	2017-11-19	...\$2y\$10\$vnngkCv9aJbPcckeg...	...
AN-16084865	Sunny Streich	ACT	4 - B	1983-10-22	...\$2y\$10\$vnngkCv9aJbPcckeg...	...

Figure 38. Accounts Managements Page

2.1.3. Elections Management

Figure 39 shows the main page of the election management. The election page contains a dashboard that presents the ongoing elections, pending elections, and scheduled elections.

The screenshot displays the ENVote election management system. On the left, a sidebar menu lists options: Dashboard, Elections (which is highlighted in green), Users, Candidate Applications, Password Resets, and Settings. The main area is titled 'Elections' and contains a table of current elections. The table has columns for Election ID, Name, Campus, Status, Date Created, Total Voters, and Operations. Two rows are visible:

Election ID	Name	Campus	Status	Date Created	Total Voters	Operations
1	2023 Student Government Elections	Malolos	openForFiling	2022-11-05 14:14:11	0	Edit
3	dummy election	Malolos	Upcoming	2022-11-03 12:20:06	0	Edit

Figure 39. Election Managements Page

2.1.4. Candidate Management

Figure 40 shows the main page of the candidate management. Candidate management enlist what contains in the candidate's profile. Such as what position will they run, what platforms will they implement and what party does the candidate joined.

Student ID	Full Name	Program Year/Section	Election	Position	Party	Status	Operations
OB-28943934	Allysa sheesh	CCS	2 E	Student Government Elections 2022 - Obando - Obando Campus	2nd Year Board Member CCS Department	IND accepted	<button>Archive</button>
OB-58112684	Allysa Saw	CCS	2 R	Student Government Elections 2022 - Obando - Obando Campus	2nd Year Board Member CCS Department	IND accepted	<button>Archive</button>
OB-16025144	Judge Torphy	BSOM	3 M	Student Government Elections 2022 - Obando - Obando Campus	P.R.O	IND accepted	<button>Archive</button>

Figure 40. Candidate Management Page

2.2. Student Government privileges

These are the features that can be used by the admin. The features consist of management of elections, accounts, candidates application, student profiles and officer profiles.

2.2.1. Announcement Management

Figure 41 shows the main page of the announcement management. Announcement management is responsible for making announcements related to candidates of the election and the election itself. It helps the student to be informative towards what to expect in the election. The announcements are managed by the student government.

The screenshot shows the ENVote Content Management interface. On the left, there's a sidebar with a user profile for 'Geo Yundt' (SG Officer), an 'Ongoing Election' section, and links for 'Manage Candidates', 'Content Management' (which is highlighted in green), and 'Settings'. The main area is titled 'Content Management' and contains a search bar with 'Search News Here...' and a 'Search' button. A green '+ Add News' button is in the top right. Below the search bar, there are five announcement cards, each with a title, date, and a truncated preview of the content.

Announcement Title	Date	Preview
Veniam similiqe eos qui voluptate...	October 31, 2022	Atque necessitatibus molestiae aspernatur. Nostrum accusamus cumque explicabo ullam ex voluptate corrupti. Recusandae accusamus aut dolore. Provident labore suscipit et sed. Porro et quae ducimus recusand...
Odit nihil nulla temporibus aut nisi.	October 31, 2022	Sit libero animi quas fugit fuga quae. Eum eos tenetur aliquid soluta impedit. Ea reciendis dolores ut consequatur. Omnis dolor aut et. Id ipsa sed maiores quisquam optio dolorem. Impedit dolorum consequatur maior...
Ea commodi sit dolores accusamus...	October 31, 2022	Enim nihil dolorem magnam cumque sint. Quia molestiae corporis aliquid et omnis placeat necessitatibus. Laborum ea placeat autem praesentium blanditiis. Deserunt architecto asperiores assumenda est voluptas. Voluptu...
Laborum velit deleniti explicabo...	October 31, 2022	Amet odit vero et quia quos consequuntur expedita. Molestias ut eum ipsum ut. Occaecati numquam praesentium maxime alias amet. Ipsam eveniet quos est et omnis quisquam. Est molestias quo blanditiis aut. Voluptatu...
Praesentium nostrum corrupti...	October 31, 2022	
Quia ut voluptas sed.	October 31, 2022	

Figure 41. Announcement Management Page

2.2.2. Candidate Platforms Management

Figure 42 shows the main page of the Candidate platforms management. Candidate platform management is responsible for posting the implemented plan of action of a candidate done by the student government. Platforms can also be planned here.

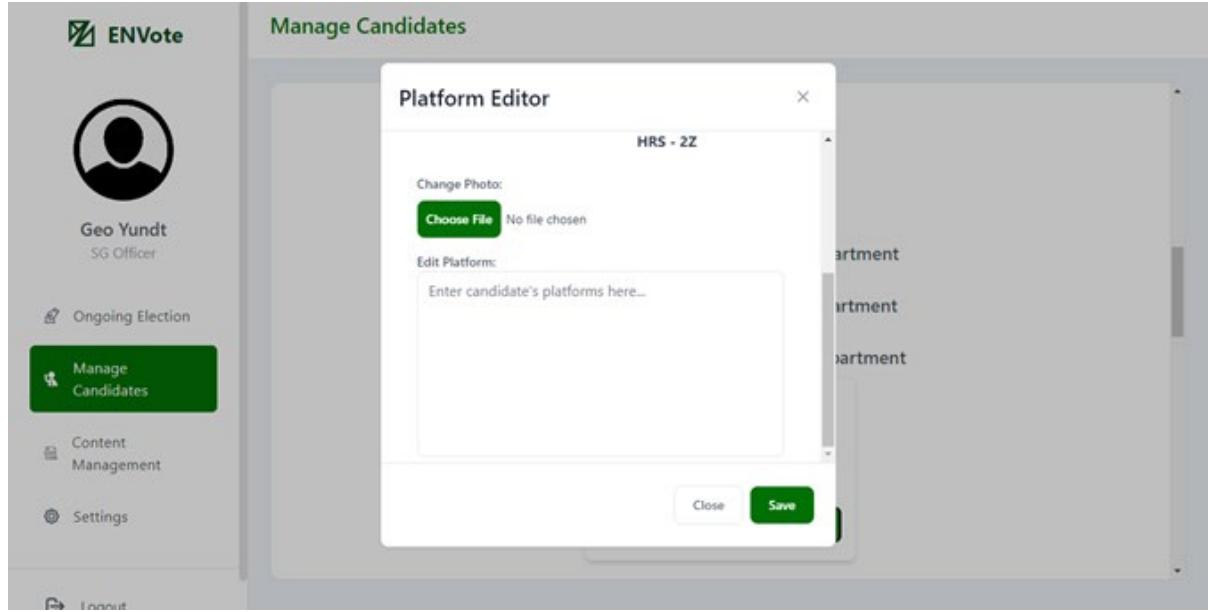


Figure 42. Candidate Platforms Management Page

3. Evaluate the developed system using the ISO/IEC 25010:2011 software quality evaluation criteria as perceived by the respondents on the following:

The system was evaluated using the instruments below by the relevant respondents which are the Bulacan Polytechnic College's students, its student government officers, and the head of its MIS (Management Information System) Office.

3.1. Functional Suitability

Table 6
Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Functional Suitability

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Functional Suitability							
Functional Completeness. The developed system functions cover all the specified tasks and user objectives.	20	21	9	0	0	4.22	Very Acceptable
Functional Correctness. The developed system provides the correct results with the needed degree of precision.	23	19	7	0	1	4.24	Very Acceptable
Functional Appropriateness. The developed system functions facilitate the accomplishment of specified tasks and objectives.	25	18	6	0	1	4.50	Extremely Acceptable
Weighted Mean						4.32	Very Acceptable

Table 6 displays the respondent's rating's mean distribution in accordance with Functional Suitability. The developed web application received a general weighted mean of 4.32, which, according to the rating scale, it was evaluated as Very Acceptable. The respondents answered that the capabilities of the web application are appropriate for the given indicators. In terms of Functional Correctness, the respondents selected as Very Acceptable with a total mean of 4.24. In terms of Functional Appropriateness, the respondents selected as Extremely Acceptable with a total mean of 4.50. The respondent's majority agreed that

the built web application was functionally suitable based on the computation of the mean final interpretation. 

3.2. Performance Efficiency

Table 7

Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Performance Efficiency

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Performance Efficiency							
Time-behavior. The performance response and processing times and throughput rates of the developed system, when performing its functions, meet requirements.	26	16	8	0	0	4.36	Extremely Acceptable
Resource Utilization. The performance amounts and types of resources used by the developed system, when performing its functions, meet requirements.	26	15	8	0	1	4.30	Very Acceptable
Capacity. The maximum limits of the developed system parameters meet the requirements.	23	18	8	0	1	4.18	Very Acceptable
Weighted Mean						4.28	Very Acceptable

Table 7 depicts the mean distribution of respondent ratings based on Performance Efficiency. The performance of the web application is appropriate for the specified indicators. It could be interpreted that the respondent's time-behavior was Extremely Acceptable, with a total mean of 4.36. With a total mean of 4.30, respondents rated Resource Utilization as Very Acceptable. The developed web application is Very

Acceptable in terms of performance efficiency based on the computed mean final interpretation.

3.3. Compatibility

Table 8

Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Compatibility

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Compatibility							
Co-existence. The developed system can perform its required functions efficiently while sharing a common environment and resources with other products, without detrimental impact on any other product.	24	16	10	0	0	4.28	Very Acceptable
Interoperability. Degree to which two or more systems, or components can exchange information and use the information that has been exchanged.	21	20	8	1	0	4.39	Very Acceptable
Weighted Mean						4.33	Very Acceptable

Table 8 displays the respondent's rating's mean distribution in accordance with Compatibility. The developed web application received a general weighted mean of 4.33, which, according to the rating scale, it was evaluated as Very Acceptable. The respondents answered that the capabilities of the web application are appropriate for the given indicators. It could mean that the respondents selected strongly agree in terms of Co-existence with a total mean of 4.28. In terms of Interoperability, the respondents selected

as Very Acceptable with a total mean of 4.39. The respondent's majority agreed that the built web application was functionally suitable based on the computation of the mean final interpretation.

3.4. Usability

Table 9
Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Usability

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Usability							
Appropriateness and recognizability. Users can recognize whether a product or system is appropriate for their needs.	25	17	8	0	0	4.34	Very Acceptable
Learnability. The developed system can be used by specified users to achieve specific goals of learning to use the system with effectiveness, efficiency, freedom from risk and satisfaction in a specified context of use.	24	18	6	0	0	4.40	Very Acceptable
Operability. Degree to which a product or system has attributes that make it easy to operate and control.	25	19	6	0	0	4.38	Very Acceptable
User error protection. The system protects users against making errors.	23	18	9	0	0	4.28	Very Acceptable
User interface aesthetics. The user interface enables pleasing and satisfying interaction for the user.	25	16	8	0	1	4.28	Very Acceptable
Accessibility. The developed system can be used by people with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use.	24	18	7	0	1	4.28	Very Acceptable
Weighted Mean						4.33	Very Acceptable

Table 9 displays the respondent's rating's mean distribution in accordance with Usability. The developed web application received a general weighted mean of 4.33, which, according to the rating scale, it was evaluated as Very Acceptable. The respondents all agreed that using the web application effectively and efficiently is possible. It could mean that the respondents selected as Very Acceptable in terms of Appropriateness and Recognizability, the respondents selected as Very Acceptable with the total mean of 4.34. In terms of Learnability, the respondents selected as Very Acceptable with the total mean of 4.40. In terms of Operability, the respondents selected as Very Acceptable with the total mean of 4.38. In terms of User Error Protection, the respondents selected as Very Acceptable with a total mean of 4.28. In terms of User Interface Aesthetics, the respondents selected Very Acceptable with the total mean of 4.28. In terms of Accessibility, the respondents selected as Very Acceptable with the total mean of 4.28. The respondents agreed with the usability of the built web applications is Very Acceptable, according to the computed mean final interpretation.

3.5. Security

Table 10

Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Security

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Security							
Confidentiality - The developed system ensures that data are accessible only to those authorized to have access.	24	17	7	2	0	4.26	Very Acceptable
Integrity - The developed system can prevent unauthorized access to, or modification of, computer programs or data.	29	12	5	3	1	4.30	Very Acceptable
Non-repudiation - Degree to which actions or events can be proven to have taken place so that the events or actions cannot be repudiated later.	30	18	1	0	1	4.52	Extremely Acceptable
Accountability - Degree to which the actions of an entity can be traced uniquely to the entity.	34	8	5	1	2	4.42	Very Acceptable
Authenticity - Degree to which the identity of a subject or resource can be proved to be the one claimed.	32	15	3	0	0	4.58	Extremely Acceptable
Weighted Mean						4.42	Very Acceptable

Table 10 displays the respondent's rating's mean distribution in accordance with Security.

The developed web application received a general weighted mean of 4.42, which according to the rating scale, it was evaluated as Very Acceptable. The respondents agreed that the

web application is performed consistently. It could mean that the respondents selected as Extremely Acceptable in terms of Authenticity, with the total mean of 45.58. In terms of non-repudiation, the respondents selected as Extremely Acceptable with the total mean of 4.52.

3.6. Reliability

Table 11

Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Reliability

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Reliability							
Maturity - Degree to which a system, product or component meets needs for reliability under normal operation.	25	16	9	0	0	4.32	Very Acceptable
Availability - Degree to which a system, product or component is operational and accessible when required for use.	25	18	7	0	0	4.36	Very Acceptable
Fault tolerance - Degree to which a system, product or component operates as intended despite the presence of hardware or software faults.	23	19	8	0	0	4.30	Very Acceptable
Recoverability - Degree to which, in the event of an interruption or a failure, a product or system can recover the data directly affected and re-establish the desired state of the system.	22	20	8	0	0	4.28	Very Acceptable
Weighted Mean						4.32	Very Acceptable

Table 11 displays the respondent's rating's mean distribution in accordance with Reliability. The developed web application received a general weighted mean of 4.32, which according to the rating scale, it was evaluated as Very Acceptable. The respondents agreed that the web application is performed consistently. It could mean that the respondents selected as Very Acceptable in terms of Maturity, with the total mean of 4.32. In terms of Availability, the respondents selected as Very Acceptable with the total mean of 4.36. The respondents agreed with the computed mean final interpretation with the dependability of the web application that was created.



3.7. Maintainability

Table 12

Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Maintainability

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Maintainability							
Modularity - The developed system is composed of discrete components such that a change to one component has minimal impact on other components.	19	21	10	0	0	4.18	Very Acceptable
Reusability - Degree to which an asset can be used in more than one system, or in building other assets.	24	16	10	1	0	4.23	Very Acceptable
Analyzability - Degree of effectiveness and efficiency with which it is possible to assess the impact on a product or system of an intended change to one or more of its parts, or to diagnose a product for deficiencies or causes of failures, or to identify parts to be modified.	22	19	6	0	0	4.26	Very Acceptable
Modifiability - The developed system can be effectively and efficiently modified without introducing defects or degrading existing product quality.	22	21	7	0	0	4.30	Very Acceptable
Testability - Degree of effectiveness and efficiency with which test criteria can be established for a system, product or component and tests can be performed to determine whether those criteria have been met.	24	20	6	0	0	4.58	Very Acceptable
Weighted Mean						4.27	Very Acceptable

Table 12 displays the respondent's rating's mean distribution in accordance with Maintainability. The developed web application received a general weighted mean of 4.27, which according to the rating scale, it was evaluated as Very Acceptable. It was determined by the respondents that the web application is secure. It could mean that the respondents selected as strongly agree in terms of Modularity, with the total mean of 4.235. In terms of Reusability, the respondents selected as Very Acceptable with the total mean of 4.26. In terms of Analyzability, the respondents selected as Very Acceptable with the total mean of 4.26. In terms of Modifiability, the respondents selected as Very Acceptable with the total mean of 4.30. In terms of Testability, the respondents selected as Very Acceptable with the total mean of 4.58. The respondents Very Acceptable with the maintainability of the developed web application, according to the computed mean final interpretation.

3.8. Portability

Table 13

Distribution and Descriptive Measures of the Respondents' Ratings to the System in Terms of Portability

Item	Rating					Mean	Descriptive Interpretation
	5	4	3	2	1		
A. Portability							
Adaptability - The developed system can effectively and efficiently be adapted for different or evolving hardware, software or other operational or usage environments.	28	17	5	0	0	4.46	Very Acceptable
Installability - Degree of effectiveness and efficiency with which a product or system can be successfully installed and/or uninstalled in a specified environment.	25	8	11	4	2	4.00	Very Acceptable
Replaceability - Degree to which a product can replace another specified software product for the same purpose in the same environment.	18	19	1	8	4	3.78	Very Acceptable
Weighted Mean						4.08	Very Acceptable

Table 13 displays the respondent's rating's mean distribution in accordance with Portability. The developed web application received a general weighted mean of 4.08, which according to the rating scale, it was evaluated as Very Acceptable. It was determined by the respondents that the web application can be adapted in different environments. It could mean that the respondents selected as Very Acceptable in terms of Adaptability, with the total mean of 4.46. In terms of Replaceability, the respondents selected as Very Acceptable

with the total mean of 3.78. Based on the computed mean final interpretation, the respondents agreed with the portability of the developed web application. The respondents agreed that the portability of the developed web application is Very Acceptable based on the computation of the mean final interpretation.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

This chapter concludes the summary of reports on the research presented. The primary objective of this research was to give enhancement to the electoral processes of student government elections in Bulacan Polytechnic College.

Summary of Findings

The study developed ENVote: An Online Voting System for MIS and the student government of Bulacan Polytechnic College (BPC). Several system functionalities were included in the developed system, such as:

1. Integrate features on a web-based online voting system.

The researchers found that the features in the online voting system were working well together and each one was important for the success of the project. The participants of the survey also understood the relevance and importance of all the functionalities of the system.

2. Integrate a management system on the developed online voting system.

The developed management system was able to provide a wide range of services that were essential for initiating and managing elections and candidates for an election. These services included the ability to manage voters, create elections, provide tally, and declare winners of the election. The system was designed to be user-friendly and easy to use, and it was able to significantly improve the efficiency and effectiveness of the electoral process, providing a more efficient and transparent way to conduct elections and manage candidates.

3. Evaluate the developed system using the ISO/IEC 25010:2011 software quality evaluation criteria as perceived by the respondents.

The tallied data collected from the various survey forms show that the system in its totality adhered to the standards set by the ISO/IEC 25010:2011 evaluation criteria. The average response returned by the respondents regarding the system's acceptability is very acceptable. In view of this fact, it can then be summarized that the system was able to meet all the business requirements set by the client as well as the objectives described by the researchers.

Conclusions

The study developed a web-based online voting system, entitled "ENVOTE: An Online Voting System" intended for MIS, student government, and students of Bulacan Polytechnic College (BPC). According to the results of the study, the developed system reduces the time for tallying votes. The system also makes the process of voting manageable, allowing the admin and student government to manage and handle the process for elections. The system could be accessed across the internet, allowing all students of Bulacan Polytechnic College to use the system. Using an electronic voting system, voting will become much more reliable and much faster to use.

Recommendations

Considering the findings and the conclusion of the study, the following recommendations were drawn and can be used by future researchers who want to develop the same type of system:

1. Consider using a WebSocket to load live data on tallying votes and voter's turnouts, with that, the data presented to the client side will load faster and more reliably.
2. Integrate a liking system for competition and custom events that creates a poll for contestants and entries that makes the system flexible and usable not only on election period.
3. A scheduling functionality for the elections to automatically transform their statuses from ongoing to completed, open for filing to ongoing, etc. The date set for this automatic process could range from days to months in accordance with the elections' needs.

Research Implications

Implementation of ENVote could enable election organizers to handle the initiation of election with less workloads in terms of inputting needed information in an election, candidates, and without the burden of tallying of votes.

It is expected that the students will manage to choose a candidate based on the judgement of candidate's platforms served reliably by the system. The accuracy of this system's vote counting could influence the student's confidence about the results of elections.

BIBLIOGRAPHY

A. Books

 Insua, D. R., & French, S. (Eds.). (2010). *E-democracy: a group decision and negotiation perspective* (Vol. 5). Springer Science & Business Media.

Estdale, J., & Georgiadou, E. (2018, September). Applying the ISO/IEC 25010 quality models to software product. In European Conference on Software Process Improvement (pp. 492-503). Springer, Cham.

B. Journal Articles

 Paatey, E., & Ofori-Dwumfuo, G.O. (2015). The Design of an Electronic Voting System. *Research Journal of Information Technology*, 3(2), 91-98.

Mellan, J., Tiago, P., & Sjoberg, F. (2017). Does online voting change the outcome? Evidence from a multi-mode public policy referendum. *Electoral Studies*, 19-21.

Pawar, B. M., Patode, S. H., Potbhare, Y. R., & Mohota, N. A. (2020). An Efficient and Secure Students Online Voting Application. *2020 Fourth International Conference on Inventive Systems and Control (ICISC)*, 3-4.

Jambhulkar, S. M., Chakole, J. B., & Pardhi, P. R. (2014). A secure approach for web based internet voting system using multiple encryption. In *2014 International Conference on Electronic Systems, Signal Processing and Computing Technologies* (pp. 371-375). IEEE.

Neelu, L., & Kavitha, D. (2020). Software Development Technique for the Betterment of End User Satisfaction using Agile Methodology. *TEM Journal*, 9(3), 992.

Atmowardoyo, H. (2018). Research methods in TEFL studies: Descriptive research, case study, error analysis, and R & D. *Journal of Language Teaching and Research*, 9(1), 197

204.

Gurung, G., Shah, R., & Jaiswal, D. P. (2020). Software Development Life Cycle Models A Comparative Study. *International Journal of Scientific Research in Computer Science, Engineering and Information Technology*, March, 30-37.

de los Santos, J. R. N., Batan, M. B., Giovanni, N., & Michelle, G. (2020). Web App Voting System in a Philippine State University: An ISO 9241-11 Evaluation. *Aloha International Journal of Multidisciplinary Advancement* (AIJMU), 2(7), 163-168.

Govindaraj, R., & Kumaresan, P. (2020, February). Online voting system using cloud. In *2020 International Conference on Emerging Trends in Information Technology and Engineering* (ic-ETITE) (pp. 1-4). IEEE. 

C. Unpublished Theses

Guevarra, G. (2018). Internet Voting: Increasing Accessibility and Participation of Overseas Filipino Voters in Philippine Elections. Available at SSRN 3925594.

Appendix A

Communication Letters



Bulacan State University
**COLLEGE OF INFORMATION AND
 COMMUNICATIONS TECHNOLOGY**
 Guinhawa, City of Malolos

Date: 11/22/2022

Virginia Natividad-Franco, PhD
 Faculty Member - CICT

Dear Ma'am,

The undersigned would like to request you to be the technical adviser of the capstone project of these students: Almar Javier, Marcus Dave D. Culala, Kyle Emmanuel F. Ochoa, Jimwell S. Santiago, and Jericho G. Servino who are BSIT 4th year students in our College.

Part of the Capstone project development is the commitment of the adviser to ensure that the students will develop a skill-based project conforming the appropriate standard of a capstone project to qualify for graduation at BulSU.

The Adviser's commitment are:

1. Have a high interest in the project;
2. Guide the group in the research and development process by providing timely advices;
3. Attend the group's project presentations and provide feedbacks that will ensure success;
4. Review and correct the project paper – its contents, grammar, and completeness, together with the group and prepare comments before its submission to the Research Methodology instructor/Capstone Project Coordinator;
5. Allocate regular consultation hours to the group; and
6. Promote the value of hard work, communication, and integrity throughout the development of the project by encouraging the group to work on their own research.
7. Sign necessary documents needed by the group like the Endorsement Form for Pre and Final defense, as well as the Approval Sheet which indicates the successful completion of the final project by the group. Your signature is a crucial endorsement that confirms that the project meets or exceeds the standards of excellence expected of BSIT students.

Your support in this academic endeavor is highly appreciated. Thank you and God bless!

Yours Truly,

AARON PAUL DELA ROSA, MSIT
 Capstone Project Coordinator

Capstone Project Team

BSIT 4I – Group 1

Almar Javier

Project Team Leader

Members: **Marcus Dave D. Culala, Kyle Emmanuel F. Ochoa, Jimwell S. Santiago, Jericho G. Servino**

I agree to the terms outlined above.

Virginia Natividad-Franco, PhD
 Technical Adviser



Republic of the Philippines
City of Malolos, Bulacan
 Brgy. Guinhawa
 Bulacan State University
College of Information Communications and Technology



Date: September 16, 2022

Subject: **Capstone Project Proposal “E-Vote: An Online Voting System for Student Government Elections”**

Recipient: **Bulacan Polytechnic College**

Dear Ma'am/Sir,

Greetings!

We hope all is well with you! We are BSIT-4I Students from Bulacan State University who are currently developing a Capstone Project with the working title, “E-vote: An Online Voting System for SG Elections”.

In line with this, we would like to request for your good office to coordinate with our team for the continuation of our Capstone Project with the aim of developing an online voting system for your SG Elections, this will help us know your inputs and requirements on the system.

For further questions, you may contact us at +639092095920 or almar.javier.x@bulsu.edu.ph. Your kind consideration and approval of this request will be greatly appreciated.

Thank you and God bless.

Respectfully yours,

Almar Javier

Kyle Ochoa

Jericho Servino
B.S IT – 4I Students

Marcus Dave Culala

Jimwell Santiago

Noted by:

Dr. Archie Nel De Jesus
Adviser



Bulacan State University
**COLLEGE OF INFORMATION AND
 COMMUNICATIONS TECHNOLOGY**
 Guinhawa, City of Malolos

Date: 11/11/2022

Mrs. Victoria M. Sison, MAEd
 OIC College President – Bulacan Polytechnic College

Thru:
Mrs. Marissa B. Mendoza, MSS
 Dean of Students Affairs – Bulacan Polytechnic College

Dr. Rosemarie S. Guirre
 MIS Head – Bulacan Polytechnic College

Dear Ma'am,

The undersigned presently developing a capstone project entitled "**ENVOTE: AN ONLINE VOTING SYSTEM FOR SG ELECTIONS OF BULACAN POLYTECHNIC COLLEGE**", which is in partial fulfillment of the requirements for the degree Bachelor of Science in Information Technology, major in Web and Mobile Development.

The team is already done with the development phase and is presently working with the testing and evaluation of the developed web application software.

In this regard, we would like to ask your assistance in this endeavor, by allowing our developed capstone project to be evaluated by your students, student government officials, and the MIS Office.

Hoping for your most kind support for the completion of this capstone project. Thank you and God bless!

Sincerely,

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Appendix B

Relevant Source Code

Core app (front-end)

Ongoing Elections Page (views / user / ongoingElections.blade.php)

```
<x-default :heading="$heading">

    <!-- background cover up to nav -->
    <section style = "background-
image:
url('{{asset('assets/img/Campus.jpg')}})'
"
        class = "bg-darkGreenBPC w-full
h-[300px] bg-cover bg-center bg-no-
repeat relative pt-[200px]">
        <div class = "absolute w-full h-
full bg-darkGreenBPC/[0.95] z-10 top-
0"></div>
        <div class = "w-full z-20 text-
white flex justify-center relative">
            <h2 class = "text-white text-
3xl font-medium">Ongoing
Election</h2>
        </div>
    </section>
    <section class="w-full flex flex-
wrap gap-2 bg-white" id = "results">
        <div class = "w-full h-full flex
items-center justify-center">
            loading...
        </div>
    </section>
    {{-- modal --}}
    <div id="profileModal" class="bg-
black/25 fixed top-0 left-0 bottom-0
right-0 z-50 flex justify-center items-
center hidden">
    </div>
<script type="module">
var res = ""
function loadDoc() {
    const xhttp = new XMLHttpRequest();
    xhttp.onload = function() {
        if (res != this.responseText) {

```

```
document.getElementById("results").inn
erHTML = this.responseText;
    }
    res = this.responseText
    setTimeout(loadDoc, 5000);
}
xhttp.open("GET",
"{{URL('/ongoing/results')}}", true);
xhttp.send();
}
loadDoc();
</script>
<script>
    function showProfileModal(CID){

document.querySelector("#profileModal
").classList.remove('hidden');
    const xhttp = new
XMLHttpRequest();
    xhttp.onload = function()
{document.getElementById("profileMo
dal").innerHTML = this.responseText;
}
    xhttp.open("GET",
"{{URL('/ongoing/showCandidateProfil
e')}}/" + CID, true);
    xhttp.send();
}
    function closeModalProfile(){
        modal =
document.querySelector('#profileModal
');
        modal.firstChild.remove();
        modal.classList.add('hidden');
    }
</script></x-default>


### Vote Now Page (views / user / voteNow.blade.php)


<x-default :heading="$heading">
    <section style = "background-image:
url('../assets/img/Campus.jpg')"
        class = "bg-darkGreenBPC w-full h-
[200px] bg-cover bg-center bg-no-repeat
relative pt-[200px]">
```

```

<div class = "absolute w-full h-full
bg-darkGreenBPC/[0.95] z-10 top-0">
</div> </section>
<section class="w-auto px-4 md:px-20
flex flex-col bg-white">
    <h2 class="w-full text-center text-
3xl my-3 font-bold text-darkGreenBPC
px-4">{$selection->title} - 
{$selection->campus} Campus <br>e-
Ballot</h2> <div class="">
    <!-- form for voting -->
    <form
        action="{$URL('/voteNow/confirm',
['election' => $selection])}" method =
"POST" class="flex flex-col gap-1 mt-3
mb-8">
        @csrf
        @foreach($selection-
>positions()->get() as $position)
            <div class="flex flex-wrap
justify-center">
                <!-- position title -->
                <div class = "w-full flex
justify-center py-3">
                    <h2 class = "relative
text-darkGreenBPC text-3xl md:text-4xl
font-medium z-10">
                        {$position->title}
                    </h2>
                </div>
                @if (count($position-
>candidates())->get()) == 0
                    No candidate found
                @else
                    <div class = "w-full flex flex-wrap
justify-center">
                        @foreach($position-
>candidates()->get() as $candidate)
                            <label
                                class="rounded-lg flex flex-col shadow-
md border overflow-hidden
w-[calc(50%-24px)]
xl:w-[calc(33.33%-24px)] my-3 mx-3
bg-white hover:bg-gray-100 py-5 items-
center relative">
                                <div class = "w-full flex justify-
center"><input type="radio"
name="{$position->id}"
value="{$candidate->id}"
class="hidden radio">
                            <div
                                class="absolute top-0 bottom-0 right-0
left-0 gray-cover z-[3]"></div>
                            <div class =
"w-20 aspect-square shadow-md sm:w-
32 z-[5]
rounded-full
overflow-hidden">
                                
                            </div>
                        </div>
                    </div>
                <div class="grow
flex flex-col md:flex-row md:items-end
mt-3 justify-center items-start w-fit z-
[5]">
                    <p class="text-
md sm:text-3xl font-black text-
darkGreenBPC w-min md:w-
fit">{$candidate->lastName}</p>
                    <p class="text-
2xl sm:text-3xl hidden md:block font-
black text-darkGreenBPC w-
fit">, </p>
                    <p class="text-
base md:text-lg md:font-normal text-
darkGreenBPC w-min md:w-
fit">{$candidate-
>firstName}</p>
                    <p class="text-
xs md:text-lg md:font-normal text-
darkGreenBPC w-fit">({$candidate-
>party})</p>
                </div>
            </div>
        </div>
    </form>
</div>

```

```

        </label>
    @endforeach
    </div>
    @endif
    </div>
    @endforeach
<div class = "w-full flex flex-
col-reverse md:flex-row items-center
justify-center mt-5">

    <a href =
"{{URL('ongoing')}}" class = "bg-
orangeBPC text-center text-white text-lg
w-full md:w-3/12 md:mr-2 shadow-md
hover:-translate-y-1 duration-500
hover:shadow-2xl hover:bg-red-700
font-medium rounded-full
py-2">Cancel</a>

    <input class = "bg-
greenBPC text-white text-lg w-full
md:w-3/12 my-2 md:my-0 shadow-md
hover:-translate-y-1 duration-500
hover:shadow-2xl hover:bg-
darkGreenBPC cursor-pointer
font-medium rounded-full
py-2 " type = "submit" value="Submit
Vote"></div></form></div><div>
</div>
<div class="max-w-2xl max-h-[80vh]
mx-auto">
<div id="instructionsModal" data-
modal-show="true" aria-hidden="true"
class="hidden overflow-x-hidden
overflow-y-auto fixed h-modal md:h-full
top-4 left-0 right-0 md:inset-0 z-50
justify-center items-center">
<div class="relative w-full max-w-2xl
px-4 h-full md:h-auto">
<div class="bg-white rounded-lg
overflow-auto shadow absolute top-
[50%] left-[50%] translate-x-[-50%]
translate-y-[-50%] w-[90vw] md:w-
[700px] dark:bg-gray-700">

        <div class="flex items-
start justify-between p-5 border-b-
rounded-t dark:border-gray-600">
            <h3 class="text-gray-
900 text-xl lg:text-2xl font-semibold
dark:text-
white">Instructions</h3><button
type="button" class="text-gray-400 bg-
transparent hover:bg-gray-200
hover:text-gray-900 rounded-lg text-sm
p-1.5 ml-auto inline-flex items-center
dark:hover:bg-gray-600 dark:hover:text-
white" data-modal-
toggle="instructionsModal"><svg
class="w-5 h-5" fill="currentColor"
viewBox="0 0 20 20"
xmlns="http://www.w3.org/2000/svg">
<path fill-rule="evenodd" d="M4.293
4.293a1 1 0 0 1 4.14 0L10 8.586l4.293-
4.293a1 1 0 1 1 4.14 1.414L11.414
10l4.293 4.293a1 1 0 0 1 4.14 1.414L10
11.414l-4.293 4.293a1 1 0 0 1 -4.14-
1.414L8.586 10 4.293 5.707a1 1 0 0 10-
1.414z" clip-
rule="evenodd"></path></svg></button>
        </div>
        <div class="w-full flex justify-center py-
5 px-6 lg:px-10 max-h-[300px]
overflow-auto"><ul class="w-fit flex
flex-col gap-1"><li class="w-fit"><p
class="text-gray-600 font-bold">Step
1:</p> <p class="text-sm">Select your
desired candidates from president to the
last position.</p></li> <li class="w-
fit"><p class="text-gray-600 font-
bold">Step 2:</p> <p class="text-
sm">You can see that you have selected
a candidate by checking if the card's
background turned to gray</p></li><li
class="w-fit"><p class="text-gray-600
font-bold">Step 3:</p> <p class="text-
sm">Click submit vote on the lower part
of the page.</p></li><li class="w-
fit"><p class="text-gray-600 font-
bold">Step 4:</p> <p class="text-
sm">Confirm if you have selected the
</p></li></ul></div>
    </div>
</div>

```

```

right candidates.</p></li> <li class="w-fit"><p class="text-gray-600 font-bold">Step 5:</p> <p class="text-sm">Click confirm on the lower part of the page.</p></li><li class="w-fit"><p class="text-gray-600 font-bold">Step 6:</p> <p class="text-sm">You will receive your certificate and you may print it by clicking the "View certificate" button</p></li><li class="w-fit pb-5"><p class="text-gray-600 font-bold">Step 7:</p> <p class="text-sm">Save your certificate as PDF.</p></li></ul></div>
<div class="flex space-x-2 justify-end items-center p-6 border-t border-gray-200 rounded-b dark:border-gray-600">
    <button data-modal-toggle="instructionsModal"
        type="button" class="text-white bg-greenBPC hover:bg-darkGreenBPC
        transition-all focus:ring-4 focus:ring-gray-300 rounded-lg border border-gray-200 text-sm font-medium px-5 py-2.5
        focus:z-10">I understand</button>
</div></div></div></div></div><button data-modal-toggle="instructionsModal"
        class="hidden"
        id="showInstructionsButton"></button>
</section>
<script>
    $(document).ready(function() {
        $('#showInstructionsButton').trigger('click');
        const clearButtons =
            document.querySelectorAll('.clear-button')
        clearButtons.forEach(button => {
            button.addEventListener('click', () => {
                let parent =
                    button.parentElement
            })
        })
    })
</script>
</x-default>

```

```

let radios =
parent.querySelectorAll('input')
radios.forEach(radio => {
    radio.checked = false
})
})
})
})
}

$(input[type="radio"]).click(function(e) {
    let parent =
this.parentElement.parentElement.parentElement
    let radios =
parent.querySelectorAll('input')
radios.forEach(radio => {
    if(!$(radio).prop('checked') &&
$(radio).hasClass('checked')){
        $(radio).removeClass('checked');
    }
    radio.checked = false
})
}
if($(this).hasClass('checked')){
    this.checked = false;
}
$(this).removeClass('checked')
}
else{
    this.checked = true;
    $(this).addClass('checked');
}
})
});
})
});

</script>
</x-default>

Vote Now Page \(views / user / voteNow.blade.php\)

```

```

<x-default :heading="$heading">

    <section style = "background-image:
url(..../assets/img/Campus.jpg)"
        class = "bg-darkGreenBPC w-full h-
[200px] bg-cover bg-center bg-no-repeat
relative pt-[200px]">
        <div class = "absolute w-full h-full
bg-darkGreenBPC/[0.95] z-10 top-0">
            </div>
    </section>

    <section class="w-auto px-4 md:px-
20 flex flex-col bg-white">
        <h2 class="w-full text-center text-
3xl my-3 font-bold text-darkGreenBPC
px-4">{$selection->title} - 
{$selection->campus} Campus <br>e-
Ballot</h2>
        <div class="">
            <!-- form for voting -->
            <form
                action="{$URL('/voteNow/confirm',
['election' => $selection])}" method =
"POST" class="flex flex-col gap-1 mt-3
mb-8">
                @csrf
                @foreach($selection-
>positions()->get() as $position)
                    <div class="flex flex-wrap
justify-center">
                        <!-- position title -->
                        <div class = "w-full flex
justify-center py-3">
                            <h2 class = "relative
text-darkGreenBPC text-3xl md:text-4xl
font-medium z-10">
                                {$position->title}
                            </h2>
                        </div>
                        @if(count($position-
>candidates()->get()) == 0)
                            No candidate found
                        @else
                            <div class = "w-full flex
flex-wrap justify-center items-center
gap-2">
                                <div class = "w-[calc(50%-
24px)] xl:w-[calc(33.33%-
24px)] my-3 mx-3
bg-white hover:bg-gray-100 py-5 items-
center relative">
                                    <div class = "w-
full flex justify-center">
                                        <input
                                            type="radio" name="{$position->id}"
                                            value="{$candidate->id}"
                                            class="hidden radio">
                                    <div
                                            class="absolute top-0 bottom-0 right-0
left-0 gray-cover z-[3]"></div>
                                    <div class =
"w-20 aspect-square shadow-md sm:w-
32 z-[5]" rounded-full
                                            overflow-hidden">
                                        
                                    </div>
                                </div>
                                <div class="grow
flex flex-col md:flex-row md:items-end
mt-3 justify-center items-start w-fit z-
[5]">
                                    <p class="text-
md sm:text-3xl font-black text-
">
                            </div>
                        </div>
                    </div>
                @endif
            </form>
        </div>
    </section>

```

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darkGreenBPC w-min md:w-fit">{$candidate->lastName}</p>
<p class="text-2xl sm:text-3xl hidden md:block font-black text-darkGreenBPC w-fit">,&nbsp;</p>
<p class="text-base md:text-lg md:font-normal text-darkGreenBPC w-min md:w-fit">{$candidate->firstName}&nbsp</p>
<p class="text-xs md:text-lg md:font-normal text-darkGreenBPC w-fit">({$candidate->party})</p></div></label>
@endforeach
</div>
@endif
</div>
@endforeach
<div class="w-full flex flex-col-reverse md:flex-row items-center justify-center mt-5">
<a href="{{$URL('ongoing')}}" class="bg-orangeBPC text-center text-white text-lg w-full md:w-3/12 md:mr-2 shadow-md hover:-translate-y-1 duration-500 hover:shadow-2xl hover:bg-red-700 font-medium rounded-full py-2">Cancel</a>
<input class="bg-greenBPC text-white text-lg w-full md:w-3/12 my-2 md:my-0 shadow-md hover:-translate-y-1 duration-500 hover:shadow-2xl hover:bg-darkGreenBPC cursor-pointer font-medium rounded-full py-2" type="submit" value="Submit Vote"></div></form></div>
<div class="max-w-2xl max-h-[80vh] mx-auto">
<div id="instructionsModal" data-modal-show="true" aria-hidden="true" class="hidden overflow-x-hidden overflow-y-auto fixed h-modal md:h-full

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top-4 left-0 right-0 md:inset-0 z-50 justify-center items-center">
<div class="relative w-full max-w-2xl px-4 h-full md:h-auto">
<div class="bg-white rounded-lg overflow-auto shadow absolute top-[50%] left-[50%] translate-x-[-50%] translate-y-[-50%] w-[90vw] md:w-[700px] dark:bg-gray-700">
<div class="flex items-start justify-between p-5 border-b rounded-t dark:border-gray-600">
<h3 class="text-gray-900 text-xl lg:text-2xl font-semibold dark:text-white">
Instructions
</h3>
<button type="button" class="text-gray-400 bg-transparent hover:bg-gray-200 hover:text-gray-900 rounded-lg text-sm p-1.5 ml-auto inline-flex items-center dark:hover:bg-gray-600 dark:hover:text-white" data-modal-toggle="instructionsModal">
<svg class="w-5 h-5" fill="currentColor" viewBox="0 0 20 20" xmlns="http://www.w3.org/2000/svg">
<path fill-rule="evenodd" d="M4.293 4.293a1 1 0 011.414 0L10 8.586l4.293-4.293a1 1 0 011.414 1.414L11.414 10l4.293 4.293a1 1 0 01-1.414 1.414L10 11.414l-4.293 4.293a1 1 0 01-1.414-1.414L8.586 10 4.293 5.707a1 1 0 01-1.414z" clip-rule="evenodd"></path></svg>
</button>
</div>
<div class="w-full flex justify-center py-5 px-6 lg:px-10 max-h-[300px] overflow-auto"><ul class="w-fit flex flex-col gap-1"><li class="w-

```

fit"><p class="text-gray-600 font-bold">Step 1:</p> <p class="text-sm">Select your desired candidates from president to the last position.</p> <li class="w-fit"><p class="text-gray-600 font-bold">Step 2:</p> <p class="text-sm">You can see that you have selected a candidate by checking if the card's background turned to gray</p><li class="w-fit"><p class="text-gray-600 font-bold">Step 3:</p> <p class="text-sm">Click submit vote on the lower part of the page.</p><li class="w-fit"><p class="text-gray-600 font-bold">Step 4:</p> <p class="text-sm">Confirm if you have selected the right candidates.</p><li class="w-fit"><p class="text-gray-600 font-bold">Step 5:</p> <p class="text-sm">Click confirm on the lower part of the page.</p><li class="w-fit"><p class="text-gray-600 font-bold">Step 6:</p> <p class="text-sm">You will receive your certificate and you may print it by clicking the "View certificate" button</p><li class="w-fit pb-5"><p class="text-gray-600 font-bold">Step 7:</p> <p class="text-sm">Save your certificate as PDF.</p></div> <div class="flex space-x-2 justify-end items-center p-6 border-t border-gray-200 rounded-b dark:border-gray-600"> <button data-modal-toggle="instructionsModal" type="button" class="text-white bg-greenBPC hover:bg-darkGreenBPC transition-all focus:ring-4 focus:ring-gray-300 rounded-lg border border-gray-200 text-sm font-medium px-5 py-2.5 focus:z-10">I understand</button></div> </div></div> <div> <button data-modal-toggle="instructionsModal"

```
class="hidden"
id="showInstructionsButton"></button>
</section>
<script>
$(document).ready(function(){
$('#showInstructionsButton').trigger('click');
const clearButtons =
document.querySelectorAll('.clear-button')
clearButtons.forEach(button => {
button.addEventListener('click', () => {
let parent =
button.parentElement
let radios =
parent.querySelectorAll('input')
radios.forEach(radio => {
radio.checked = false
})
})
})
})
$(`input[type="radio"]`).click(function(e) {
let parent =
this.parentElement.parentElement.parentElement
let radios =
parent.querySelectorAll('input')
radios.forEach(radio => {
if(!($(radio).prop('checked')) &&
$(radio).hasClass('checked')){
$(radio).removeClass('checked');
}
radio.checked = false
})
})
if($(this).hasClass('checked')){
this.checked = false;
}
$(this).removeClass('checked')
}
else{
this.checked = true;
}
```

```

        $(this).addClass('checked');
    }
});
});
</script>
</x-default>



## Accounts Page (views / admin / accounts.blade.php)


<x-adminLayout :heading="$heading">
<div class="ml-auto mb-6 lg:w-[75%] xl:w-[80%] 2xl:w-[85%]">
<style>
#accountsNav{
    background-color:#017106;
    color: white;
}
#accountsNav > svg * {
    fill: white;
}
#accountsNav:hover {
    color:white !important;
}
th, td {
    padding: 16px 0;
}
tr:nth-child(even) {
    background-color: #f2f2f2;
}
@media print {
    body * {
        visibility: hidden;
    }
    * {
        margin: 0;
    }
    #main-table, #main-table *,
    #logo, #logo > *, #elections-report,
    #report-filters, #query, #envote {
        visibility: visible;
    }
    #main-table {
        position: absolute;
        top: 110px;
        left: 50%; transform: translateX(-50%);
        font-size: 2rem;
        font-weight: bold;
    }
    #report-filters {
        display: block;
        position: absolute;
        top: 80px;
        left: 40px;
        font-size: 1.2rem;
    }
    #query {
        display: block;
        position: absolute;
        top: 110px;
        left: 40px;
        font-size: 1.2rem;
    }
    #envote {
        display: block;
        position: absolute;
        top: 25px;
        left: 70px;
        font-size: 2rem;
    }
</style>

```

```

<svg
  xmlns="http://www.w3.org/2000/svg"
  class="w-10 rotate-[45deg] hidden"
  viewBox="0 0 1200 1200" id="logo">
  <defs>
    <style>
      .cls-1 {
        fill: #034919;
        fill-rule: evenodd;
      }
    </style>
  </defs>
  <path class="cls-1"
    d="M426.821,218.909L511.032,115.92,
    775.3,1006.2l-79.414,83.45Z"/>
  <path class="cls-1"
    d="M416,190l93-
    92.008V1102.96L416,1014V190Z"/>
  <path id="Rectangle_3_copy"
    data-name="Rectangle 3 copy"
    class="cls-1"
    d="M784.784,189.575L692.216,97.992
    V1098.32l92.568-88.55V189.575Z"/>
  <path class="cls-1"
    d="M6.363,600L418.607,187.757l60.81
    1,60.811L67.175,660.811Z"/>
  <path id="Rectangle_2_copy"
    data-name="Rectangle 2 copy"
    class="cls-1"
    d="M66.8,541.988L478.993,954.2l-
    60.8,60.806L6,602.8Z"/>
  <path
    id="Rectangle_2_copy_3" data-
    name="Rectangle 2 copy 3" class="cls-
    1"
    d="M1193.64,601.875L781.747,1013.99
    ,720.988,953.2,1132.88,541.082Z"/>
  <path
    id="Rectangle_2_copy_3-2" data-
    name="Rectangle 2 copy 3" class="cls-
    1"
    d="M1133.25,659.869L721.413,247.777
    160.751-60.789L1194,599.08Z"/>
  <path
    id="Rectangle_2_copy_2" data-
    name="Rectangle 2 copy 2" class="cls-
    1" d="M71,557l408,0.019,0,85.991-408-
    .019Z"/>
</svg>
<h2 class="text-2xl font-bold
text-darkGreenBPC hidden"
id="envote">ENVote</h2>
<h1 class="hidden"
id="elections-report">Users
Report</h1>
<h3 class="hidden" id="report-
filters">Filters: &nbsp;&nbsp;&nbsp;
Campus:&nbsp;{ {request()->campus} }&nbsp;&nbsp;&nbsp;
Status:&nbsp;{ {request()->status} }&nbsp;&nbsp;&nbsp;
Rows:&nbsp;{ {request()->rows} }</h3>
<h3 class="hidden"
id="query">Search:
&nbsp;&nbsp;&nbsp;{ {request()->search} }</h3>
<h3 class="hidden"
id="date">Date:
&nbsp;&nbsp;&nbsp;</h3>
<button id="print-button"
class="text-xs bg-greenBPC p-2 px-3 z-
[500] flex items-center text-white
hover:bg-darkGreenBPC rounded-md
cursor-pointer fixed bottom-0 right-0
translate-x-[-15px] translate-y-[-15px]">Generate Report</button>
<script>
  const printButton =
document.getElementById("print-
button")
  printButton.addEventListener("click", () => {
    window.print()
  })
</script>
<div class="sticky z-10 top-0 h-
16 border-b bg-white lg:py-2.5">
  <div class="lg:px-6 flex items-
center flex-row-reverse lg:flex-row

```

```

justify-between space-x-4
2xl:container">
    <h5 class="text-2xl font-
medium lg:block w-full text-center lg:w-
fit text-greenBPC">Users</h5>
    <button class="w-12 h-16
ml-[-24px] border-r lg:hidden" id =
"hamburgerAdmin">
        <svg
            xmlns="http://www.w3.org/2000/svg"
            class="h-6 w-6" fill="none"
            viewBox="0 0 24 24"
            stroke="currentColor">
            <path stroke-
linecap="round" stroke-linejoin="round"
stroke-width="2" d="M4 6h16M4
12h16M4 18h16" />
        </svg>
    </button>
</div>
</div>

<div class="px-6 pt-6 flex text-
gray-500 font-semibold">
    <a href = ""
        class = "w-fit px-8 py-2
rounded-xl rounded-b-none border
overflow-auto border-gray-200 bg-
white">
        Users
    </a>
    <a href =
"{{URL('admin/students')}}"
        class = "w-fit px-8 py-2
rounded-xl rounded-b-none border
overflow-auto border-gray-200 bg-
[#e8e8e8]">
        Students
    </a>
</div>
<div class="px-6 2xl:container">
    <div class="grid gap-6 grid-
cols-1">
        <div class="md:col-span-2
lg:col-span-1" >
            <div class="h-full py-8
px-6 space-y-6 rounded-xl border
rounded-tl-none overflow-auto border-
gray-200 bg-white min-h-[calc(100vh-
120px)]">
                <div class = "flex w-
full justify-between min-w-[900px]">
                    <div class = "flex">
                        <form class =
"flex relative rounded-lg gap-1"
method="GET" action="{{
URL('/admin/accounts') }}">
                            @csrf
                            <input class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]"
                                rounded-lg
                                focus:outline-none focus:border-gray-
100"
                                type = "text"
                                placeholder =
"Search Users Here...""
                                name="search"
                                value =
"{{request()->search}}"
                            >
                            <input
                                type="submit" value="Search"
                                class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white mr-5
hover:bg-darkGreenBPC rounded-md
cursor-pointer">
                        <span class =
"text-sm text-gray-400 font-semibold h-
full flex items-center justify-
center">Filters:</span>
                        <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]">
                    </div>
                </div>
            </div>
        </div>
    </div>
</div>

```

```

    rounded-lg
focus:outline-none focus:border-gray-
100" name = "campus">
    <option
value = "">--Campus-- </option>
    <option
value = "MA" {{request()->campus ==
"MA" ? 'selected' : ""}}> Malolos
</option>
    <option
value = "OB" {{request()->campus ==
"OB" ? 'selected' : ""}}> Obando
</option>
    <option
value = "PA" {{request()->campus ==
"PA" ? 'selected' : ""}}> Pandi </option>
    <option
value = "SJ" {{request()->campus ==
"SJ" ? 'selected' : ""}}> San Jose
</option>
    <option
value = "SM" {{request()->campus ==
"SM" ? 'selected' : ""}}> San Miguel
</option>
    <option
value = "BO" {{request()->campus ==
"BO" ? 'selected' : ""}}> Bocaue
</option>
    <option
value = "SR" {{request()->campus ==
"SR" ? 'selected' : ""}}> San Rafael
</option>
    <option
value = "AN" {{request()->campus ==
"AN" ? 'selected' : ""}}> Angat </option>
    </select>
    <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]"
    rounded-lg
focus:outline-none focus:border-gray-
100" name = "program">
    <option
value = "">--Program--</option>
    <option
value = "COMSEC" {{request()->program ==
"COMSEC" ? 'selected' :
""}}>COMSEC</option>
    <option
value = "HRS" {{request()->program ==
"HRS" ? 'selected' : ""}}>HRS</option>
    <option
value = "CCM" {{request()->program ==
"CCM" ? 'selected' :
""}}>CCM</option>
    <option
value = "CIT" {{request()->program ==
"CIT" ? 'selected' : ""}}>CIT</option>
    <option
value = "BSOM" {{request()->program ==
"BSOM" ? 'selected' :
""}}>BSOM</option>
    <option
value = "BSIS" {{request()->program ==
"BSIS" ? 'selected' :
""}}>BSIS</option>
    <option
value = "BSAIS" {{request()->program ==
"BSAIS" ? 'selected' :
""}}>BSAIS</option>
    <option
value = "BTVTED" {{request()->program ==
"BTVTED" ? 'selected' :
""}}>BTVTED</option>
    <option
value = "CCS" {{request()->program ==
"CCS" ? 'selected' : ""}}>CCS</option>
    <option
value = "DTS" {{request()->program ==
"DTS" ? 'selected' : ""}}>DTS</option>
    <option
value = "ACT" {{request()->program ==
"ACT" ? 'selected' : ""}}>ACT</option>
    </select>
    <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]"

```

```

    rounded-lg
focus:outline-none focus:border-gray-
100" name = "year">
    <option
value = "">--Year--</option>
    <option
value = "1" {{request()->year == "1" ?
'selected' : ""}}>1st Year</option>
    <option
value = "2" {{request()->year == "2" ?
'selected' : ""}}>2nd Year</option>
    <option
value = "3" {{request()->year == "3" ?
'selected' : ""}}>3rd Year</option>
    <option
value = "4" {{request()->year == "4" ?
'selected' : ""}}>4th Year</option>
    <option
value = "11" {{request()->year == "11" ?
'selected' : ""}}>Grade 11</option>
    <option
value = "12" {{request()->year == "12" ?
'selected' : ""}}>Grade 12</option>
    </select>
    <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]"
    rounded-lg
focus:outline-none focus:border-gray-
100" name = "rows">
    <option
value = "">--Rows--</option>
    <option
value = "8" {{request()->rows == "8" ?
'selected' : ""}}>8</option>
    <option
value = "15" {{request()->rows == "15" ?
'selected' : ""}}>15</option>
    <option
value = "30" {{request()->rows == "30" ?
'selected' : ""}}>30</option>
    <option
value = "50" {{request()->rows == "50" ?
'selected' : ""}}>50</option>
    <option
value = "100" {{request()->rows ==
"100" ? 'selected' : ""}}>100</option>
    <option
value = "150" {{request()->rows ==
"150" ? 'selected' : ""}}>150</option>
    <option
value = "200" {{request()->rows ==
"200" ? 'selected' : ""}}>200</option>
    <option
value = "250" {{request()->rows ==
"250" ? 'selected' : ""}}>250</option>
    <option
value = "300" {{request()->rows ==
"300" ? 'selected' : ""}}>300</option>
    <option
value = "350" {{request()->rows ==
"350" ? 'selected' : ""}}>350</option>
    <option
value = "400" {{request()->rows ==
"400" ? 'selected' : ""}}>400</option>
    <option
value = "450" {{request()->rows ==
"450" ? 'selected' : ""}}>450</option>
    <option
value = "500" {{request()->rows ==
"500" ? 'selected' : ""}}>500</option>
    <option
value = "600" {{request()->rows ==
"600" ? 'selected' : ""}}>600</option>
    <option
value = "700" {{request()->rows ==
"700" ? 'selected' : ""}}>700</option>
    <option
value = "800" {{request()->rows ==
"800" ? 'selected' : ""}}>800</option>
    <option
value = "900" {{request()->rows ==
"900" ? 'selected' : ""}}>900</option>
    <option
value = "1000" {{request()->rows ==
"1000" ? 'selected' : ""}}>1000</option>
    <option
value = "2000" {{request()->rows ==
"2000" ? 'selected' : ""}}>2000</option>

```

```

                <option
value = "3000" {{request()->rows ==
"3000" ? 'selected' : ""}}>3000</option>
                <option
value = "4000" {{request()->rows ==
"4000" ? 'selected' : ""}}>4000</option>
                <option
value = "5000" {{request()->rows ==
"5000" ? 'selected' : ""}}>5000</option>
                <option
value = "9999999" {{request()->rows ==
"9999999" ? 'selected' :
""}}>All</option>
            </select>
            <input
type="submit" value="Apply"
class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white hover:bg-
darkGreenBPC rounded-md cursor-
pointer">
        </form>
    </div>
    <button class="text-
xs bg-greenBPC p-2 px-3 flex items-
center text-white hover:bg-
darkGreenBPC rounded-md" data-
modal-toggle="createUserModal"
id="openUserModal">
        <svg class = "w-3
h-3 mr-2" version="1.1" id="Capa_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0 0
42 42" style="enable-background:new 0
0 42 42;" xml:space="preserve">
            <path
style="fill:#ffffff;"
d="M37.059,16H26V4.941C26,2.224,23
.718,0,21,0s-5,2.224-
5,4.941V16H4.941C2.224,16,0,18.282,0
,21
s2.224,5,4.941,5H16v11.059C16,39.776
,18.282,42,21,42s5-2.224,5-
,21
"/>
        </div>
        <!-- Modal content -->
        <div class="bg-
white rounded-lg shadow relative
dark:bg-gray-700">
            <!-- Modal header -->
            <div
class="flex items-start justify-between p-
5 border-b rounded-t dark:border-gray-
600">
                <h3
class="text-gray-900 text-xl lg:text-2xl
font-semibold dark:text-white">
                    Add
                    User
                </h3>
                <button
type="button" class="text-gray-400 bg-
transparent hover:bg-gray-200
hover:text-gray-900 rounded-lg text-sm
p-1.5 ml-auto inline-flex items-center
dark:hover:bg-gray-600 dark:hover:text-
white" data-modal-
toggle="createUserModal">

```

```

    <svg
      class="w-5 h-5" fill="currentColor"
      viewBox="0 0 20 20"
      xmlns="http://www.w3.org/2000/svg">
      <path fill-rule="evenodd" d="M4.293
      4.293a1 1 0 01.414 0L10 8.586l4.293-
      4.293a1 1 0 11.414 1.414L11.414
      10L4.293 4.293a1 1 0 01-1.414 1.414L10
      11.414-4.293 4.293a1 1 0 01-1.414-
      1.414L8.586 10 4.293 5.707a1 1 0 010-
      1.414z" clip-
      rule="evenodd"></path></svg>
    </button>
  </div>
  <!-- Modal
body -->
<form
  action="{{ URL('/admin/accounts/add') }}"
  method="POST" onsubmit="return
  validateAccountsForm(event)"
  id="addUserForm">
  @csrf
  <div
    class="p-6 py-2 min-h-[200px] space-y-1
    flex flex-col">
    <label
      class="flex flex-col gap-1">
      <p>Student ID:</p>
      <input type="text" name="studentID"
        placeholder="Enter student ID" value =
        "" class="addUserInput border-1 border-
        gray-100 rounded-md shadow-sm
        focus:border-greenBPC focus:ring-0">
      <p
        class="text-red-500 text-xs error-
        p"></p>
      @error('studentID')
        <p
          class="text-red-500 text-
          xs">{{$message}}</p>
      {{--}}
    <script>
      document.getElementById("createUser
      Modal").classList.remove("hidden")
      document.getElementById("createUser
      Modal").classList.add("flex")
      setTimeout(() => {
        document.getElementById("createUser
        Modal").classList.add("hidden")
      }, 2000);
    </script> -->
  <!-- Modal
  footer -->
  <div
    class="flex space-x-2 justify-end items-
    center p-6 border-t border-gray-200
    rounded-b dark:border-gray-600">
    <button
      data-modal-toggle="createUserModal"
      type="button" class="text-gray-500 bg-
      white hover:bg-gray-100 focus:ring-4
      focus:ring-gray-300 rounded-lg border-
      border-gray-200 text-sm font-medium
      px-5 py-2.5 hover:text-gray-900 focus:z-
      10 dark:bg-gray-700 dark:text-gray-300
      dark:border-gray-500 dark:hover:text-
      " >
    </button>
  </div>
  <!-- Modal

```

```

white dark:hover:bg-gray-
600">Cancel</button>
                                <button
type="submit" class="text-white bg-
greenBPC hover:bg-darkGreenBPC
focus:ring-4 focus:ring-blue-300 font-
medium rounded-lg text-sm px-5 py-2.5
text-center dark:bg-blue-600
dark:hover:bg-blue-700 dark:focus:ring-
blue-800">Add
User</button></div></form></div><div
></div></div><table class="min-w-
[900px] text-sm md:text-base overflow-
auto w-full " id="main-table"> <thead
class = "" id = "thead"> <th class = "px-
2 print:hidden"><input type="checkbox"
id = "selectAll"
onclick="selectAll(this)"></th><th>Stud
ent ID</th><th>Full
Name</th><th>Program</th><th>Year/
Section</th><th>Birthday</th><th class
= "print:hidden">Password</th> <th id
= "operations" class = "w-24
print:hidden">Operations</th><th class
= "px-2 w-24 hidden print:hidden" id =
"multiSelect"><details class =
"relative"><summary class = "flex
justify-center z-0 cursor-pointer"><svg
class = "w-4 h-4" version="1.1"
id="Layer_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px" viewBox="0 0
489.8 489.8" style="enable-
background:new 0 0 489.8 489.8;"
xml:space="preserve"><g>
<g><g><path d="M469.1,182.95h-
38.2c-3.1-8.3-6.2-16.6-10.3-23.8l26.9-
26.9c8.3-8.2,8.3-20.6,0-28.9l-60-60c-
8.2-8.3-20.6-8.3-28.9,0l-27.9,27.9c-7.2-
3.1-15.5-6.2-22.7-9.3v-39.3c0-11.4-9.3-
20.7-20.7-20.7h-84.8c-11.4,0-20.7,9.3-
20.7,20.7v37.1c-8.2,3.1-15.5,6.2-
22.7,9.3l-27.9-27.9c-8.2-8.3-20.6-8.3-
28.9,0l-60,60c-8.3,8.2-
8.3,20.6,0-28.9l26.9,26.9

```

c-

4.1,8.3-7.2,15.5-10.3,23.8H20.7c-11.4,0-
20.7,9.3-
20.7,20.7v84.8c0,11.4,9.3,20.7,20.7,20.7
h35.1c3.1,8.3,6.2,16.5,10.3,24.8
l-25.8,25.8c-4.1,4.1-
11.6,16.3,0,28.9l60,60c8.2,8.3,20.6,8.3,2
8.9,0l24.8-
24.8c8.2,5.2,16.5,8.3,25.8,11.4v34.1c0,1
1.4,9.3,20.7,20.7,20.7h84.8c11.4,0,20.7-
9.3,19.7-18.5v-34.1c8.2-3.1,17.5-
7.3,25.8-
11.4l24.8,24.8c8.2,8.3,20.6,8.3,28.9,0
l60-60c8.3-8.2,8.3-20.6,0-28.9l-25.8-
25.8c4.1-8.3,7.2-16.5,10.3-
24.8h40.1c11.4,0,20.7-9.3,20.7-20.7v-
84.8C489.8,192.25,480.5,182.95,469.1,1
82.95z M445.6,266.75h-31c-9.3,0-
17.5,6.2-19.6,15.5c-4.2,15.5-9.3,30-
17.6,43.4c-5.2,8.3-
3.1,18.6,3.1,24.8l21.7,21.7l-31,31l-20.7-
20.7c-6.2-7.2-16.5-8.3-24.8-3.1c-
14.5,8.3-29,14.5-44.5,18.6 c-9.3,2-
15.5,10.3-15.5,19.6v30h-44.5v-0.1h-1v-
30c0-9.3-6.2-17.5-15.5-19.6c-15.6-4.1-
31.1-10.3-44.5-18.6 c-8.3-5.2-18.6-3.1-
24.8,3.1l-20.7,20.7l-31-31l21.7-
21.7c6.2-7.2,8.3-16.5,3.1-24.8c-8.3-
13.4-14.5-27.9-17.6-43.4 c-2-9.3-10.3-
15.5-19.6-15.5h-31v-
44.5h33.1c9.3,0,17.5-6.2,19.6-15.5c3.1-
14.5,9.3-28,17.6-41.4c5.2-8.3,3.1-18.6-
3.1-24.8 l-23.8-23.8l31-
31l23.8,23.8c7.2,6.2,16.5,8.3,24.8,3.1c1
3.5-7.2,26.9-13.4,41.4-16.5c9.3-2,15.5-
10.3,15.5-19.6v-
34.1h44.5v35.2c0,9.3,6.2,17.5,15.5,19.6
c14.5,3.1,29,9.3,41.4,16.5c8.3,5.2,18.6,3
.1,24.8-3.1l24.8-24.8l31,31l-23.8,23.8c-
7.2,6.2-8.3,16.5-
3.1,24.8c7.3,12.5,13.5,26.9,17.6,41.4c2,
9.3,10.3,15.5,19.6,15.5h33.1V266.75z"/
><path d="M242.9,132.25c-62,0-
112.7,50.7-
112.7,112.7s50.7,112.7,112.7,112.7c62,
1,0,112.7-50.7,112.7-112.7


```

</div>
      <!--
- Modal body -->

<form class = "" action="{{$url->admin->accounts->editPassword}}"
      URL('/admin/accounts/editPassword')
    }" method="POST">

@csrf

<div class="h-[150px] min-h-[200px]
overflow-auto p-6 space-y-6 flex flex-
col gap-1">

<label class="flex flex-col gap-1">

<p>Edit password:</p>

<input type="password"
name="editPass" placeholder="Enter
new password" value =""
class="border-1 border-gray-100
rounded-md shadow-sm focus:border-
greenBPC focus:ring-0">

<input type="hidden" name="studentID"
value="{{$user->studentID}}>
</label>
</div>
<!-- Modal footer -->

<div class="flex space-x-2 justify-end
items-center p-6 border-t border-gray-
200 rounded-b dark:border-gray-600">

<button data-modal-toggle="default-
modal {{$user->studentID}}"
type="button" class="text-gray-500 bg-
white hover:bg-gray-100 focus:ring-4
focus:ring-gray-300 rounded-lg border
border-gray-200 text-sm font-medium
px-5 py-2.5 hover:text-gray-900 focus:z-
10 dark:bg-gray-700 dark:text-gray-300
dark:border-gray-500 dark:hover:text-
white dark:hover:bg-gray-
600">Cancel</button><button
type="submit" class="text-white bg-
greenBPC hover:bg-darkGreenBPC
focus:ring-4 focus:ring-blue-300 font-
medium rounded-lg text-sm px-5 py-2.5
text-center dark:bg-blue-600
dark:hover:bg-blue-700 dark:focus:ring-
blue-
800">Submit</button></div></form>
</div></div></div></div><td
class="print:hidden"><input
type="checkbox" name = "selected"
onclick="selectOne()" value = "{$user-
>userID}"></td><td class = "px-
2">{$user->studentID}</td><td class
= "px-2">{$user->firstName}<
td class = "px-2">{$user->lastName}<
td class = "px-2">{$user->program}<
td class = "px-2">{$user->yearLevel}<
td class = "px-2">{$user->section}<
td class = "px-2">{$user->birthDate}<
td class = "px-2 truncate max-w-[200px]
print:hidden">{$user-
>password}</td><td class = "px-2
print:hidden"><details class = "relative
details"><summary class = "flex justify-
center z-0 cursor-pointer"><img alt="Layer 1
icon" data-bbox="469 111 528 131" /></summary><div data-bbox="558 111 890 892" style="background-color: white; position: absolute; top: -10px; left: -10px; width: 200px; height: 200px; border-radius: 50%; overflow: hidden; z-index: 1; transition: all 0.3s ease; transform: rotate(-15deg);><div data-bbox="558 111 890 892" style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; background-color: #f0f0f0; border-radius: 50%;><img alt="Layer 1
icon" data-bbox="469 111 528 131" style="width: 100%; height: 100%; object-fit: cover;"/></div></div></details></td></tr>

```

20.7,9.3-
20.7,20.7v84.8c0,11.4,9.3,20.7,20.7,20.7
h35.1c3.1,8.3,6.2,16.5,10.3,24.8l-
25.8,25.8c-4.1,4.1-
11.6,16.3,0,28.9l60,60c8.2,8.3,20.6,8.3,2
8.9,0l24.8-
24.8c8.2,5.2,16.5,8.3,25.8,11.4v34.1c0,1
1.4,9.3,20.7,20.7,20.7h84.8c11.4,0,20.7-
9.3,19.7-18.5v-34.1c8.2-3.1,17.5-
7.3,25.8-
11.4l24.8,24.8c8.2,8.3,20.6,8.3,28.9,0
l60-60c8.3-8.2,8.3-20.6,0-28.9l-25.8-
25.8c4.1-8.3,7.2-16.5,10.3-
24.8h40.1c11.4,0,20.7-9.3,20.7-20.7v-
84.8
C489.8,192.25,480.5,182.95,469.1,182.9
5z M445.6,266.75h-31c-9.3,0-17.5,6.2-
19.6,15.5c-4.2,15.5-9.3,30-17.6,43.4 c-
5.2,8.3-3.1,18.6,3.1,24.8l21.7,21.7l-
31,31l-20.7-20.7c-6.2-7.2-16.5-8.3-24.8-
3.1c-14.5,8.3-29,14.5-44.5,18.6 c-9.3,2-
15.5,10.3-15.5,19.6v30h-44.5v-0.1h-1v-
30c0-9.3-6.2-17.5-15.5-19.6c-15.6-4.1-
31.1-10.3-44.5-18.6 c-8.3-5.2-18.6-3.1-
24.8,3.1l-20.7,20.7l-31-31l21.7-
21.7c6.2-7.2,8.3-16.5,3.1-24.8c-8.3-
13.4-14.5-27.9-17.6-43.4

c-2-9.3-10.3-15.5-19.6-15.5h-31v-
44.5h33.1c9.3,0,17.5-6.2,19.6-15.5c3.1-
14.5,9.3-28,17.6-41.4c5.2-8.3,3.1-18.6-
3.1-24.8

l-23.8-23.8l31-
31l23.8,23.8c7.2,6.2,16.5,8.3,24.8,3.1c1
3.5-7.2,26.9-13.4,41.4-16.5c9.3-2,15.5-
10.3,15.5-19.6v-34.1h44.5v35.2

c0,9.3,6.2,17.5,15.5,19.6c14.5,3.1,29,9.3
,41.4,16.5c8.3,5.2,18.6,3.1,24.8-
3.1l24.8-24.8l31,31l-23.8,23.8

c-7.2,6.2-8.3,16.5-
3.1,24.8c7.3,12.5,13.5,26.9,17.6,41.4c2,
9.3,10.3,15.5,19.6,15.5h33.1V266.75z"/>

```

<script>
const openUserModal =
document.getElementById("openUserModal")
    const addUserForm =
document.getElementById("addUserForm")
        const inputFieldsAdminAccounts =
addUserForm.querySelectorAll('.addUserForm')
            function
validateAccountsForm(e) {
    inputFieldsAdminAccounts.forEach(input => {
        if (input.value === "") {
            input.nextElementSibling.innerHTML =
"Field Required"
                return (false,
e.preventDefault())
            }
            else if (input.value.length < 8)
{
            input.nextElementSibling.innerHTML =
"Field must be at least 8 characters"
                return (false,
e.preventDefault())
}
            else {
                input.nextElementSibling.innerHTML =
""
                    return true
}
})
}
</script>

</x-adminLayout>

darkGreenBPC rounded-md cursor-
pointer"></form></div>

```

```

<table class="min-w-[900px] text-sm
md:text-base overflow-auto w-full "
id="main-table">
    <thead class = "" id =
"thead">
        <th>Activity
ID</th>
        <th>Officer</th>
        <th>Activity</th>
        <th>Date</th>
    </thead>
    @if (count($logs) ==
0)
        <tr class = "text-
center max-h-[80vh]">
            <td colspan="4"
class = "text-gray-500 font-medium text-
lg">No records found</td>
        </tr>
    @else
        @foreach($logs as
$log)
            <tr class = "text-
center max-h-[80vh]">
                <td>{$log-
>id}</td>
                <td>{$log-
>officer}</td>
                <td>{$log-
>activity}</td>
                <td>{$log-
>created_at}</td>
            </tr>
        @endforeach
    @endif
</table>
<div class = "">
    {$logs->links()}</div></div>
</div></div></div></div>
</x-adminLayout>

```

Candidates Page (views / admin / candidates.blade.php)

```
<x-adminLayout :heading="$heading">
```

```

<div class="ml-auto mb-6 lg:w-[75%]
xl:w-[80%] 2xl:w-[85%]">
  <style>
    #candidatesNav{
      background-color:#017106;
      color: white;
    }
    #candidatesNav > svg * {
      fill: white;
    }
    #candidatesNav:hover {
      color:white !important;
    }
    th, td {
      padding: 16px 0;
    }
    tr:nth-child(even) {
      background-color: #f2f2f2;
    }
    @media print {
      body * {
        visibility: hidden;
      }
      * {
        margin: 0;
      }
      #main-table, #main-table *,
      #logo, #logo > *, #elections-report,
      #report-filters, #query, #envote {
        visibility: visible;
      }
      #main-table {
        position: absolute;
        top: 110px;
        left: 0;
        table-layout: fixed;
      }
      #logo {
        display: block;
        position: absolute;
        top: 20px;
        left: 20px;
        width: 3rem;
      }
    }
  </style>
  <svg
    xmlns="http://www.w3.org/2000/svg"
    class="w-10 rotate-[45deg] hidden"
    viewBox="0 0 1200 1200" id="logo">
    <defs>
      <style>
        .cls-1 {
          fill: #034919;
          fill-rule: evenodd;
        }
      </style>

```

```

    </defs>
    <path class="cls-1"
d="M426.821,218.909L511.032,115.92,
775.3,1006.2l-79.414,83.45Z"/>
    <path class="cls-1"
d="M416,190l93-
92.008V1102.96L416,1014V190Z"/>
    <path id="Rectangle_3_copy"
data-name="Rectangle 3 copy"
class="cls-1"
d="M784.784,189.575L692.216,97.992
V1098.32l92.568-88.55V189.575Z"/>
    <path class="cls-1"
d="M6.363,600L418.607,187.757l60.81
1,60.811L67.175,660.811Z"/>
    <path id="Rectangle_2_copy"
data-name="Rectangle 2 copy"
class="cls-1"
d="M66.8,541.988L478.993,954.21-
60.8,60.806L6,602.8Z"/>
    <path id="Rectangle_2_copy_3"
data-name="Rectangle 2 copy 3"
class="cls-1"
d="M1193.64,601.875L781.747,1013.99
,720.988,953.2,1132.88,541.082Z"/>
    <path id="Rectangle_2_copy_3-
2" data-name="Rectangle 2 copy 3"
class="cls-1"
d="M1133.25,659.869L721.413,247.777
160.751-60.789L1194,599.08Z"/>
    <path id="Rectangle_2_copy_2"
data-name="Rectangle 2 copy 2"
class="cls-1"
d="M71,557l408,0.019,0,85.991-408-
.019Z"/>
    </svg>
    <h2 class="text-2xl font-bold text-
darkGreenBPC hidden"
id="envote">ENVote</h2>
    <h1 class="hidden" id="elections-
report">Accounts Report</h1>
    <h3 class="hidden" id="report-
filters">Filters: &nbs
p;&nbs
p;&nbs
p; Campus:&nbs
p;{ {request()->campus} }&nbs
p;&nbs
p; Status:&nbs
p;{ {request()->status} }&nbs
p;
&nbs
p;&nbs
p;&nbs
p;
Rows:&nbs
p;{ {request()->rows} }</h3>
    <h3 class="hidden"
id="query">Search:
&nbs
p;&nbs
p;&nbs
p;{ {request()->search} }</h3>
    <h3 class="hidden"
id="date">Date:
&nbs
p;&nbs
p;&nbs
p;</h3>
    <button id="print-button"
class="text-xs bg-greenBPC p-2 px-3 z-
[500] flex items-center text-white
hover:bg-darkGreenBPC rounded-md
cursor-pointer fixed bottom-0 right-0
translate-x-[ -15px] translate-y-[ -
15px]">Generate Report</button>
    <script>
        const printButton =
document.getElementById("print-
button")
        const title = document.title

window.addEventListener('afterprint', () => {
            document.title = title
        })
    
```

window.addEventListener('beforeprint', () => {
 document.title = ""
 })

```

printButton.addEventListener("click", () => {
            window.print()
        })
    </script>
    <div class="sticky z-10 top-0 h-
16 border-b bg-white lg:py-2.5">
        <div class="lg:px-6 flex items-
center flex-row-reverse lg:flex-row
justify-between space-x-4
2xl:container">
            <h5 class="text-2xl font-
medium lg:block w-full text-center lg:w-
fit text-greenBPC">Candidates</h5>

```

```

<button class="w-12 h-16
ml-[24px] border-r lg:hidden" id =
"hamburgerAdmin"><svg
xmlns="http://www.w3.org/2000/svg"
class="h-6 w-6" fill="none"
viewBox="0 0 24 24"
stroke="currentColor">
    <path stroke-
linecap="round" stroke-linejoin="round"
stroke-width="2" d="M4 6h16M4
12h16M4 18h16" /></svg></button>
</div></div>
<div class="px-6 pt-6 flex text-gray-500
font-semibold">a href = ""
    class = "w-fit px-8 py-2
rounded-xl rounded-b-none border
overflow-auto border-gray-200 bg-
white">Applications</a><a href =
"{{URL('admin/candidates/archives')}}"
    class = "w-fit px-8 py-2
rounded-xl rounded-b-none border
overflow-auto border-gray-200 bg-
[#e8e8e8]"> Archives</a></div><div
class="px-6 2xl:container"><div
class="grid gap-6 grid-cols-1">
<div class="md:col-span-2 lg:col-span-
1"><div class="h-full py-8 px-6 space-
y-6 rounded-xl border overflow-auto
rounded-tl-none border-gray-200 bg-
white min-h-[calc(100vh-120px)]">
    <div class = "flex w-full justify-between
min-w-[900px]">
        <form class = "flex relative rounded-lg
gap-1" method="GET" action="{{
URL('/admin/candidates') }}">
            @csrf
            <input class = "border border-gray-100
p-3 pr-10 w-auto text-xs shadow-sm
shadow-black/[0.07] rounded-lg
focus:outline-none focus:border-gray-
100" type = "text" placeholder = "Search
Users Here..." name="search"
            value = "{{request()->search}}">
            <input type="submit" value="Search"
class="text-xs mr-5 bg-greenBPC p-2
px-3 flex items-center text-white
            hover:bg-darkGreenBPC rounded-md
            cursor-pointer"> <span class = "text-sm
text-gray-400 font-semibold h-full flex
items-center justify-
center">Filters:</span><select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07] rounded-lg focus:outline-
none focus:border-gray-100" name =
"campus"><option value = "">-- Campus-- </option><option value =
"MA" {{request()->campus == "MA" ?
'selected' : ""}}> Malolos
</option><option value = "OB"
{{request()->campus == "OB" ?
'selected' : ""}}> Obando
</option><option value = "PA"
{{request()->campus == "PA" ?
'selected' : ""}}> Pandi </option><option
value = "SJ" {{request()->campus ==
"SJ" ? 'selected' : ""}}> San Jose
</option><option value = "SM"
{{request()->campus == "SM" ?
'selected' : ""}}> San Miguel
</option><option value = "BO"
{{request()->campus == "BO" ?
'selected' : ""}}> Bocaue </option>
<option value = "SR" {{request()-
>campus == "SR" ? 'selected' : ""}}> San
Rafael </option><option value = "AN"
{{request()->campus == "AN" ?
'selected' : ""}}> Angat </option>
</select><select class = "border border-
gray-100 p-3 pr-10 w-auto text-xs
shadow-sm shadow-black/[0.07]
rounded-lg focus:outline-none
focus:border-gray-100" name =
"status"><option value = "">--Status--
</option><option value = "accepted"
{{request()->status == "accepted" ?
'selected' :
""}}>Accepted</option><option value =
"rejected" {{request()->status ==
"rejected" ? 'selected' :
""}}>Rejected</option>
```

```

    <option value =
"pending" {{request()->status ==
"pending" ? 'selected' :
"{} }}>Pending</option>
    </select>
    <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]
                    rounded-lg
focus:outline-none focus:border-gray-
100" name = "rows">
        <option value =
"">--Rows--</option>
        <option value =
"8" {{request()->rows == "8" ? 'selected' :
"{} }}>8</option>
        <option value =
"15" {{request()->rows == "15" ?
'selected' : "{} }}>15</option>
        <option value =
"30" {{request()->rows == "30" ?
'selected' : "{} }}>30</option>
        <option value =
"50" {{request()->rows == "50" ?
'selected' : "{} }}>50</option>
        <option value =
"100" {{request()->rows == "100" ?
'selected' : "{} }}>100</option>
        <option value =
"150" {{request()->rows == "150" ?
'selected' : "{} }}>150</option>
        <option value =
"200" {{request()->rows == "200" ?
'selected' : "{} }}>200</option>
        <option value =
"250" {{request()->rows == "250" ?
'selected' : "{} }}>250</option>
        <option value =
"300" {{request()->rows == "300" ?
'selected' : "{} }}>300</option>
        <option value =
"350" {{request()->rows == "350" ?
'selected' : "{} }}>350</option>
    </select>
    <input
type="submit" value="Apply"
class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white hover:bg-

```

```

darkGreenBPC rounded-md cursor-
pointer">
    </form>

    <button class="text-
xs bg-greenBPC p-2 px-3 flex items-
center text-white hover:bg-
darkGreenBPC rounded-md" data-
modal-toggle="createCandidateModal">
        <svg class = "w-3
h-3 mr-2" version="1.1" id="Capa_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0 0
42 42" style="enable-background:new 0
0 42 42;" xml:space="preserve">
            <path
style="fill:#ffffff;"
d="M37.059,16H26V4.941C26,2.224,23
.718,0,21,0s-5,2.224-
5,4.941V16H4.941C2.224,16,0,18.282,0
,21
s2.224,5,4.941,5H16v11.059C16,39.776
,18.282,42,21,42s5-2.224,5-
4.941V26h11.059C39.776,26,42,23.718,
42,21S39.776,16,37.059,16z"

/><g></g><g></g><g></g><g></g><g></g><g>
></g><g></g><g></g><g></g><g></g><g></g><g>
><g></g><g></g><g></g><g></g><g></g><g>
><g></g><g></g>
</svg>
        Add candidate
        </button>
    </div>
    <!-- create
candidate modal -->
        <div class = "max-
h-[80vh]">
            <div class="max-
w-2xl max-h-[80vh] mx-auto">
                <div
id="createCandidateModal" data-modal-
show="false" aria-hidden="true"
class="bg-black/25 hidden overflow-x-
hidden overflow-y-auto fixed h-full top-
0 left-0 right-0 bottom-0 md:inset-0 z-50
justify-center items-center">
                    <div
class="relative w-full max-w-2xl px-4 h-
auto">
                        <!-- Modal
content -->
                        <div
class="bg-white rounded-lg shadow
relative dark:bg-gray-700">
                            <!--
Modal header -->
                            <div
class="flex items-start justify-between p-
5 border-b rounded-t dark:border-gray-
600">
                                <h3
class="text-gray-900 text-xl lg:text-2xl
font-semibold dark:text-white">
                                    Create Candidate
                                </h3>
                                <button type="button" class="text-gray-
400 bg-transparent hover:bg-gray-200
hover:text-gray-900 rounded-lg text-sm
p-1.5 ml-auto inline-flex items-center
dark:hover:bg-gray-600 dark:hover:text-
white" data-modal-
toggle="createCandidateModal">
                                    <svg class="w-5 h-5"
fill="currentColor" viewBox="0 0 20
20"
xmlns="http://www.w3.org/2000/svg">
                                        <path fill-rule="evenodd" d="M4.293
4.293a1 1 0 011.414 0L10 8.586l4.293-
4.293a1 1 0 11.414 1.414L11.414
10l4.293 4.293a1 1 0 01-1.414 1.414L10
11.414l-4.293 4.293a1 1 0 01-1.414-
1.414L8.586 10 4.293 5.707a1 1 0 010-
1.414
                                    </svg>
                                </button>
                            </div>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </div>

```

```

1.414z" clip-
rule="evenodd">></path></svg>
</button>
</div>
<!--
Modal body -->
<form
action="{{URL('/admin/candidates/add
Candidate')}}" method="POST">
    @csrf
    <div
        class="h-[calc(100vh-300px)] min-h-
[200px] overflow-auto p-6 space-y-6
flex flex-col gap-1">
        <label class="flex flex-col gap-1">
            <p>Student ID:</p>
            <input type="text" name="studentID" id
                = "studentID" placeholder="New student
                ID" value = "" class="border-1 border-
gray-100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0"
                required>
        </label>
        <label class="flex flex-col gap-1">
            <p>Party:</p>
            <input type="text" name="party" id =
                "party" placeholder="Enter Party" value
                = "" class="border-1 border-gray-100
                rounded-md shadow-sm focus:border-
greenBPC focus:ring-0" required>
        </label>
        <label class="flex flex-col gap-1">
            <p>Election:</p>
            <select name="election_id" id =
                "elections" class="border-1 border-gray-
100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0"
                required>
                <option disabled selected> --Select
                Election-- </option>
            </select>
            </label>
            <label class="flex flex-col gap-1">
                <p>Position:</p>
                <select name="position_id" id =
                    "positions" class="border-1 border-gray-
100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0"
                    required>
                    <option disabled selected> --Select
                    Position-- </option>
                </select>
                </label>
            </div>
            <!--
            Modal footer -->
            <div
                class="flex space-x-2 justify-end items-
center p-6 border-t border-gray-200
                rounded-b dark:border-gray-600">
                <button data-modal-
                    toggle="createCandidateModal"
                    type="button" class="text-gray-500 bg-
                    white hover:bg-gray-100 focus:ring-4
                    focus:ring-gray-300 rounded-lg border
                    border-gray-200 text-sm font-medium
                    px-5 py-2.5 hover:text-gray-900 focus:z-
                    10 dark:bg-gray-700 dark:text-gray-300
                    dark:border-gray-500 dark:hover:text-

```

```

white dark:hover:bg-gray-
600">Cancel</button>

<button type="submit" class="text-white
bg-greenBPC hover:bg-darkGreenBPC
focus:ring-4 focus:ring-blue-300 font-
medium rounded-lg text-sm px-5 py-2.5
text-center dark:bg-blue-600
dark:hover:bg-blue-700 dark:focus:ring-
blue-800">Create Candidate</button>

</div>
      </form>
    </div>
  </div>
</div>

      </div>
    </div>
  <table class="min-w-
[900px] text-sm md:text-base overflow-
auto w-full " id="main-table">
    <thead class = "" id
= "thead">
      <th class = "px-2
print:hidden"><input type="checkbox"
id = "selectAll"
onclick="selectAll(this)"></th>
          <th>Student
ID</th>
          <th>Full
Name</th>
<th>Program</th>
<th>Year/Section</th>
          <th>Election</th>
          <th>Position</th>
          <th>Party</th>
          <th>Status</th>
          <th class = "w-40
print:hidden" id =
"operations">Operations</th>
    <th class = "px-2
w-40 hidden print:hidden" id =
"multiSelect">
      <details class =
"relative">
        <summary
class = "flex justify-center z-0 cursor-
pointer">
          <svg class
= "w-4 h-4"
version="1.1" id="Layer_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0 0 489.8 489.8"
style="enable-background:new 0 0 489.8
489.8;" xml:space="preserve">
            <g>
              <g>
                <g>
                  <path
d="M469.1,182.95h-38.2c-3.1-8.3-6.2-
16.6-10.3-23.8l26.9-26.9c8.3-8.2,8.3-
20.6,0-28.9l-60-60c-8.2-8.3-20.6-8.3-
28.9,0
l-
27.9,27.9c-7.2-3.1-15.5-6.2-22.7-9.3v-
39.3c0-11.4-9.3-20.7-20.7-20.7h-84.8c-
11.4,0-20.7,9.3-20.7,20.7v37.1
c-
8.2,3.1-15.5,6.2-22.7,9.3l-27.9-27.9c-
8.2-8.3-20.6-8.3-28.9,0l-60,60c-8.3,8.2-
8.3,20.6,0,28.9l26.9,26.9
c-
4.1,8.3-7.2,15.5-10.3,23.8H20.7c-11.4,0-
20.7,9.3-
20.7,20.7v84.8c0,11.4,9.3,20.7,20.7,20.7
h35.1c3.1,8.3,6.2,16.5,10.3,24.8
l-
25.8,25.8c-4.1,4.1-
11.6,16.3,0,28.9l60,60c8.2,8.3,20.6,8.3,2
8.9,0l24.8-
24.8c8.2,5.2,16.5,8.3,25.8,11.4v34.1

```



```

                </div>
                <button
type = "submit" class = "py-2 font-
normal">Reject</button>
            </form>
        <form
method = "POST" action =
"${URL('admin/candidates/multiArchive
')}">
            @csrf
            <div
class = "multiSelectInputs">
                </div>
                <button
type = "submit" class = "py-2 font-
normal">Archive</button>
            </form>
            </div>
            </details>
        </th>
    </thead>
    @if
(count($applications) == 0)
        <tr class = "text-
center max-h-[80vh]">
            <td
colspan="8" class = "text-gray-500 font-
medium text-lg">
                No records
            found
            </td>
        </tr>
    @else
        @foreach($applications as $application)
            <tr class =
"text-center">
                <td
class="print:hidden"><input
type="checkbox" name = "selected"
onclick="selectOne()" value =
"${$application->id}"></td>
                <td class =
"px-2">${$application-
>studentID}</td>
                <td class =
"px-2">${$application->firstName} ${$application->lastName}</td>
                <td class =
"px-2">${$application-
>program}</td>
                <td class =
"px-2">${$application->yearLevel} ${$application->section}</td>
                <td class =
"px-2">${$application->position()->first()->election()->first()->title} - ${$application->position()->first()->election()->first()->campus}</td>
Campus</td>
                <td class =
"px-2">${$application->position()->first()->title}</td>
                <td class =
"px-2">${$application->party}</td>
                <td class =
"px-2">${$application->status}</td>
                <td
class="flex gap-1 justify-center h-full
print:hidden">
                    @if($application->position()->first()->election()->first()->status ==
'openForFiling')
                    @if($application->status == 'accepted')
                        <form method = "POST" class = "details
flex items-center"
action="${URL('/admin/fileCandidacy/p
ending',[ 'id' => $application->id])}">
                            @csrf
                            @method('PUT')
                            <button class="bg-red-600 hover:bg-red-
800 text-white p-2 rounded-
md">Undo</button>
                        </form>
                    @endif
                @endif
            @endif
        @endforeach
    </tr>

```

```

<form method = "POST" class = "details
flex items-center"
action="{$URL('/admin/fileCandidacy/a
rchive',['id' => $application->id])}">
    @csrf

    <button class="bg-greenBPC hover:bg-
darkGreenBPC text-white p-2 rounded-
md">Archive</button>

</form>

@elseif($application->status ==
'rejected')

<form method = "POST" class = "details
flex items-center"
action="{$URL('/admin/fileCandidacy/p
ending,['id' => $application->id])}">
    @csrf

    @method('PUT')

    <button class="bg-red-600 hover:bg-red-
800 text-white p-2 rounded-
md">Undo</button>

</form>

<form method = "POST" class = "details
flex items-center"
action="{$URL('/admin/fileCandidacy/a
rchive',['id' => $application->id])}">
    @csrf

    <button class="bg-greenBPC hover:bg-
darkGreenBPC text-white p-2 rounded-
md">Archive</button>

</form>
    @else
        <form
            method = "POST" class = "details flex
            items-center"
            action="{$URL('/admin/fileCandidacy/a
            ccept,['id' => $application->id])}">
            @csrf
            @method('PUT')

            <button class="bg-greenBPC hover:bg-
            darkGreenBPC text-white p-2 rounded-
            md">Accept</button>

            </form>

            <form method = "POST" class = "details
            flex items-center"
            action="{$URL('/admin/fileCandidacy/r
            eject,['id' => $application->id])}">
                @csrf
                @method('PUT')

                <button class="bg-red-600 hover:bg-red-
                800 text-white p-2 rounded-
                md">Reject</button>

                </form>
                    @endif
                    @else
                        <form
                            method = "POST" class = "details flex
                            items-center"
                            action="{$URL('/admin/fileCandidacy/a
                            rchive,['id' => $application->id])}">
                                @csrf
                                <button class="bg-greenBPC hover:bg-
                                darkGreenBPC text-white p-2 rounded-
                                md">Archive</button>
                                </form>
                            @endif
                            </td>
                        </tr>
                
```

```

        @endforeach
    @endif
</table>
<div class = "">
    {{ $applications-
>appends(array('_token' => request()-_
>_token , 'search' => request()->search))-_
>links())}}
        </div>
        </div>
    </div>

        </div>
    </div>
</div>
<script type='text/javascript'>
$(document).ready(function(){

    $('#studentID').change(function(){
        var id = $(this).val();

    $('#elections').find('option').not(':first').re
move();
        $.ajax({
            url: '/getElections/'+id,
            type:'get',
            dataType:'json',
            success: function(response){
                if(response.id){
                    var id = response.id;
                    var name = response.title;
                    var campus =
response.campus;
                    var option = "<option
value='"+id+"'>"+name+" - "+campus+
"Campus</option>";
                    $("#elections").append(option);
                    $("#elections").val(id).trigger('change');
                }
                else{
                    })
                }
            });
    });

    $('#elections').change(function(){
        var id = $(this).val();

    $('#positions').find('option').not(':first').r
emove();
        $.ajax({
            url: '/getPositions/'+id,
            type:'get',
            dataType:'json',
            success: function(response){

                var len = 0;
                if(response != null){
                    len = response.length;
                }
                if(len > 0){
                    // Read data and create
<option >
                    for(var i=0; i<len; i++){

                        var id = response[i].id;
                        var name =
response[i].title;

                        var option = "<option
value='"+id+"'>"+name+"</option>";

                        $("#positions").append(option);
                    }
                }
            });
    });
});
</script>
<x-adminLayout>

```

Elections Page (views / admin / elections.blade.php)

```

<x-adminLayout
:heading="$heading">
@php

```

```

@endphp
<div class="ml-auto mb-6 lg:w-[75%]
xl:w-[80%] 2xl:w-[85%]">
<style>
#electionsNav{
    background-color:#017106;
    color: white;
}
#electionsNav > svg * {
    fill: white;
}
#electionsNav:hover {
    color:white !important;
}
th, td {
    padding: 16px 0;
}
tr:nth-child(even) {
    background-color: #f2f2f2;
}
@media print {
    body * {
        visibility: hidden;
    }
    * {
        margin: 0;
    }
    #main-table, #main-table *,
    #logo, #logo > *, #elections-report,
    #report-filters, #query, #envote {
        visibility: visible;
    }
    #main-table {
        position: absolute;
        top: 110px;
        left: 0;
        table-layout: fixed;
    }
    #logo {
        display: block;
        position: absolute;
        top: 20px;
        left: 20px;
        width: 3rem;
    }
    #elections-report {
        display: block;
        position: absolute;
        top: 20px;
        left: 50%;
        transform: translateX(-50%);
        font-size: 2rem;
        font-weight: bold;
    }
    #report-filters {
        display: block;
        position: absolute;
        top: 80px;
        left: 40px;
        font-size: 1.2rem;
    }
    #query {
        display: block;
        position: absolute;
        top: 110px;
        left: 40px;
        font-size: 1.2rem;
    }
    #envote {
        display: block;
        position: absolute;
        top: 25px;
        left: 70px;
        font-size: 2rem;
    }
}
</style>
<svg
    xmlns="http://www.w3.org/2000/svg"
    class="w-10 rotate-[45deg] hidden"
    viewBox="0 0 1200 1200" id="logo">
    <defs>
        <style>
            .cls-1 {
                fill: #034919;
                fill-rule: evenodd;
            }
        </style>
    </defs>

```

```

</style>
</defs>
<path class="cls-1"
d="M426.821,218.909L511.032,115.92,
775.3,1006.2l-79.414,83.45Z"/>
<path class="cls-1"
d="M416,190l93-
92.008V1102.96L416,1014V190Z"/>
<path id="Rectangle_3_copy"
data-name="Rectangle 3 copy"
class="cls-1"
d="M784.784,189.575L692.216,97.992
V1098.32l92.568-88.55V189.575Z"/>
<path class="cls-1"
d="M6.363,600L418.607,187.757l60.81
1,60.811L67.175,660.811Z"/>
<path id="Rectangle_2_copy"
data-name="Rectangle 2 copy"
class="cls-1"
d="M66.8,541.988L478.993,954.2l-
60.8,60.806L6,602.8Z"/>
<path
id="Rectangle_2_copy_3" data-
name="Rectangle 2 copy 3" class="cls-
1"
d="M1193.64,601.875L781.747,1013.99
,720.988,953.2,1132.88,541.082Z"/>
<path
id="Rectangle_2_copy_3-2" data-
name="Rectangle 2 copy 3" class="cls-
1"
d="M1133.25,659.869L721.413,247.777
160.751-60.789L1194,599.08Z"/>
<path
id="Rectangle_2_copy_2" data-
name="Rectangle 2 copy 2" class="cls-
1" d="M71,557l408,0.019,0,85.991-408-
.019Z"/>
</svg>
<h2 class="text-2xl font-bold
text-darkGreenBPC hidden"
id="envote">ENVote</h2>
<h1 class="hidden"
id="elections-report">Elections
Report</h1>

<h3 class="hidden" id="report-
filters">Filters: &nbsp;&nbsp;&nbsp;
Campus:&nbsp;{ {request()->campus} }&nbsp;&nbsp;&nbsp;
Status:&nbsp;{ {request()->status} }&nbsp;&nbsp;&nbsp;
Rows:&nbsp;{ {request()->rows} }</h3>
<h3 class="hidden"
id="query">Search:
&nbsp;&nbsp;&nbsp;{ {request()-
>search} }</h3>
<h3 class="hidden"
id="date">Date:
&nbsp;&nbsp;&nbsp;</h3>
<button id="print-button"
class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white hover:bg-
darkGreenBPC rounded-md cursor-
pointer fixed bottom-0 right-0 translate-
x-[-15px] translate-y-[-15px]">Generate
Report</button>
<script>
  const printButton =
document.getElementById("print-
button")

printButton.addEventListener("click", () => {
  window.print()
})
</script>

<div class="sticky z-10 top-0 h-
16 border-b bg-white lg:py-2.5">
  <div class="lg:px-6 flex items-
center flex-row-reverse lg:flex-row
justify-between space-x-4
2xl:container">
    <h5 class="text-2xl font-
medium lg:block w-full text-center lg:w-
fit text-greenBPC">
      Elections
    </h5>
  </div>
</div>

```

```

<button class="w-12 h-16
ml-[-24px] border-r lg:hidden" id =
"hamburgerAdmin">
    <svg
        xmlns="http://www.w3.org/2000/svg"
        class="h-6 w-6" fill="none"
        viewBox="0 0 24 24"
        stroke="currentColor">
        <path stroke-
linecap="round" stroke-linejoin="round"
stroke-width="2" d="M4 6h16M4
12h16M4 18h16" />
    </svg>
</button>

    </div>
</div>

{{{-- tabs --}}}
<div class="px-6 pt-6 flex text-
gray-500 font-semibold">
    <a href = ""
        class = "w-fit px-8 py-2
rounded-xl rounded-b-none border
overflow-auto border-gray-200 bg-
white">
        Elections
    </a>
    <a href =
"{{URL('admin/elections/archives')}}">
        class = "w-fit px-8 py-2
rounded-xl rounded-b-none border
overflow-auto border-gray-200 bg-
[#e8e8e8]">
        Archives
    </a>
</div>

    <div class="px-6 2xl:container"
id = "electionsTable">
        <div class="grid gap-6 grid-
cols-1">

            <div class="md:col-span-2
lg:col-span-1" >
                <div class="h-full py-8
px-6 space-y-6 rounded-xl rounded-tl-
none border overflow-auto border-gray-
200 bg-white min-h-[calc(100vh-
120px)]">
                    <div class = "flex w-
full justify-between min-w-[900px]">
                        <form class = "flex
relative rounded-lg gap-1"
method="GET" action="{{{
URL('/admin/elections') }}}">
                            @csrf
                            <input class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]
rounded-lg
focus:outline-none focus:border-gray-
100"
                                type = "text"
                                placeholder =
"Search Elections Here..."
                                name="search"
                                value =
"{{request()->search}}"
                            >
                            <input
type="submit" value="Search"
class="text-xs mr-5 bg-greenBPC p-2
px-3 flex items-center text-white
hover:bg-darkGreenBPC rounded-md
cursor-pointer">
                        <span class =
"text-sm text-gray-400 font-semibold h-
full flex items-center justify-
center">Filters:</span>
                            <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]
rounded-lg
focus:outline-none focus:border-gray-
100" name = "campus">

```

```

        <option value =
""">>--Campus-- </option>
        <option value =
"Malolos" {{request()->campus ==
"Malolos" ? 'selected' : ""}}> Malolos
</option>
        <option value =
"Obando" {{request()->campus ==
"Obando" ? 'selected' : ""}}> Obando
</option>
        <option value =
"Pandi" {{request()->campus ==
"Pandi" ? 'selected' : ""}}> Pandi
</option>
        <option value =
"San Jose" {{request()->campus ==
"San Jose" ? 'selected' : ""}}> San Jose
</option>
        <option value =
"San Miguel" {{request()->campus ==
"San Miguel" ? 'selected' : ""}}> San
Miguel </option>
        <option value =
"Bocaue" {{request()->campus ==
"Bocaue" ? 'selected' : ""}}> Bocaue
</option>
        <option value =
"San Rafael" {{request()->campus ==
"San Rafael" ? 'selected' : ""}}> San
Rafael </option>
        <option value =
"Angat" {{request()->campus ==
"Angat" ? 'selected' : ""}}> Angat
</option>
        </select>
        <select class =
"border border-gray-100 p-3 pr-10 w-
auto text-xs shadow-sm shadow-
black/[0.07]" rounded-lg
focus:outline-none focus:border-gray-
100" name = "rows">
        <option value =
""">>--Rows-- </option>
        <option value =
"8" {{request()->rows == "8" ? 'selected' :
""}}>8</option>
        <option value =
"15" {{request()->rows == "15" ?
'selected' : ""}}>15</option>
        <option value =
"30" {{request()->rows == "30" ?
'selected' : ""}}>30</option>
        <option value =
"50" {{request()->rows == "50" ?
'selected' : ""}}>50</option>
        <option value =
"100" {{request()->rows == "100" ?
'selected' : ""}}>100</option>
        <option value =
"150" {{request()->rows == "150" ?
'selected' : ""}}>150</option>
        <option value =
"200" {{request()->rows == "200" ?
'selected' : ""}}>200</option>
    
```

```

        <option value =
"250" {{request()->rows == "250" ?
'selected' : ""}}>250</option>
        <option value =
"300" {{request()->rows == "300" ?
'selected' : ""}}>300</option>
        <option value =
"350" {{request()->rows == "350" ?
'selected' : ""}}>350</option>
        <option value =
"400" {{request()->rows == "400" ?
'selected' : ""}}>400</option>
        <option value =
"450" {{request()->rows == "450" ?
'selected' : ""}}>450</option>
        <option value =
"500" {{request()->rows == "500" ?
'selected' : ""}}>500</option>
        <option value =
"600" {{request()->rows == "600" ?
'selected' : ""}}>600</option>
        <option value =
"700" {{request()->rows == "700" ?
'selected' : ""}}>700</option>
        <option value =
"800" {{request()->rows == "800" ?
'selected' : ""}}>800</option>
        <option value =
"900" {{request()->rows == "900" ?
'selected' : ""}}>900</option>
        <option value =
"1000" {{request()->rows == "1000" ?
'selected' : ""}}>1000</option>
        <option value =
"2000" {{request()->rows == "2000" ?
'selected' : ""}}>2000</option>
        <option value =
"3000" {{request()->rows == "3000" ?
'selected' : ""}}>3000</option>
        <option value =
"4000" {{request()->rows == "4000" ?
'selected' : ""}}>4000</option>
        <option value =
"5000" {{request()->rows == "5000" ?
'selected' : ""}}>5000</option>
    <option value =
"9999999" {{request()->rows ==
"9999999" ? 'selected' :
""}}>All</option>
</select>
<input
type="submit" value="Apply"
class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white hover:bg-
darkGreenBPC rounded-md cursor-
pointer">
</form>

<div class = "flex">
    <a href =
"{{URL('admin/elections/templates')}}"
class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white hover:bg-
darkGreenBPC rounded-md mr-2">
        <svg class =
"w-3 h-3 mr-2" version="1.1"
id="Capa_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0 0
379.281 379.281" style="enable-
background:new 0 0 379.281 379.281;" xml:space="preserve">
            <g>
                <path
style="fill:#ffffff;" d="M339.641,0h-
300c-5.514,0-10,4.486-
10,10v359.281c0,5.514,4.486,10,10,10h
300c5.514,0,10-4.486,10-10V10
C349.641,4.486,345.154,0,339.641,0z
M329.641,359.281h-
280V96.557h280V359.281z"/>
                <path
style="fill:#ffffff;"
d="M89.641,175.641h200c2.762,0,5-
2.239,5-5v-34c0-2.761-2.238-5-5h-
200c-2.762,0-5,2.239-5,5v34

```

```

C84.641,173.402,86.879,175.641,89.641
,175.641z"/>
<path
style="fill:#ffffff;" d="M89.641,322.641h91c2.762,0,5-
2.239,5-v-95c0-2.761-2.238-5-5-h-
91c-2.762,0-5,2.239-5,5v95

C84.641,320.402,86.879,322.641,89.641
,322.641z"/>
<path
style="fill:#ffffff;" d="M289.641,217.641h-70c-2.762,0-
5,2.239-
5,5v29c0,2.761,2.238,5,5,5h70c2.762,0,
5-2.239,5-v-29

C294.641,219.879,292.402,217.641,289.
641,217.641z"/>
<path
style="fill:#ffffff;" d="M289.641,282.324h-70c-2.762,0-
5,2.239-
5,5v29c0,2.761,2.238,5,5,5h70c2.762,0,
5-2.239,5-v-29

C294.641,284.563,292.402,282.324,289.
641,282.324z"/>
</g> <g></g>
<g></g><g></g><g></g><g></g><g></g><g></g><
/g><g></g><g></g><g></g><g></g><g></g><g></g><
g></g><g></g><g></g><g></g><g></g><g></g><g></g>
</svg>
Templates
</a>
<button
class="text-xs bg-greenBPC p-2 px-3
flex items-center text-white hover:bg-
darkGreenBPC rounded-md" data-
modal-toggle="createElectionModal">
<svg class =
"w-3 h-3 mr-2" version="1.1"
id="Capa_1"
xmlns="http://www.w3.org/2000/svg"

```

```

xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0
0 42 42" style="enable-background:new
0 0 42 42;" xml:space="preserve">
<path
style="fill:#ffffff;" d="M37.059,16H26V4.941C26,2.224,23
.718,0,21,0s-5,2.224-
5,4.941V16H4.941C2.224,16,0,18.282,0
,21
s2.224,5,4.941,5H16v11.059C16,39.776
,18.282,42,21,42s5-2.224,5-
4.941V26h11.059C39.776,26,42,23.718,
42,21S39.776,16,37.059,16z"
/><g></g><g></g><g></g><g></g><g></g><g></g><g></g><
g></g><g></g><g></g><g></g><g></g><g></g><g></g>
</g><g></g>
</svg>
Create Election
</button>
</div>
</div>
<!-- create election
modal -->
<div class = "max-h-
[80vh]">
<div class="max-w-
2xl max-h-[80vh] mx-auto">
<div
id="createElectionModal" data-modal-
show="false" aria-hidden="true"
class="hidden bg-black/25 overflow-x-
hidden overflow-y-auto fixed h-full
md:h-full top-0 left-0 right-0 md:inset-0
z-50 justify-center items-center">
<div
class="relative w-full max-w-2xl px-4 h-
auto">
<!-- Modal
content -->

```

```

        <div
      class="bg-white rounded-lg shadow
dark:bg-gray-700">
          <!-- Modal
header -->
          <div
      class="flex items-start justify-between p-
5 border-b rounded-t dark:border-gray-
600">
            <h3
      class="text-gray-900 text-xl lg:text-2xl
font-semibold dark:text-white">
Create an Election
            </h3>
            <button
      type="button" class="text-gray-400 bg-
transparent hover:bg-gray-200
hover:text-gray-900 rounded-lg text-sm
p-1.5 ml-auto inline-flex items-center
dark:hover:bg-gray-600 dark:hover:text-
white" data-modal-
toggle="createElectionModal">
            <svg
      class="w-5 h-5" fill="currentColor"
viewBox="0 0 20 20"
      xmlns="http://www.w3.org/2000/svg">
              <path fill-rule="evenodd" d="M4.293
4.293a1 1 0 011.414 0L10 8.586l4.293-
4.293a1 1 0 11.414 1.414L11.414
10l4.293 4.293a1 1 0 01-1.414 1.414L10
11.414l-4.293 4.293a1 1 0 01-1.414-
1.414L8.586 10 4.293 5.707a1 1 0 010-
1.414z" clip-
rule="evenodd"></path></svg>
            </button>
          </div>
          <!-- Modal
body -->
          <form
      action=" {{ URL('admin/elections/store') }} "
method="POST"
      id="createElectionForm"
      onsubmit="return
handleSubmitForm(event)">
            @csrf
            <div
      class="h-[calc(100vh-300px)] min-h-
[200px] overflow-auto p-6 space-y-6
flex flex-col gap-1">
            <label class="flex flex-col gap-1">
              <p>Election Title:</p>
              <input type="text" name="title"
id="electionTitle" placeholder="Enter
election title" class="border-1 border-
gray-100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0">
              <p
      class="text-red-500 text-xs"></p>
            @error('title')
              <p class="text-red-500 text-
xs">{{ $message }}</p>
            @enderror
            </label>
            <label class="flex flex-col gap-1">
              <p>Campus:</p>
              <select name="campus" class="border-1
border-gray-100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0">
                <option
value="Malolos">Malolos</option>
                <option
value="Obando">Obando</option>
                <option value="Pandi">Pandi</option>

```

```

<option value="San Jose">San
Jose</option>

<option value="San Miguel">San
Miguel</option>

<option
value="Bocaue">Bocaue</option>

<option value="San Rafael">San
Rafael</option>

<option value="Angat">Angat</option>

</select>

</label>

<label class="flex flex-col gap-1">
<p>Election for:</p>
<span class = "flex items-center">
<span class = "flex h-full mr-3">
<input type="radio" name="for" id =
"shsRadio" value = "shs" class="border-
1 my-auto border-gray-100 rounded-md
shadow-sm focus:border-greenBPC
focus:ring-0 mr-2">
<label for = "shsRadio">
Senior High School
</label>
</span>
<span class = "flex h-full">
<input type="radio" name="for"
checked id = "collegeRadio" value =
"college" class="border-1 my-auto
border-gray-100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0 mr-
2">
<label for = "collegeRadio">
College
</label>
</span>
</span>
</label>
<label class="flex flex-col gap-1">
<p>Election Status:</p>
<select name="status" class="border-1
border-gray-100 rounded-md shadow-sm
focus:border-greenBPC focus:ring-0">
<option value="openForFiling">Open
for Filing of Candidacy</option>
<option
value="Upcoming">Upcoming</option
>
<option
value="Ongoing">Ongoing</option>
<option
value="Completed">Completed</option
>
</select>
</label>
<label class="flex flex-col gap-1">
<p>Position Template:</p>

```

```

<select name="template" class="border-1 border-gray-100 rounded-md shadow-sm focus:border-greenBPC focus:ring-0">

    @if(count($templates) == 0)

        <option disabled selected>No templates found</option>

    @else

        @foreach($templates as $template)

            <option value="{{$template->id}}>{{$template->title}}</option>

        @endforeach

    @endif

</select>

</label>

</span>
    </div>
    <!--
Modal footer -->
    <div
        class="flex space-x-2 justify-end items-center p-6 border-t border-gray-200 rounded-b dark:border-gray-600">

        <button data-modal-toggle="createElectionModal"
                type="button" class="text-gray-500 bg-white hover:bg-gray-100 focus:ring-4 focus:ring-gray-300 rounded-lg border border-gray-200 text-sm font-medium px-5 py-2.5 hover:text-gray-900 focus:z-10 dark:bg-gray-700 dark:text-gray-300 dark:border-gray-500 dark:hover:text-white dark:hover:bg-gray-600">Cancel</button>

        <input type="submit" id="submitElectionForm" class="text-white bg-greenBPC hover:bg-darkGreenBPC focus:ring-4 focus:ring-blue-300 font-medium rounded-lg text-sm px-5 py-2.5 text-center dark:bg-blue-600 dark:hover:bg-blue-700 dark:focus:ring-blue-800" value="Create Election"/>
    </div>
</form>

</div>
</div>
</div>

<table class="min-w-[900px] text-sm md:text-base overflow-auto w-full" id="main-table">
    <thead class = "">
        <th>Election ID</th>
        <th>Name</th>
        <th>Campus</th>
        <th>Status</th>
        <th>Date Created</th>
        <th>Total Voters</th>
        <th class = "print:hidden">Operations</th>
    </thead>

    @if(count($elections) == 0)
        <tr class = "text-center max-h-[80vh]">

```

```

<td
colspan="7" class = "text-gray-500 font-
medium text-lg">No records found</td>
</tr>
@endif
@php
function
ordinal($number) {
    $ends =
array('th','st','nd','rd','th','th','th','th','th','th'
);
    if (((($number
% 100) >= 11) && (($number%100) <=
13))
        return
$number. 'th';
    else
        return
$number. $ends[$number % 10];
}
@endphp
<script>
function
donutChart(element, labelSet, dataSet,
titleName){
    const
    dataDoughnut = {
        labels:
labelSet,
        datasets: [
{
            label: "My
First Dataset",
            data:
dataSet,
            backgroundColor: [
"#017106",
            "#e2cb00",
            ],
            hoverOffset: 2,
        },
],
        configDoughnut = {
            type:
"doughnut",
            data:
dataDoughnut,
            options: {
                plugins: {
                    legend: {
                        display:
true,
                    },
                    title: {
                        display:
true,
                        text:
titleName,
                        align:
'start'
                    }
                },
                boxWidth: 20,
                boxHeight: 7
            }
        },
        chartBar = new Chart(
document.getElementById(element),
configDoughnut
);
    };
    function
chartBar(element, subjects){
        const
        dataDoughnut = {
}
    };
}
@endif

```

```

    subjects,
    labels:                                legend: {
        First Dataset",
        datasets: [                         display: true,
        {                                     position:'bottom',
        label: "My
        data:                                labels: {
        dataSet,                                boxWidth: 20,
        backgroundColor: [                     boxHeight: 7
        "#FF829F",                               }
        "#182747",                               },
        "#9F9201",                               title: {
        "#432626",                               display: true,
        "#F7D8F7",                               text:
        "#00FFD1",                               'Voted per department',
        "#31C6D4",                               align:
        "#FFF00",                               'start',
        "#5C2E7E",                               }
        "#FFABE1",                               }
        "#674747"                               }
        ],
        configDoughnut
        );
        hoverOffset: 2,
        },
        ],
        );
        configDoughnut = {
        "doughnut",
        dataDoughnut,
        type:                                }
        data:                                @foreach($elections as $selection)
        options: {                           <tr class =
        plugins: {                           "text-center max-h-[80vh]">
        }
        }
        const                                <!-- Edit
        Modal -->
        <div
        class="max-w-2xl max-h-[80vh] mx-
        auto">
        <!-- Main
        modal -->
        var chartBar =
        new Chart(
        document.getElementById(element),
        configDoughnut
        );
        </script>
        @foreach($selections as $selection)
        <tr class =
        "text-center max-h-[80vh]">
        <!-- Edit
        Modal -->
        <div
        class="max-w-2xl max-h-[80vh] mx-
        auto">
        <!-- Main
        modal -->
        
```

```

    <div
      id="default-modal{$election->id}"
      data-modal-show="false" aria-hidden="true" class="bg-black/25
      hidden overflow-x-hidden overflow-y-
      auto fixed h-modal md:h-full top-0 left-0
      right-0 md:inset-0 z-50 justify-center
      items-center">
      <div
        class="relative w-full max-w-2xl max-h-[80vh] px-4 h-full md:h-auto">
          <!--
            Modal content -->
          <div
            class="bg-white rounded-lg shadow
            relative dark:bg-gray-700">
            <!--
              - Modal header -->
            <div class="flex items-start justify-
            between p-5 border-b rounded-t
            dark:border-gray-600">
              <h3 class="text-gray-900 text-xl lg:text-
              2xl font-semibold dark:text-white">
                Election ID: {$election->id}
              </h3>
              <button type="button" class="text-gray-
              400 bg-transparent hover:bg-gray-200
              hover:text-gray-900 rounded-lg text-sm
              p-1.5 ml-auto inline-flex items-center
              dark:hover:bg-gray-600 dark:hover:text-
              white" data-modal-toggle="default-
              modal{$election->id}">
                <svg class="w-5 h-5"
                  fill="currentColor" viewBox="0 0 20
                  20"
                  xmlns="http://www.w3.org/2000/svg">
                  <path fill-rule="evenodd" d="M4.293
                  4.293a1 1 0 011.414 0L10 8.586l4.293-
                  4.293a1 1 0 11.414 1.414L11.414
                  10l4.293 4.293a1 1 0 01-1.414 1.414L10
                  11.414l-4.293 4.293a1 1 0 01-1.414-
                  1.414L8.586 10 4.293 5.707a1 1 0 010-
                  1.414z" clip-
                  rule="evenodd"></path></svg>
              </button>
            </div>
            <!--
              - Modal body -->
            <form class="" method="POST"
              action="{{$URL('admin/elections/editElection')}}"
              id="editElectionForm">
              @csrf
              <div class="h-[calc(100vh-300px)] min-
              h-[200px] overflow-auto p-6 space-y-6
              flex flex-col gap-1">
                <label class="flex flex-col gap-1">
                  <p>Election Title:</p>
                  <input type="text"
                    id="editElectionTitle"
                    name="electionTitle" placeholder="Edit
                    election title" value="{$election-
                    >title}" class="border-1 border-gray-
                    100 rounded-md shadow-sm
                    focus:border-greenBPC focus:ring-0">
                  <input type="hidden"
                    name="electionID" value="{$election-
                    >id}">
                </label><label class="hidden"><select
                  hidden name="electionCampus"
                  class="border-1 border-gray-100
                  rounded-md shadow-sm focus:border-
                  greenBPC focus:ring-0">
                  <option
                    value="Malolos">Malolos</option>
                </label>
              </div>
            </form>
          </div>
        </div>
      </div>
    </div>
  
```

```

<option
  value="Obando">Obando</option>

<option value="Pandi">Pandi</option>

<option value="SanJose">San
  Jose</option>

<option value="Sanmiguel">San
  Miguel</option>

<option
  value="Bocaue">Bocaue</option>

<option value="Sanrafael">San
  Rafael</option>

<option value="Angat">Angat</option>

</select>
</label>

<label class="flex flex-col gap-1">
  <p>Election Status:</p>
  <select name="electionStatus"
    class="border-1 border-gray-100
    rounded-md shadow-sm focus:border-
    greenBPC focus:ring-0">

    <option value="openForFiling">Open
      for Filing of Candidacy</option>

    <option
      value="Upcoming">Upcoming</option>
    <option
      value="Ongoing">Ongoing</option>
    <option
      value="Completed">Completed</option>
  </select></label>span class = "flex
  flex-col"><p>Edit Positions:</p><span
  class = "flex flex-col">
  @foreach ($selection->positions()->get()
  as $position)

  <span class = "flex relative items-center
  w-full"><input type="text"
  name="positionName[{$position->id}]" placeholder="Enter position
  name" value = "{$position->title}">
  <span class="w-full border-1 pr-20 mb-2
  border-gray-100 rounded-md shadow-sm
  focus:border-greenBPC focus:ring-0"
  required>
  </span>@endforeach
  </span></span></div>

  <!-- Modal footer -->
  <div class="flex space-x-2 justify-end
  items-center p-6 border-t border-gray-
  200 rounded-b dark:border-gray-600">

    <button data-modal-toggle="default-
    modal{$selection->id}" type="button"
    class="text-gray-500 bg-white hover:bg-
    gray-100 focus:ring-4 focus:ring-gray-
    300 rounded-lg border border-gray-200
    text-sm font-medium px-5 py-2.5
    hover:text-gray-900 focus:z-10 dark:bg-
    gray-700 dark:text-gray-300
    dark:border-gray-500 dark:hover:text-
    white dark:hover:bg-gray-
    600">Cancel</button>

    <button type="submit" class="text-white
    bg-greenBPC hover:bg-darkGreenBPC
    focus:ring-4 focus:ring-blue-300 font-
    medium rounded-lg text-sm px-5 py-2.5
    text-center dark:bg-blue-600
    dark:hover:bg-blue-700 dark:focus:ring-
    blue-800">Save</button></div></form>
  </div></div></div></div><!-- view
  election modal -->

```

```

<div class =
"max-h-[80vh]">
    <div
class="max-w-2xl max-h-[80vh] mx-
auto">
        <div
id="viewElectionModal{$election-
>id}" data-modal-show="false" aria-
hidden="true" class="hidden bg-
black/25 overflow-x-hidden overflow-y-
auto fixed h-modal md:h-full top-0 left-0
right-0 md:inset-0 z-50 justify-center
items-center">
            <div class="relative w-full max-w-2xl
px-4 h-auto"><!-- Modal content -->

            <div class="bg-white rounded-lg
shadow relative dark:bg-gray-700"
id="modal-content">

            <!-- Modal header -->

            <div class="flex items-start justify-
between p-5 border-b rounded-t
dark:border-gray-600">

                <h3 class="text-gray-900 text-xl lg:text-
2xl font-semibold dark:text-white">

                    {$selection->title} - {$selection-
>campus}

                </h3><button type="button" class="text-
gray-400 bg-transparent hover:bg-gray-
200 hover:text-gray-900 rounded-lg text-
sm p-1.5 ml-auto inline-flex items-center
dark:hover:bg-gray-600 dark:hover:text-
white" data-modal-
toggle="viewElectionModal{$election-
>id}">

                <svg class="w-5 h-5"
fill="currentColor" viewBox="0 0 20
20"
xmlns="http://www.w3.org/2000/svg">
                    <path fill-rule="evenodd" d="M4.293
4.293a1 1 0 01.414 1.414L11.414
10l4.293 4.293a1 1 0 01.414 1.414L10
11.414l-4.293 4.293a1 1 0 01-1.414-
1.414L8.586 10 4.293 5.707a1 1 0 010-
1.414z" clip-
rule="evenodd"></path></svg>

                </button>

            </div>
            <!-- Modal body -->

            <div class="h-[calc(100vh-300px)] min-
h-[200px] overflow-auto p-6 space-y-6
flex flex-col gap-1">

                @if(count($votes->where('election_id',
$selection->id)) != 0)

                <!-- voters turnout -->

                <h2 class="text-center text-2xl">Voter's
Turnout</h2>

                <div class="bg-white shadow-md border-
border-gray-100 md:px-4 rounded-lg
relative flex flex-col md:flex-row
justify-center items-center flex-wrap">

                    <div class = "flex w-[calc(100%-50px)]
flex-col md:w-1/2">

                        <canvas class=""
id="chartTurnout{$selection-
>id}"></canvas></div><div class =
"flex w-[calc(100%-50px)] md:w-1/2">
                        <canvas class=""
id="chartDepartment{$selection-
>id}"></canvas></div></div>

                    @php

                        $yearLevel = array();
                        $department = array();

                    @endphp
                
```

```

foreach($votes->where('election_id',
$selection->id) as $vote){
    if(!in_array($vote->program,
$department, true)){
        array_push($department, $vote-
>program);
    }
    if(!in_array($vote->yearLevel,
$yearLevel, true)){
        array_push($yearLevel, $vote-
>yearLevel);
    }
}
@endphp
<script>

var yearLevels = [
    @foreach ($yearLevel as $yl)
        "{$yl} - Year Level",
    @endforeach
];
var yDataSet = [
    @foreach($yearLevel as $yl)
        "{$count($votes->where('election_id',
$selection->id)->where('yearLevel',
$yl))}",
    @endforeach
];
var departments = [
    @foreach ($department as $dep)
        "{${$dep}}",
    @endforeach
]
dataSet = [
    @foreach ($department as $dep)
        {$count($votes->where('election_id',
$selection->id)->where('program',
$dep))}},
    @endforeach
]
donutChart('chartTurnout{$selection-
>id}', yearLevels, yDataSet, "Total
Voters: "+ {$count($votes-
>where('election_id', $selection->id))} )
chartBar('chartDepartment{$selection-
>id}', departments, dataSet)
</script>
@endif
@foreach($selection->positions()->get()
as $position)
    <!-- Position -->
    <h2 class="text-center text-
2xl">{$position->title}</h2>
    @if(count($position->candidates()->get()) == 0)
        <div class = "w-full text-center"> No
        candidates found</div>

```

```

@else
    <h3 class=" text-darkGreenBPC font-
bold text-2xl pb-2 mt-3 flex items-
end">{ ${candidate->votes} }</h3>
    <p class = "font-normal ml-2 text-base
text-gray-700">Votes</p>
    <div class="w-11/12 md:w-full h-[8px]
rounded-full overflow-hidden bg-gray">
        <div class="w-[0%] h-full bg-
darkGreenBPC" id = "P001"></div>
    </div></div></div></div>
@endforeach
@endif
@endforeach
</div>
<!-- Modal footer --&gt;
&lt;div class="flex space-x-2 justify-end
items-center p-6 border-t border-gray-
200 rounded-b dark:border-gray-600"&gt;
    &lt;button data-modal-
toggle="viewElectionModal{ ${election-
&gt;id} }" type="button" class="text-gray-
500 bg-white hover:bg-gray-100
focus:ring-4 focus:ring-gray-300
rounded-lg border border-gray-200 text-
sm font-medium px-5 py-2.5 hover:text-
gray-900 focus:z-10 dark:bg-gray-700
dark:text-gray-300 dark:border-gray-500
dark:hover:text-white dark:hover:bg-
gray-600"&gt;Cancel&lt;/button&gt;
    &lt;form method="POST"&gt;
</pre>

```

```

action="{!!URL('admin/elections/report')
}}>

@csrf

<input type="hidden" name="id"
value="{!!$election->id} }>

<button id="print-results" type="submit"
class="text-white bg-greenBPC
hover:bg-darkGreenBPC focus:ring-4
focus:ring-gray-300 rounded-lg border
border-gray-200 text-sm font-medium
px-5 py-2.5 focus:z-10 dark:bg-gray-700
dark:text-gray-300 dark:border-gray-500
dark:hover:text-white dark:hover:bg-
gray-600" >Print</button>

</form></div></div></div>
</div></div></div>
<td class =
"px-2 print:w-[20px]">{!!$election-
>id}</td>
<td class =
"px-2 print:w-[20px]">{!!$election-
>title}</td>
<td class =
"px-2 print:w-[20px]">{!!$election-
>campus}</td>
<td class =
"px-2 print:w-[20px]">{!!$election-
>status}</td>
<td class =
"px-2 print:w-[20px]">{!!$election-
>created_at}</td>
<td class =
"px-2 print:w-[20px]">{!!count($votes-
>where('election_id', $selection-
>id))} }</td>
<td class =
"px-2 print:hidden">
<details
class = "relative">
<summary class = "flex justify-center z-
0 cursor-pointer">
<svg
class = "w-4 h-4"
version="1.1" id="Layer_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0 0 489.8 489.8"
style="enable-background:new 0 0 489.8
489.8;" xml:space="preserve">
<g><g><g>
<path d="M469.1,182.95h-38.2c-3.1-
8.3-6.2-16.6-10.3-23.8l26.9-26.9c8.3-
8.2,8.3-20.6,0-28.9l-60-60c-8.2-8.3-
20.6-8.3-28.9,0
I-27.9,27.9c-7.2-3.1-15.5-6.2-22.7-9.3v-
39.3c0-11.4-9.3-20.7-20.7-20.7h-84.8c-
11.4,0-20.7,9.3-20.7,20.7v37.1
c-8.2,3.1-15.5,6.2-22.7,9.3l-27.9-27.9c-
8.2-8.3-20.6-8.3-28.9,0l-60,60c-8.3,8.2-
8.3,20.6,0,28.9l26.9,26.9
c-4.1,8.3-7.2,15.5-10.3,23.8H20.7c-
11.4,0-20.7,9.3-
20.7,20.7v84.8c0,11.4,9.3,20.7,20.7,20.7
h35.1c3.1,8.3,6.2,16.5,10.3,24.8
I-25.8,25.8c-4.1,4.1-
11.6,16.3,0,28.9l60,60c8.2,8.3,20.6,8.3,2
8.9,0l24.8-
24.8c8.2,5.2,16.5,8.3,25.8,11.4v34.1
c0,11.4,9.3,20.7,20.7,20.7h84.8c11.4,0,2
0.7-9.3,19.7-18.5v-34.1c8.2-3.1,17.5-
7.3,25.8-
11.4l24.8,24.8c8.2,8.3,20.6,8.3,28.9,0
l60-60c8.3-8.2,8.3-20.6,0-28.9l-25.8-
25.8c4.1-8.3,7.2-16.5,10.3-
24.8h40.1c11.4,0,20.7-9.3,20.7-20.7v-
84.8

```

C489.8,192.25,480.5,182.95,469.1,182.9
5z M445.6,266.75h-31c-9.3,0-17.5,6.2-
19.6,15.5c-4.2,15.5-9.3,30-17.6,43.4

c-5.2,8.3-3.1,18.6,3.1,24.8l21.7,21.7l-31,31l-20.7-20.7c-6.2-7.2-16.5-8.3-24.8-3.1c-14.5,8.3-29,14.5-44.5,18.6

c-9.3,2-15.5,10.3-15.5,19.6v30h-44.5v-0.1h-1v-30c0-9.3-6.2-17.5-15.5-19.6c-15.6-4.1-31.1-10.3-44.5-18.6

c-8.3-5.2-18.6-3.1-24.8,3.11-20.7,20.7l-
31-31l21.7-21.7c6.2-7.2,8.3-16.5,3.1-
24.8c-8.3-13.4-14.5-27.9-17.6-43.4

c-2-9.3-10.3-15.5-19.6-15.5h-31v-
44.5h33.1c9.3,0,17.5-6.2,19.6-15.5c3.1-
14.5,9.3-28,17.6-41.4c5.2-8.3,3.1-18.6-
3.1-24.8

l-23.8-23.8l31-
31l23.8,23.8c7.2,6.2,16.5,8.3,24.8,3.1c1
3.5-7.2,26.9-13.4,41.4-16.5c9.3-2,15.5-
10.3,15.5-19.6v-34.1h44.5v35.2

c0,9.3,6.2,17.5,15.5,19.6c14.5,3.1,29,9.3
,41.4,16.5c8.3,5.2,18.6,3.1,24.8-
3.1l24.8-24.8l31,31l-23.8,23.8

c-7.2,6.2-8.3,16.5-
3.1,24.8c7.3,12.5,13.5,26.9,17.6,41.4c2,
9.3,10.3,15.5,19.6,15.5h33.1V266.75z"/
>

<path d="M242.9,132.25c-62,0-
112.7,50.7-
112.7,112.7s50.7,112.7,112.7,112.7c62.
1,0,112.7-50.7,112.7-112.7

S304.9,132.25,242.9,132.25z
M242.9,317.35c-39.3,0-72.4-32.1-72.4-
72.4c0-39.3,32.1-72.4,72.4-
72.4c40.3,0,72.4,32.1,72.4,72.4

C315.3,284.25,282.2,317.35,242.9,317.3
5z"/>

</g>

</svg>

</summary>

<div

```
class = "absolute ml-[-50px] md:ml-[-12px] mt-2 rounded-md w-[150px] shadow-md flex flex-col border bg-white z-[9]">
```

```
<button class = "py-2" data-modal-toggle="default-modal">{{\$election->id}}>Edit</button>
```

```
<form action =  
"{{URL('admin/elections/archive',  
['election' => $election->id])}}" method  
= "POST">
```

@csrf

```
<button class = "py-2">
```

Archive

</button>

</form>

```
<button class = "py-2" data-modal-  
toggle="viewElectionModal {{ $election-  
>id }}>View</button>
```

```
</div>
</details>
</td>
</tr>
```

```

        @endforeach
    @endif
    </table>
    <div class = "">
        {{$selections-
>appends(array('_token' => request()-_
>_token , 'search' => request()->search))->links())}}
            </div>
        </div>
    </div>

        </div>
    </div>

</div>
<script>
    const electionForm =
document.getElementById("createElecti
onForm")
    const titleField =
electionForm.querySelector("#electionTi
tle")
    function handleSubmitForm(e) {
        const positions =
electionForm.querySelectorAll(".positio
nField")
        const posArr =
Array.from(positions)
        if (titleField.value == "") {
            titleField.nextElementSibling.innerText
= "Field Required"
            return false
        }
        else if (titleField.value.length
< 8) {
            titleField.nextElementSibling.innerText
= "Field must be at least 8 characters"
            return false
        }
    $.ajax({
        url: "{{
            URL('admin/elections/store') }}"
        method: "POST",
        headers: {
            'X-CSRF-TOKEN':
            $('meta[name=_token"]').attr('content')
        },
        data: {
            title: titleField.value,
            positionName:
posArr.map(position => {
            return position.value
        })
        }
    }).done((res) => {
        }).fail(function(jqXHR,
textStatus, errorThrown) {
        console.log("Error: " +
textStatus);
    })
}
</script>
</x-adminLayout>

```

Elections Page for Officers (views / officer / passwords.blade.php)

```

<x-officerLayout :heading="$heading">
    <!-- contents -->
    <div class="ml-auto mb-6 lg:w-[75%]
xl:w-[80%] 2xl:w-[85%]">
        <style>
            #manageCandidatesNav{
                background-color:#017106;
                color: white;
            }
            #manageCandidatesNav > svg *
        {
            fill: white;
        }

```

```

#manageCandidatesNav:hover {
    color:white !important;
}
</style>
<!-- header -->
<div class="sticky z-10 top-0 h-16 border-b bg-white lg:py-2.5">
    <div class="lg:px-6 flex items-center flex-row-reverse lg:flex-row justify-between space-x-4 2xl:container">
        <h5 class="text-2xl font-medium lg:block w-full text-center lg:w-fit text-greenBPC">
            Manage Candidates
        </h5>

        <button class="w-12 h-16 ml-[-24px] border-r lg:hidden" id="hamburgerAdmin">
            <svg
                xmlns="http://www.w3.org/2000/svg"
                class="h-6 w-6" fill="none"
                viewBox="0 0 24 24"
                stroke="currentColor">
                <path stroke-linecap="round" stroke-linejoin="round" stroke-width="2" d="M4 6h16M4 12h16M4 18h16" />
            </svg>
        </button>
    </div>
</div>

<div class="px-6 pt-6 2xl:container">
    <div class="grid gap-6 grid-cols-1">

        <div class="md:col-span-2 lg:col-span-1">
            <div class="py-8 px-6 space-y-6 rounded-xl border overflow-auto border-gray-200 bg-white h-[calc(100vh-120px)]">
                <!-- search function -->
                <form class="flex flex-col md:flex-row relative rounded-lg gap-1" action="{{URL('officer/candidates')}}" @csrf>
                    <input class="border border-gray-100 p-3 pr-10 w-auto text-xs shadow-sm shadow-black/[0.07] rounded-lg focus:outline-none focus:border-gray-100" type="text" name="search" placeholder="Search Elections Here...">
                    <button type="submit" class="text-xs h-fit bg-greenBPC p-3 px-3 flex items-center text-white hover:bg-darkGreenBPC rounded-md w-fit">
                        Search
                    </button>
                </form>
                <!-- cards container -->
                <div class="flex w-full flex-wrap" @foreach ($selections as $selection)>
                    <div class="border border-gray-100 shadow-md w-full flex flex-col justify-center items-center py-4 rounded-md my-2 md:w-[calc(50%-16px)] md:mx-2 xl:w-[calc(33.33%-16px)] 2xl:w-[calc(25%-16px)]">
                        <h2 class="font-medium text-gray-700 flex justify-center w-full mb-3 text-center px-3 line-clamp-1">
                            {{{$selection->title}}} - {{$selection->campus}}
                        </h2>
                    </div>
                </div>
            </div>
        </div>
    </div>
</div>

```

```

    @if($election-
>status == 'Completed')
        <a href =
"{{URL('officer/candidates', ['election'-
=> $election->id])}}" class = "text-sm
bg-greenBPC flex flex-row items-center
justify-center w-9/12 py-2 rounded-md
md hover:bg-darkGreenBPC transition-
all">
            <svg class
= "fill-white w-4 h-4 mr-3" viewBox="0
0 20 20"
xmlns="http://www.w3.org/2000/svg">
<path d="M0 3h20v2H0V3zm0
4h20v2H0V7zm0 4h20v2H0v-2zm0
4h20v2H0v-2z"/></svg>
            <span
class = "text-white">
                View
                Candidates
            </span>
        </a>
    @else
        <a href =
"{{URL('officer/candidates', ['election'-
=> $election->id])}}" class = "text-sm
bg-greenBPC flex flex-row items-center
justify-center w-9/12 py-2 rounded-md
md hover:bg-darkGreenBPC transition-
all">
            <svg class
= "fill-white w-4 h-4 mr-3"
version="1.1" id="Layer_1"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/x
link" x="0px" y="0px"
viewBox="0 0 330 330" style="enable-
background:new 0 0 330 330;"'
xml:space="preserve">
                <g
id="XMLID_23_">
                    <path
id="XMLID_24_"
d="M75,180v60c0,8.284,6.716,15,15,15
h60c3.978,0,7.793-1.581,10.606-
4.394l164.999-165
c5.858-5.858,5.858-15.355,0-21.213l-
60-60C262.794,1.581,258.978,0,255,0s-
7.794,1.581-10.606,4.394l-165,165
C76.58,172.206,75,176.022,75,180z
M105,186.213L255,36.213L293.787,751
-150,150H105V186.213z"/>
                    <path
id="XMLID_27_" d="M315,150.001c-
8.284,0-15,6.716-
15,15V300H30V30H165c8.284,0,15-
6.716,15-15s-6.716-15-15H15
C6.716,0,0,6.716,0,15v300c0,8.284,6.71
6,15,15,15h300c8.284,0,15-6.716,15-
15V165.001C330,156.716,323.284,150.
001,315,150.001z"
                />
            </svg>
            <span
class = "text-white">
                Edit
                Candidates
            </span>
        </a>
    @endif
</div>
    @endforeach
</div>
</div>
</div>
</div>
</x-officerLayout>

```

Appendix C

Research Instruments

**ENVote: An Online Voting System for SG Elections of Bulacan Polytechnic College -
IT Expert**
Good day!

We, fourth year students of Bulacan State University taking the course Bachelor of Science in Information Technology under Web and Mobile Application Development Track, are working on our capstone project entitled "ENVote: An Online Voting System for SG Elections of Bulacan Polytechnic College", a web-based online voting system that will be used by Bulacan Polytechnic College on their Student Government Elections.

In partial fulfillment of our capstone project, we would like to request that you spend a few minutes to complete our survey to evaluate the quality of our system as defined by ISO/IEC 25010:2011 standards.

In accordance with the Data Privacy Act of 2012, responses will be treated with utmost confidentiality. Data will be used exclusively for academic research purposes and will not be disclosed without proper consent.

Participants who initially agrees to participate in this study has the right to withdraw from the study at any point and the right to refuse to answer any particular question(s) or participate in a particular set of procedures.

Instructions:

1. Kindly watch our video demonstrations here:

User Side - Users are the voters/students of Bulacan Polytechnic College, can perform actions such as voting, viewing of announcements, and modify their profile. Link: <https://youtu.be/79u8nLxfne4>

Officer - Officers are the Student Government Officials of Bulacan Polytechnic College, an officer can monitor all ongoing elections, manage candidate's profiles, and manage announcements. Link: <https://youtu.be/5dO1YunTtPI>

Admin Side - Administrators will handle elections management, user management, and candidates management. Link: <https://youtu.be/5Bxs8twlMOw>

2. After watching the demonstrations, you may navigate our system here: bulacanpolytechniccollege.en-vote.com/login

(All names and information inside this website is not real and for testing purposes only.)

If you have any questions or concerns, you may reach us through our email:

almar.javier.x@bulsu.edu.ph

jericho.servino.g@bulsu.edu.ph

kyleemmanuel.choa.f@bulsu.edu.ph

jimwell.santiago.s@bulsu.edu.ph

marcusdave.culala.d@bulsu.edu.ph

Thank you for your time and cooperation!

Respondent's Details

Name (optional)

Email (optional)

Please evaluate the developed web application in terms of its acceptability by using the given scale below selecting its corresponding numerical rating.

Scale	Descriptive Interpretation
5	Extremely Acceptable
4	Very Acceptable
3	Acceptable
2	Fairly Acceptable
1	Not Acceptable

Acceptability of System in terms of Functional Suitability

Functional Suitability	5	4	3	2	1
Functional Completeness. The developed system functions cover all the specified tasks and user objectives.					
Functional Correctness. The developed system provide the correct results with the needed degree of precision.					
Functional Appropriateness. The developed system functions facilitate the accomplishment of specified tasks and objectives.					

Acceptability of System in terms of Performance Efficiency

Performance Efficiency	5	4	3	2	1
Time-behavior. The performance response and processing times and throughput rates of the developed system, when performing its functions, meet requirements.					
Resource Utilization. The performance amounts and types of resources used by the developed system, when performing its functions, meet requirements.					
Capacity. The maximum limits of the developed system parameters meet requirements.					

Acceptability of System in terms of Compatibility

Compatibility	5	4	3	2	1
Co-existence. The developed system can perform its required functions efficiently while sharing a common environment and resources with other products, without detrimental impact on any other product.					
Interoperability. Degree to which two or more systems, or components can exchange information and use the information that has been exchanged.					

Acceptability of System in terms of Usability

Usability	5	4	3	2	1
Appropriateness and recognizability. Users can recognize whether a product or system is appropriate for their needs.					
Learnability. The developed system can be used by specified users to achieve specific goals of learning to use the system with effectiveness, efficiency, freedom from risk and satisfaction in a specified context of use.					
Operability. Degree to which a product or system has attributes that make it easy to operate and control.					
User error protection. The system protects users against making errors.					
User interface aesthetics. The user interface enables pleasing and satisfying interaction for the user.					
Accessibility. The developed system can be used by people with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use.					

Acceptability of System in terms of Security

Security	5	4	3	2	1
Confidentiality - The developed system ensures that data are accessible only to those authorized to have access.					
Integrity - The developed system can prevent unauthorized access to, or modification of, computer programs or data.					
Non-repudiation - Degree to which actions or events can be proven to have taken place so that the events or actions cannot be repudiated later.					
Accountability - Degree to which the actions of an entity can be traced uniquely to the entity.					
Authenticity - Degree to which the identity of a subject or resource can be proved to be the one claimed.					

Acceptability of System in terms of Reliability

Reliability	5	4	3	2	1
Maturity - Degree to which a system, product or component meets needs for reliability under normal operation.					
Availability - Degree to which a system, product or component is operational and accessible when required for use.					
Fault tolerance - Degree to which a system, product or component operates as intended despite the presence of hardware or software faults.					
Recoverability - Degree to which, in the event of an interruption or a failure, a product or system can recover the data directly affected and re-establish the desired state of the system.					

Acceptability of System in terms of Maintainability

Maintainability	5	4	3	2	1
Modularity - The developed system is composed of discrete components such that a change to one component has minimal impact on other components.					
Reusability - Degree to which an asset can be used in more than one system, or in building other assets.					
Analysability - Degree of effectiveness and efficiency with which it is possible to assess the impact on a product or system of an intended change to one or more of its parts, or to diagnose a product for deficiencies or causes of failures, or to identify parts to be modified.					
Modifiability - The developed system can be effectively and efficiently modified without introducing defects or degrading existing product quality.					
Testability - Degree of effectiveness and efficiency with which test criteria can be established for a system, product or component and tests can be performed to determine whether those criteria have been met.					

Acceptability of System in terms of Portability

Portability	5	4	3	2	1
Adaptability - The developed system can effectively and efficiently be adapted for different or evolving hardware, software or other operational or usage environments.					
Installability - Degree of effectiveness and efficiency with which a product or system can be successfully installed and/or uninstalled in a specified environment.					
Replaceability - Degree to which a product can replace another specified software product for the same purpose in the same environment.					

Comments/Suggestions

Any comments or suggestions will be greatly appreciated

Appendix D

Plagiarism Check Certificate



Republic of the Philippines
BULACAN STATE UNIVERSITY
Guinhawa, City of Malolos, Bulacan 3000

PLAGIARISM CERTIFICATION

This is to certify that the research paper detailed below has been evaluated by online anti-plagiarism software. The contents and material were found **very satisfactory** and below the permissible limit of content copied.

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Document type	: CAPSTONE PROJECT
Name of Researcher/s	: Almar Javier Marcus Dave C. Culala Kyle Emmanuel F. Ochoa Jimwell S. Santiago Jericho G. Servino
Date	: December 12, 2022
Plag Level	: 6% overall
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Appendix E*IMRaD Format*

**ENVOTE: AN ONLINE VOTING SYSTEM FOR STUDENT GOVERNMENT
ELECTIONS OF BULACAN POLYTECHNIC COLLEGE**

by:

Almar Javier

Marcus Dave D. Culala

Kyle Emmanuel F. Ochoa

Jimwell S. Santiago

Jericho G. Servino

College of Information and Communications Technology, Bulacan State University, Malolos, Bulacan

ABSTRACT

This research study was developed to provide an online voting system for the student government elections of Bulacan Polytechnic College (BPC). The system covers voting processes, filing of candidacy, viewing candidate profiles, managing announcements, managing elections, managing user accounts, managing candidates, and report generations. Frequent IT issues that arise when deploying a web-based management information system were also discussed in this study. This study also focused on protecting the integrity of the Data Privacy Act of 2012. This study was evaluated using the ISO/IEC 25010:2011 software quality evaluation criteria by its relevant users and experts. The researchers conducted interviews and surveys to obtain the necessary data for this study. The descriptive approach was the research methodology used for this study. This method was applicable to this study because it aims to describe and solve the problems regarding the previous manual election processes of Bulacan Polytechnic College. The researchers utilized the Agile methodology in developing the web-based system. It was utilized to provide the desired output rapidly while enabling the researchers to go back to earlier steps without completing the entire cycle. Using the ISO/IEC 25010:2011 software quality evaluation criteria, the overall mean of the study was 4.32 and 4.22, both with the descriptor "Very Acceptable", indicating that the system was regarded well by professionals and end users, respectively.

Keywords: *Election, Student Government, Online Voting, Web-based System, Bulacan Polytechnic College, Information Technology, Web Development*

Introduction

An online voting system is a system that is created specifically to help a group of people to elect their officials and help the voter to cast their votes. Usmani et. al. (2017), stated that the voting system is the backbone of every organization. Online Voting Platforms have the most helpful algorithm for voters and organizers of elections, it requires

less effort for both (Govindaraj et al., 2020). According to Mohanty et al. (2019), manual tallying of votes can risk the confidence of the public about the accuracy of the results, while it could be expensive and time-consuming. The study designed and developed an online voting platform that enables administrators to manage elections in different campuses simultaneously.

Bulacan Polytechnic College (BPC) was known as the Bulacan Public Community College (BPCC). It was formed on June 8, 1971, with the Secretary of Education's assent, and began operations in 1972. From 1972 to. In 2003, BPC accomplished a big achievement, BPC was established in different municipalities of Bulacan, including San Miguel, Obando, San Jose del Monte, Bocaue, Angat, San Rafael and Pandi. Then, the Senior High School level was a new addition to BPC based on the K-12 program of the government.

Project Objectives

The main objective of the study is to design and develop a web-based online voting system for Bulacan Polytechnic College used for student government elections to enhance the process of student government elections.

Specifically, the researchers aim to consider the following objectives:

1. To integrate the following features on a web-based online voting system:
 1. Candidate Selection;
 2. Certificate Generation;
 3. Candidate Profile View;
 4. Tally of Votes Display;
 5. Announcements; and

6. Filing of Candidacy;
2. To integrate a management system on the developed online voting system that allows organizers of the SG election to perform the following:
 1. Administrative Privileges; and
 1. Report Generation;
 2. Accounts Management;
 3. Elections Management; and
 4. Candidate Management;
 2. Student Government Privileges;
 1. Announcement Management; and
 2. Candidate Platforms Management;
3. To evaluate the developed system using the ISO/IEC 25010:2011 software quality evaluation criteria as perceived by the respondents on the following:
 1. Functional Suitability;
 2. Performance Efficiency;
 3. Compatibility;
 4. Usability;
 5. Security;
 6. Reliability;
 7. Maintainability; and
 8. Portability;

Literature Review

Evolution of Voting Process Based on Online Voting System

Guevarra (2018) concluded that the digital era had transformed the way we live our lives. Most of our transactions were too complicated before, and now it becomes a simple task by just clicking or swiping a screen. The internet led to so many advancements, from social networking to online voting. The internet voting system became the fastest advancement available for voters in a certain country.

In terms of the experience of the voters, while using an online voting system, de los Santos et al. (2020) the development of the Web App transformed the students' voting experience. The said system eliminates the workload and redundancy task of counting the casted ballots manually on their Supreme Student Government (SSG) election. It offers accuracy unlike the paper-based method of election and provides security and reliability of the day during the election in the university, since it is web-based, its flexibility and compatibility to run on multiple devices are highlighted.

As Lakshmi et al. (2015) described for a voting system to be ideal, it must meet four criteria: anonymity for the voter's privacy, scalability for a larger group of people or a larger community, speed to avoid wasting the voter's time, and accuracy to display the final tally correctly.

The online voting system focuses on its goal as a tool to reduce the time for tallying votes. The system also makes the process of voting manageable, allowing the admin and student government to manage and handle the process for elections. The system could be accessed across the internet, allowing all students to use the system. Using an electronic voting system, voting will become much more reliable and much faster to use.

Methods and Design

Research Design

The researchers will use descriptive research to conduct the study. Because the study conducted interviews with clients to understand the requirements and used questionnaires to analyze the system quality by the standard of ISO/IEC 25010:2011.

Project Development

The researchers will use the Software Development Life Cycle (SDLC) to create the system. According to Gurung(2020), the Software Development Life Cycle is focused on a step that involves developing software in every phase. Agile centers on the idea of iterative development, enabling it to keep up with changes in requirements.

Plan. During the planning phase, the researchers observed and find the solution to the problem that the client has.

Requirement. During the requirements phase, the requirements gradually change. agile methodology can help the researchers adapt to the iteration.

Design. During the design phase, the researchers use Adobe XD for creating the prototype of the system and use various diagramming tools for the flowchart, context diagram, data flow diagram, use case diagram, entity relationship diagram, and visual table of contents.

Development. During the project development phase, the developers use JavaScript and Cascading Style Sheets (CSS) for the front end and PHP: Hypertext Preprocessor for the back end.

Testing. During the testing phase, the researchers utilized a black box testing technique state transition technique. the system to check if it's properly working and if there is a feature that needs to be added.

Deployment. During the deployment phase, the researchers deployed the ENVote website on a web hosting platform.

Maintenance. During the project maintenance phase, the researchers will continue to have regular maintenance for the system to reassure that it is in good condition.

Research Instrument

The researchers use the ISO/IEC 25010:2011 as a model to evaluate their system. the respondents will use the Likert scale on each criterion of the ISO/IEC 25010:2011 model. Google Forms were used as the research instrument to evaluate the system.

Data Gathering Procedure

The information required to assess the system was gathered by the researchers using the ISO/IEC 25010 Standard. Google forms, which served as the deployment platform for the questionnaire, are used to collect responses.

Population and Sample of the Study

The population of this study is composed of end-users and experts. for end-user, it consists of One (1) MIS Head, Eight (8) Student Government Officers and Thirty-six (36) Students of Bulacan Polytechnic College, and for expert one (1) IT Consultant and Four (4) Software Engineer.

Statistical Treatment

The researchers will utilize the Likert scale to measure the collected responses to evaluate the system. The weighted scores and their equivalent descriptions will be used to analyze the computed mean of each criterion based on respondents' ratings. The table below shows the weighted score and its descriptive interpretation:

Results and Discussion

1. Integrate features on a web-based online voting system the following:

The system's various features are displayed in the following features. Each feature's description will be briefly discussed. The user side is the focus of the first section.

1.1. Candidate selection

Figure 1 shows the voting page of the user. The voting page contains the candidates that are currently registered in the selected election. The user can select their desired candidate and vote for it.

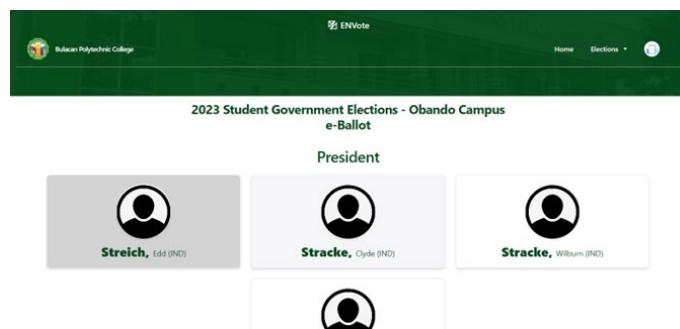


Figure 1. Candidate Selection Page

1.2. Certificate generation

Figure 2 shows the generated certificate. The certificate is the proof that the user has already voted. The certificate contains the voter's name, campus, signature of the head of MIS and QR code for proof of originality of the certificate.



Figure 2. Certificate Generation Page

2. Integrate a management system on the developed online voting system that allow organizers of SG election to perform the following:

Second part are the features that can be seen on the admin side. It will show the management and organizing of the admins on the system.

2.1. Administrative privileges

These are the features that can be used by the admin. The features consist of management of elections, accounts, candidates application, student profiles and officer profiles.

2.1.1. Report Generation

Figure 3 is an example of a report that the system can generate. The system can generate reports such as elections, election results, candidates and users. These reports can be viewed and printed by the administrator.

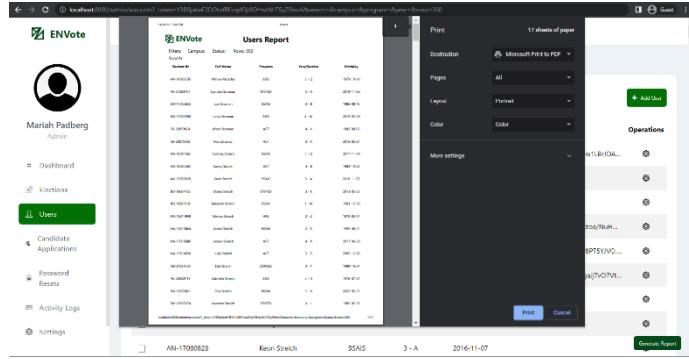


Figure 3. Report Generation

2.1.2. Accounts management

Figure 4 shows the account management page. In this page the admin can change or reset the voters' password. The admin can also add a student manually.

Student ID	Full Name	Program	Year/Section	Birthday	Password	Operations
PA-21034767	Carlotta Stroman	BTVTED	3 - H	2019-11-26	... (redacted)	
SM-17052632	Lue Stroman	BSAIS	3 - B	1996-08-15	... (redacted)	
SM-17055990	Julius Stroman	BSIS	4 - M	2019-03-28	\$2y\$10\$Z8Uasj3h1XPj0udz... (redacted)	
SR-20073824	Afton Stroman	ACT	4 - V	1982-08-03	\$2y\$10\$59yuaLtmwGSICW... (redacted)	
SR-20075138	Aida Stroman	ACT	3 - X	2015-03-01	\$2y\$10\$vnjkCv9a/bPckeg... (redacted)	
AN-16081862	Cortney Streich	BSAIS	1 - Q	2017-11-19	... (redacted)	
AN-16084865	Suniv Streich	ACT	4 - B	1983-10-22	... (redacted)	

Figure 4. Accounts Managements Page

2.2. Student Government privileges

These are the features that can be used by the admin. The features consist of management of elections, accounts, candidates application, student profiles and officer profiles.

2.2.1. Announcement Management

Figure 5 shows the main page of the announcement management. Announcement management is responsible for making announcements related to candidates of the election

and the election itself. It helps the student to be informative towards what to expect in the election. The announcements are managed by the student government.

Figure 5. Announcement Management Page

2.2.2. Candidate Platforms Management

Figure 6 shows the main page of the Candidate platforms management. Candidate platform management is responsible for posting the implemented plan of action of a candidate done by the student government. Platforms can also be planned here.

Figure 6. Candidate Platforms Management Page

3. Evaluate the developed system using the ISO/IEC 25010:2011 software quality evaluation criteria as perceived by the respondents on the following:

The developed web application received a general weighted mean of 4.33, which, according to the rating scale, it was evaluated as Very Acceptable. The respondents all agreed that using the web application effectively and efficiently is possible. It could mean that the respondents selected as Very Acceptable in terms of Appropriateness and Recognizability, the respondents selected as Very Acceptable with the total mean of 4.34. In terms of Learnability, the respondents selected as Very Acceptable with the total mean of 4.40. In terms of Operability, the respondents selected as Very Acceptable with the total mean of 4.38. In terms of User Error Protection, the respondents selected as Very Acceptable with a total mean of 4.28. In terms of User Interface Aesthetics, the respondents selected Very Acceptable with the total mean of 4.28. In terms of Accessibility, the respondents selected as Very Acceptable with the total mean of 4.28. The respondents agreed that the usability of the built web applications is Very Acceptable, according to the computed mean final interpretation.

Conclusions

The study entitled "ENVOTE: An Online Voting System" is intended for MIS, student government, and students of Bulacan Polytechnic College (BPC). ENVOTE's objective is to process and reduce the time for tallying votes in order to manage the election. Additionally, it can be accessed through the internet allowing all students of Bulacan Polytechnic College to use the system with more reliability and fast-moving than the old system.

Recommendations

Considering the findings and the conclusion of the study, the following recommendations were drawn and can be used by future researchers who want to develop the same type of system:

1. Consider using a WebSocket to load live data on tallying votes and voter's turnouts, with that, the data presented to the client side will load faster and more reliably.
2. Integrate a liking system for competition and custom events that creates a poll for contestants and entries that makes the system flexible and usable not only on election period.
3. A scheduling functionality for the elections to automatically transform their statuses from ongoing to completed, open for filing to ongoing, etc. The date set for this automatic process could range from days to months in accordance with the elections' needs.

Research Implications

The implementation of ENVote handles the initiation of elections with less workloads. Students will manage their choice of candidate based on their judgement of candidate's platforms. The system's objective is to provide a reliable service that is accurate of this system's vote counting.

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References

- Insua, D. R., & French, S. (Eds.). (2010). E-democracy: a group decision and negotiation perspective (Vol. 5). Springer Science & Business Media.
- Estdale, J., & Georgiadou, E. (2018, September). Applying the ISO/IEC 25010 quality models to software product. In European Conference on Software Process Improvement (pp. 492-503). Springer, Cham.
- Paatey, E., & Ofori-Dwumfuo, G.O. (2015). The Design of an Electronic Voting System. Research Journal of Information Technology, 3(2), 91-98.
- Mellon, J., Tiago, P., & Sjoberg, F. (2017). Does online voting change the outcome? Evidence from a multi-mode public policy referendum. Electoral Studies, 19-21.

- Pawar, B. M., Patode, S. H., Potbhare, Y. R., & Mohota, N. A. (2020). An Efficient and Secure Students Online Voting Application. 2020 Fourth International Conference on Inventive Systems and Control (ICISC), 3-4.
- Jambhulkar, S. M., Chakole, J. B., & Pardhi, P. R. (2014). A secure approach for web based internet voting system using multiple encryption. In 2014 International Conference on Electronic Systems, Signal Processing and Computing Technologies (pp. 371-375). IEEE.
- Neelu, L., & Kavitha, D. (2020). Software Development Technique for the Betterment of End User Satisfaction using Agile Methodology. TEM Journal, 9(3), 992.
- Atmowardoyo, H. (2018). Research methods in TEFL studies: Descriptive research, case study, error analysis, and R & D. Journal of Language Teaching and Research, 9(1), 197-204.
- Gurung, G., Shah, R., & Jaiswal, D. P. (2020). Software Development Life Cycle Models- A Comparative Study. International Journal of Scientific Research in Computer Science, Engineering and Information Technology, March, 30-37.
- de los Santos, J. R. N., Batan, M. B., Giovanni, N., & Michelle, G. (2020). Web App Voting System in a Philippine State University: An ISO 9241-11 Evaluation. Aloha International Journal of Multidisciplinary Advancement (AIJMU), 2(7), 163-168.
- Govindaraj, R., & Kumaresan, P. (2020, February). Online voting system using cloud. In 2020 International Conference on Emerging Trends in Information Technology and Engineering (ic-ETITE) (pp. 1-4). IEEE.

Author's Biodata

Marcus Dave D. Culala is currently an undergraduate student in the College of Information and Communications Technology (CICT) of Bulacan State University (BulSU). He is passionate and curious about graphics designing.

Almar Javier is currently an undergraduate student in the College of Information and Communications Technology (CICT) of Bulacan State University (BulSU). He is passionate in programming and web design.

Kyle Emmanuel F. Ochoa is currently an undergraduate student in the College of Information and Communications Technology (CICT) of Bulacan State University (BulSU). He is a freelance programmer and continues to expand his skill set.

Jimwell S. Santiago is currently an undergraduate student in the College of Information and Communications Technology (CICT) of Bulacan State University (BulSU). He continues to improve his analytical thinking skills and is interested in data science.

Jericho G. Servino is currently an undergraduate student in the College of Information and Communications Technology (CICT) of Bulacan State University (BulSU). He is passionate about project management and automation.

Appendix F

Curriculum Vitae



MARCUS DAVE CULALA

DETAILS

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 Caingin Malolos, Bulacan

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✉️
marcusdave.culala.d@bulsu.edu.ph

TECHNICAL SKILLS

- Multimedia
- Video Editing - Adobe Premiere Pro
- Photo Editing - Adobe Photoshop
- Computer Literate
- Proficient with Microsoft Word, Excel, and Powerpoint

SOFT SKILLS

- Critical Thinking and Problem Solving
- Team Oriented

OBJECTIVE

To enhance my knowledge and capabilities by working in a dynamic organization that prides itself in giving substantial responsibility to new talent.

EDUCATION

BULACAN STATE UNIVERSITY
 Malolos, Bulacan
 Bachelor of Science in Information Technology, 2019 - Present
 2nd Year (Undergraduate)

LA CONSOLATION UNIVERSITY OF THE PHILIPPINES
 Malolos, Bulacan
 Senior High School 2019
 STEM, Completed

EXPERIENCE

PLDT MALOLOS - December 2017
 Malolos, Bulacan, Work Immersion
 • Assigned to take photos to use for publicity materials of the school.
 • Organize cables and observe on fields of post cables .

SEMINARS ATTENDED

Stackleague Bulacan State University Edition
 October 2022

9th IT Congress “REVOTECH: Elevating Generation”
 November 2019



ALMAR JAVIER

DETAILS

📍
 0338(c) Pagsibigan Street,
 Brgy. Mabolo, Malolos, Bulacan

📞
 +639092095920

✉️
 almarjavier24@gmail.com

TECHNICAL SKILLS

- Basic Computer Programming (JAVA, PYTHON, C++, C)
- Web Development (HTML, CSS, JavaScript, PHP, SQL)
- Multimedia
 - Video Editing - Adobe Premiere Pro
 - Photo Editing - Adobe Photoshop
 - Music Production/Audio Mixing - Ableton Live 10/Adobe Audition
- Computer Literate
 - Proficient with Microsoft Word, Excel, and Powerpoint

OBJECTIVE

To apply my acquired knowledge in a working environment, learn and develop my skills which could help the best interest of institution

EDUCATION

BULACAN STATE UNIVERSITY
 Malolos, Bulacan
 Bachelor of Science in Information Technology, **2019 - Present**
 2nd Year (Undergraduate)

JESUS IS LORD COLLEGES FOUNDATION, INC.
 Bocaue, Bulacan
 Senior High School
 TVL - ICT, With Honors **2019**

EXPERIENCE

PANGINAY UNIDA CHRISTIAN SCHOOL - December 2018
 Balagtas, Bulacan, Work Immersion

- Assigned to take photos to use for publicity materials of the school.
- Responsible for creating visually appealing publicity materials using Adobe Photoshop for promotional banners.
- Coordinated with the school principal in gathering necessary elements to be used for the publicity materials.

CERTIFICATES

Technological Revolution in Modern World
 June 2021

The Quadrivial Projection of Technology
 December 2021

4TH Realm of Technology: MAD UX: A Shot of Mobile Application Development and User Experience
 April 2022

Programming for Beginners Using Python by DICT
 July 2022

Programming for Intermediate Users Using Python by DICT
 July 2022

Build Python Web Apps with Flask by DICT
 July 2022

SEMINARS ATTENDED

10th IT Congress "Valor's Vision: The Dauntless Upgrade"
 June 2021

Webinar Session : "Technological Revolution in Modern World"
 June 2021

9th IT Congress "REVOTECH: Elevating Generation"
 November 2019

AFFILIATIONS

Society for the Welfare of Information Technology Students
 Member, 2019 - Present



**KYLE
OCHOA**

DETAILS

 0964, Masagana Homes Phase 3, Tabang, Guiguinto, Bulacan

 +639554338181

 ochoa.kyleemmanuel.f@gmail.com

TECHNICAL SKILLS

- Basic Computer Programming (JAVA, PYTHON, C++, C)
- Web Development (HTML, CSS, JavaScript, PHP, SQL)
- Computer Literate
- Proficient with Microsoft Word, Excel, and Powerpoint

OBJECTIVE

To apply my acquired knowledge in a working environment, learn and develop my skills which could help the best interest of institution

EDUCATION

BULACAN STATE UNIVERSITY
Malolos, Bulacan
Bachelor of Science in Information Technology, **2019 - Present**
2nd Year (Undergraduate)

LA CONSOLACION UNIVERSITY OF THE PHILIPPINES
Malolos, Bulacan
Senior High School **2019**
STEM, With Honors

EXPERIENCE

I am currently a freelancer at Uvocorp and my task is to develop assignments/projects regarding web development according to the customer's instructions/needs

CERTIFICATES

Programming for Beginners Using Python by DICT
July 2022

SEMINARS ATTENDED

19th IT Congress "REVOTECH: Elevating Generation"
November 2019



JIMWELL
SANTIAGO

DETAILS



429, Rosal St. Ligas Malolos,
Bulacan



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santiagojimwell10@gmail.com

TECHNICAL SKILLS

- Multimedia
 - Video Editing - Adobe Premiere Pro
 - Photo Editing - Adobe Photoshop
 - Computer Literate
 - Proficient with Microsoft Word, Excel, and Powerpoint
 - Basic Computer Troubleshooting
 - Networking

OBJECTIVE

To apply my acquired knowledge in a working environment, learn and develop my skills which could help the best interest of institution

EDUCATION

BULACAN STATE UNIVERSITY

CELSUS STATE UNIVERSITY
Malolos, Bulacan
Bachelor of Science in Information Technology, 2018 - Present
2nd Year (Undergraduate)

LIGAS KOOPERATIBA NG BAYAN SA PAGPAPAUNLAD

Malolos, Bulacan
Senior High School
TVL - ICT, Completed

EXPERIENCE

CMA MENTAL ARITHMETIC - December 2017

ST. MARY'S ACADEMY - Declaracion
Sta. Rita, Bulacan, Work Immersion

- Assigned to take photos to use for publicity materials of the school.
 - Responsible for creating visually appealing publicity materials using Adobe Photoshop for promotional banners.
 - Print handbooks of tutors and scan textbooks

SEMINARS ATTENDED

10th IT Congress "Valor's Vision: The Dauntless Upgrade"

June 2021

9th IT Congress "REVOTECH: Elevating Generation"



JERICHO
SERVINO

DETAILS



370 Dr. Luis Reyes St.
Calantipay, Baliwag, Bulacan



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TECHNICAL SKILLS

- Basic Computer Programming (JAVA, C++, C)
 - Web Development - Front End (HTML, CSS, JavaScript)
 - Multimedia
 - Photo Editing - Adobe Photoshop
 - Computer Literate
 - Proficient with Microsoft Word, Excel, and Powerpoint

OBJECTIVE

To apply my acquired knowledge in a working environment, learn and develop my skills which could help the best interest of institution

EDUCATION

BULACAN STATE UNIVERSITY

BULACAN STATE UNIVERSITY
Malolos, Bulacan
Bachelor of Science in Information Technology, 2019 - Present
2nd Year (Undergraduate)

STI COLLEGE

BALIWAG, BULACAN
SENIOR HIGH SCHOOL
TVL - IT MAWD, With Honors

2019

EXPERIENCE

XAVIER COMPUTER CENTER - November 2018

Baliwag, Bulacan, Work Immersion

- Assigned to help technicians in their work such as reformatting PC and Laptop.

SEMINARS ATTENDED

StackLeague University Series: Bulacan State University Edition
October 2022