



ASHESI UNIVERSITY COLLEGE

**AN INTERACTIVE WEB PLATFORM TO ENSURE POST-ELECTION
ACCOUNTABILITY AND ASSESS PERFORMANCE OF ASHESI
STUDENT COUNCIL (ASC)**

APPLIED PROJECT

B. Sc. Computer Science

Nii Quateboye Quartey

2018

ASHESI UNIVERSITY COLLEGE

**An Interactive Web Platform to Foster Accountability and Assess
Performance of Ashesi University Student Government**

APPLIED PROJECT

Applied Project submitted to the Department of Computer Science, Ashesi
University College in partial fulfillment of the requirements for the award of
Bachelor of Science degree in Computer Science

Nii Quateboye Quartey

April 2018

Declaration

I hereby declare that this applied project is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:

.....

Candidate's Name:

.....

Date:

I hereby declare that preparation and presentation of this applied project were supervised in accordance with the guidelines on supervision of applied projects laid down by Ashesi University College.

Supervisor's Signature:

.....

Supervisor's Name:

.....

Date:

Acknowledgement

Special thanks to my supervisor, Mr. David Ebo Adjepon-Yamoah for his guidance and tremendous contribution to the completion of this project and to Mr. David Sampah, for his thoughtful suggestions.

Abstract

Effective democratic governance is still gaining its roots in Ghana. With time, people have become more aware of their societies and the effort put in by their leaders to make it better. For a leader, being accountable to the people is taking steps to ensure that his or her actions and promises are binding. Accountability remains one of the challenging factors in governance because the people can assess the performance of the incumbent.

This project therefore seeks to provide a system centered on Ashesi University College, for assessing student government and fostering accountability at each stage of the electoral process. The development of this system went through several stages, including data collection through surveys from members of the Ashesi community to get their input on what a potential system could look like, to several iterations of the website itself to test its functionality. This paper assesses the current state of governance on a national level as well as on the Ashesi campus, pointing out the downfalls as well as areas that could be improved while outlining how the system is built and the coding languages that went into the different facets of its structure. It also speaks about current systems that are tackling accountability issues in governance. Finally, the limitations and potential future work that the system could be used for is discussed and conclusions are given to the work overall.

Table of Contents

<i>Declaration.....</i>	<i>iii</i>
<i>Acknowledgement</i>	<i>iv</i>
<i>Abstract</i>	<i>v</i>
Chapter 1: Introduction	1
1.1 Introduction and Background.....	1
1.2 Problem Statement	5
1.3 Objective	6
1.4 Motivation and Potential Benefits.....	6
1.5 Research and Related Work.....	7
1.5.1 Odekro.....	8
1.5.2 MySociety	9
1.5.3 Mo Ibrahim Foundation	10
Chapter 2: Requirements Gathering	11
2.1 Introduction	11
2.2 Requirements Gathering.....	12
2.2.1 Scenarios	12
2.2.2 Use Cases	13
2.3 Requirements Analysis	16
2.4 System Requirements	19

2.5	Functional Requirements	20
2.5.1	Students.....	20
2.5.2	System Administrator	20
2.6	Non-Functional Requirements	21
2.6.1	Security	21
2.6.2	Reliability	21
2.6.3	Usability	22
2.6.4	Supportability	22
2.6.5	Performance.....	22
<i>Chapter 3: Architecture and Design.....</i>		23
3.1	Introduction	23
3.1.1	Purpose.....	23
3.1.2	Assumptions and Constraints	23
3.2	System Overview	23
3.2.1	Registration and Login.....	24
3.2.2	Participating in poll.....	26
3.2.3	Component Diagram.....	28
3.2.4	Application	29
3.2.5	Database Architecture	29
3.3	Sequence Diagram	30
<i>Chapter 4: Implementation</i>		32
4.1	Hardware Configuration.....	32

4.2	Backend Implementation	32
4.2.1	Tools and Technologies	32
4.2.2	Software Implementation	33
4.2.3	Interface Design.....	34
4.2.4	Database Design	36
4.2.5	Charts	40
	<i>Chapter 5: Testing and Results</i>	<i>41</i>
5.1	Introduction	41
5.2	Development Testing	41
5.2.1	Component Testing.....	41
5.3	User testing	42
5.3.1	Analysis of User Test.....	43
5.4	Summary of Tests	43
	<i>Chapter 6: Conclusion and Recommendations.....</i>	<i>44</i>
6.1	Introduction	44
6.2	Limitation	44
6.3	Future Work	44
6.4	Conclusions	45
	<i>Bibliography.....</i>	<i>46</i>
	<i>APPENDIX.....</i>	<i>49</i>
	Consent Form for Questionnaire.....	49

Questionnaire	50
Questionnaire Results	53

LIST OF FIGURES

Figure 2.1 Use case diagram for student.....	14
Figure 2.2 Use case diagram for system administrator	15
Figure 2.3 Results showing respondents interest in post-election evaluation and assessment	17
Figure 2.4 Results showing respondents interest in development of system	18
Figure 2.5 Results showing user preferences/requirements for the system	19
Figure 3.1 Client-server architecture	24
Figure 3.2 Activity diagram for registration and login	26
Figure 3.3 Activity Diagram for poll participation.....	27
Figure 3.4 Component diagram	28
Figure 3.5 Entity relation diagram.....	29
Figure 3.6 Login sequence diagram.....	30
Figure 3.7 Polling sequence diagram.....	31
Figure 4.1 Login Page	34
Figure 4.2 Home page	35
Figure 4.3 Example of a poll	35
Figure 4.4 Results on SurveyJS server.....	36
Figure 4.5 Database in phpMyAdmin.....	37

Figure 4.6 Firebase real-time database.....	39
Figure 4.7 Chart developed from poll results using ChartJS.....	40
Figure 7.1 Results showing the distribution of genders.....	53
Figure 7.2 Results showing distribution of classes.....	53
Figure 7.3 Results showing the distribution of age groups.....	54
Figure 7.4 Results showing distribution of eligible voters.....	54
Figure 7.5 Results showing participants interest in student politics.....	54
Figure 7.6 Results showing participants history of partaking in student elections	55
Figure 7.7 Results showing participants interest in post-election assessment	55
Figure 7.8 Results showing participants experience in post-election assessment.....	56
Figure 7.8 Results showing additional comments by participants	56

LIST OF TABLES

Table 4.1 Description of tools and technologies	32
Table 4.2 Database Structure.....	38
Table 5.1 Database tests	41

Chapter 1: Introduction

1.1 Introduction and Background

Competitive elections create a conducive atmosphere for the smooth transfer of power from one government to another. The electorate is given the mandate to select a leader and policy makers of their choice that will spearhead the affairs of the country, hopefully in a better way. Such a period tends to create healthy tension between political parties themselves and the electorate as a whole. This allows candidates to focus on what they can do better and differently to win the hearts of the people. Given the scope of their environment, candidates by themselves or together with a team of strategists develop new policies and make promises to win the hearts of the people (O'Day, 2003).

A democratic system makes provision for the institution of general elections. Chapter 7 of the Ghanaian constitution, Representation of the People, states that any citizen who is above the age of 18 is eligible to vote (Judicial Service of Ghana, n.d.). Under chapter 8 of the constitution, it states that a president elect shall hold a term of office for 4 years after which general elections will be held again (Judicial Service of Ghana, n.d.). A president elect can also hold office for a maximum of two consecutive terms (Judicial Service of Ghana, n.d.). These guarantees support the institution of national elections giving citizens the mandate to choose their preferred candidate.

In the absence of a democratic system, the presidency will be violated and misused leaving power in the hands of autocratic leaders. The rights of Ghanaian citizens enshrined in the 1992 constitution will be dishonored if the people cannot have a say in the affairs of the country. Supported by the electoral commission, the electoral process is supposed to be strictly and entirely independent of any institutional or government interference. This is to avoid bias

and allow free and fair elections to take place. Within this election period, candidates are allowed to use various political tools to advance their agenda. One of these tools is the use of a manifesto. Under the constitution, candidates or political parties contesting the election are given equal access to state-owned media to present their programmes to the general public (Judicial Service of Ghana, n.d.). The manifesto is an important tool that outlines a detailed plan and timeline for the programmes of the contesting party. It is meant to drive their agenda and provide a document that can be used for assessing their capability and even performance post-elections. Eligible voters can take interest in any political party of their choice by reading their manifesto. In 2000, the Institute of Economic Affairs introduced Presidential Debates to give each candidate an equal platform to poach and defend their programmes to the country (Institute of Economic Affairs, n.d.). All these opportunities and political tools exist to pique the interest of the voter.

Identifying general voter behavior is also a factor that many candidates consider when preparing a campaign message and manifesto towards elections. Voters can be characterized under two categories – sincere voters and strategic voters. A sincere voter makes his/her decisions based on individual preferences and judgements (Felsenthal & Brichtha, 1985). A strategic voter on the other hand makes his/her decisions based on external influences or ulterior motives pertaining to them only (Felsenthal & Brichtha, 1985). A history of Ghana's elections shows that ethnicity is greatly considered making it a determining factor for the masses meaning a greater majority are strategic voters. The two major political parties, the National Patriotic Party and National Democratic Congress are mostly supported by the Ewe and Ashanti tribes respectively (Jockers, Kohnert, & Nugent, 2010). Nonetheless, it is crucial that voters realize the implications of their votes. Voting for a political party/candidate based on cultural affiliation

may not exactly solve the unending problems and dwindling economy the country faces. The conscious decision to be a sincere voter means taking the right action to be ethical and insist on good governance even after elections, regardless of who is in power.

Similarly, accountability after elections is a means by which this goal can be achieved. As a measure, it strengthens the relationship between the electorate and the party/candidate. It gives the people a sense of hope and trust in the capabilities of an incumbent. In recent multi-party democratic systems, studies have shown that the likelihood for political parties to fulfill their pledges and policy programmes is diminishing (Thomson et al., 2012). This is a common characteristic in multi-party parliamentary systems like Ghana. Institutional factors such as the passing of bills and policies by government serves as a hindrance to the accomplishment of some policy programmes previously outlined in a manifesto.

In countries like Ghana, where there is high illiteracy and a rising level of poverty, political parties tend to exploit these marginalized groups by making false promises to them in order to gain their votes and favor. When voted into power, ongoing projects are stalled and many people lose their jobs because of the supposed allegiance to a particular political party. Studies have shown that a government willing to retain power will be more focused on fulfilling pledges they made than a party in opposition (Thomson et al., 2012). The post-election election era is usually marred by acts of corruption and embezzlement of state funds. The case of corruption affects state functions, stalls economic growth and heightens the mistrust in the system of governance (Ayee, 2016). Manifesto pledges form the basis for which a voter makes a preferred choice. It can be deemed immoral, dishonest, corrupt and unconstitutional for a political party to disregard the pledges they made to the people when voted into power

(McLachlan, 2017). The lack of institutional structures, the presence of greed and cultural differences create minimal chances for the establishment of good governance.

The lack of accountability continues to threaten the success of democratic governance. Manifestos and false promises have been devised as a tool to win elections and do less of what was promised. According to Ashworth (Ashworth, 2012), the road to formal accountability leads to better governance. The availability and dissemination of information to the electorate regarding governance is vital for breaking the continuous chain of ill-governance. At the national level, accountability is ensured by the institutions such as CHRAJ, the executive, legislative and judiciary. Media houses and new agencies also play a pivotal role in keeping the public informed and the government pressed for progress updates.

Transparency and accountability cannot be limited to governance at the national level. Colleges and educational institutions also have traditions such as student government which are formed off the backbone of a democracy. Ashesi University College is an example of such an institution that encourages student government and healthy politics. Student elections are held yearly to choose a new set of council leaders to spearhead the activities of the student council for the next academic year. Aspirants make calculated and well-informed pledges to be fulfilled if they are given the mandate to lead. Unfortunately, most of these pledges are vague and are not all met. The introduction of an online technological platform that allows the student community to demand better from its representatives will provide a long-lasting solution to this. The system will foster accountability and motivate leaders to fulfill the pledges they made. It will also track the progress of these pledges and policies enlisted by the incumbent. Additionally, it allows students to give feedback to the various committees and to parliament. Regular polls will be utilized to assess the performance of the student government based on

their manifesto. Results obtained will help keep the committees devoted to their word. Information and updates for the student council will be made readily available on the platform and easily accessible to the student body.

1.2 Problem Statement

In Ashesi, elections are carried out using the traditional balloting system. Students visit polling stands stationed around campus to cast their votes. Results are collated manually by counting ballot papers which is time consuming and outdated. Additionally, there are minimal structures or avenues in place to address transparency and accountability after elections. Ashesi's student government has a goal to promote inclusion and transparency and the aim of this research is to provide concrete solutions to do so.

The issue of accountability after elections remains a problem even at the national level. It is imperative that the incumbent aligns its goals with what it described in its manifesto and works towards achieving them. When the incumbent fails to fulfill its promises, it leads to a breakdown in trust. Consequently, the electorate will lose its trust and confidence in the system of governance which will affect voter behavior for future elections. Ultimately, sturdy development is impeded.

False promises taint the image of a political party and its candidate. A candidate who makes deceitful promises to the people to gain power will undoubtedly be voted out of power by the people at the end of his term. A country's constitution might hold a candidate accountable for failing to meet milestones and deadlines. In the worst cases, a candidate may be impeached for causing more harm than good, which is why accountability needs to be built into the system.

Advancements in technology have made it easier to gain access to information. Traditional methods such as seminars and town hall meetings must not be the only avenues that allow students to voice out their opinions. Paper balloting systems are becoming outdated and are very tiresome when collating results, and technology can alleviate some of these drawn out processes.

1.3 Objective

ASCVigil, as it will be called, will give members of the Ashesi community the ability to voice out their opinions concerning student governance. More importantly, it will push the student council representatives to reach their set targets and fulfill the pledges made to the people. The system will be hosted on the web. The web application will also feature a portal where members of the Ashesi community can interact with each other and share views relating to development.

The manifesto and the details of incumbent government will be available to help community members track and identify which pledges are being fulfilled against timelines given. The electorate will have a chance to comment on these manifestos as a way to get their questions answered and receive feedback from representatives of the student council. This will reduce the frequent flooding of emails from student representatives and candidates concerning manifestos. All issues with regards to the election will be addressed online through the platform.

1.4 Motivation and Potential Benefits

One of the growing concerns not only in Africa, but globally, is accountability to the people after elections. Post elections, people look forward to the fulfillment of pledges made

by candidates throughout the campaign period. A political party voted into power usually faces a lot of backlash and criticism for failing to meet the demands of the people after falling back on their word. Financial constraints, opposition parties and decision-making processes in parliament are some of reasons given as to why some promises cannot be fulfilled.

The incumbent can be held liable for their actions and thus, they owe it to the people and to the electorate to make them aware of the current state of affairs. If accountability is demanded even at the early stage of student governance, we might see more positive results for the future generation. Users of the system interested in the particular sections of the manifesto can receive regular updates on the system.

In the same light, Ashesi demands that the incumbent student council works efficiently to produce results. In the case where this cannot be achieved, the student body is made aware of the reasons why and what steps can be taken as an alternative. The introduction of this platform will provide members of the Ashesi community with direct access to the state of affairs on campus.

1.5 Research and Related Work

A look at various electoral systems shows a trend of little or no accountability. Post elections, the people demand to know the current state of affairs regarding promises made during campaigns and overall growth and development to no avail.

“Manifestos and Elections in Ghana’s Fourth Republic” examines the influence of manifestos on Ghana’s general elections (Ayee, 2011). There are several factors that may influence the outcome of an election. One of them is a political party’s manifesto. Most-often, voters make the rational-choice when voting taking into consideration the benefits they may

enjoy if that particular candidate is voted into power (Ayee, 2011). Other factors that have influenced voter behavior include party identification, social background and psychology, lifelong attachment to parties and candidates' or parties' records (Ayee, 2011). In addition, the manifesto is used as a political tool to advance the message, political ideas, social policies and programmes for the people by the candidate/party. There are also directives given in the constitution that demand that the incumbent reports to the parliament (and to the entire country), the steps it has taken to ensure that the policies and programmes outlined for development are met. In Ghana, this is referred to as the State of the Nation Address (SONA). The inability of governments to improve the standard of living for the average Ghanaian has left people scarred. Those in the rural areas especially have a cynical view of politics. To them, politicians hide behind the facade of having the people's best interest at heart when in actuality, they seek power only to drive their personal ambitions (Ayee, 2011). The paper concludes by making three salient suggestions. The first is that manifesto proposals should be realistic and solve actual problems like meeting the needs of the people, especially at the grassroots (Ayee, 2011). In addition, an investigation should be made into the inconsistency that exists between (unrealistic) manifesto promises and post-election outcomes (Ayee, 2011). Lastly, avenues should be created to allow candidates to directly engage voters and develop policies that will solve actual issues (Ayee, 2011).

1.5.1 Odekro

An existing solution in Ghana that seeks to address the inconsistency identified by Ayee (Ayee, 2011) is Odekro. The name Odekro is borrowed from the Akan chieftaincy system meaning the lowest sub-divisional chief responsible for ruling a town and ensuring that the

needs of the people are catered for (Ochieng, 2015). Odekro, launched in 2012, is a web platform that seeks to demand accountability from the government by the governed (Odekro, n.d.). Odekro, primarily focused on the parliament/legislature, seeks to empower communities and marginalized populations to promote transparency, accountability and democratic governance through citizen action and engagement with relevant government agencies (Odekro, n.d.). On Odekro, one can access the Hansard which shows the transcript of proceedings in the parliament. It also allows users to make comments and address concerns in a feedback section for each constituency and its corresponding member of parliament. In a way, users are content with the fact that their concerns can directly reach the right authorities. However, the system lacks information from the end of the representatives mainly because they cannot update members of their respective constituencies concerning crucial issues.

1.5.2 MySociety

MySociety is a UK based non-profit social enterprise that advocates for the democratic governance by empowering people with the right technologies to demand better from their leaders (MySociety, n.d.). MySociety is a partnering organization that worked with BloggingGhana and other partners to develop Odekro. They provide online tools in three main areas. The first is democratic tools to make governments more accountable to the people, the second is a freedom of information platform that holds governments to account and the third is better cities technologies to aid local authorities and empower the people (MySociety, n.d.). In a nutshell, the solutions provided by MySociety are targeted towards maintaining a transparent community for all. In the same light, ASCVigil seeks to foster accountability in the Ashesi community through the use of its online platform.

1.5.3 Mo Ibrahim Foundation

The Mo Ibrahim Foundation is an organization that is focused on governance and leadership in Africa (Mo Ibrahim Foundation, 2018). The organization is tasked with analyzing growth development in African countries and coming up with solutions to implement them by making use of human and financial resources (Mo Ibrahim Foundation, 2018). Yearly, it gives awards to African leaders who have shown exceptional commitment and excellence in their leadership. It also assesses performance of African countries and their contribution towards the growth and betterment of their people and economy. ASCVigil serves a similar purpose to that of the Mo Ibrahim Foundation. In effect, the system will maintain accountability and help keep the student government on their toes.

Chapter 2: Requirements Gathering

2.1 Introduction

This chapter describes the main objective of the system and possible constraints on the effectiveness of the system. It will also discuss its operation and implementation strategy. This chapter will focus on how the various components of the system communicate with one another. Requirements will be grouped into user requirements, system requirements, functional and non-functional requirements. These requirements will assess the viability of the system. First, users of the system must be identified.

The system will have two main users.

1. *Students* – the Ashesi University student body will form a huge part of the user population as they form the entire electorate population. Candidates are also eligible voters who form part of the electorate.
2. *System Administrators* – they monitor and maintain the system by constantly updating it and fixing errors or bugs that are encountered.

The purpose of this system is to provide a more viable solution to post-election assessment. Tracking a manifesto by the programmes and policies it guarantees, tied together with regular polls is one way of doing that. Considering the target audience and scope of the system, implementing it as web application is a better suited option. Nonetheless, other ways of implementing this system exist. It can be accessed by client devices such as a phone or personal computer. High level languages such as PHP, HTML, CSS and MySQL would be essential for system implementation.

2.2 Requirements Gathering

Requirements for the system were gathered from a campus wide questionnaire to incorporate the preferences of the electorate (students). To get an accurate representation of a stakeholder's views, the requirements gathered will incorporate the opinions and suggestions of all the users of the system listed above.

2.2.1 Scenarios

To access the site, a working internet connection is required. It can be used before and after the election. Before the election, it will display the manifestos of all candidates and their profiles acting as a point of interaction between the students and candidates. To create a healthy environment for competition, users of the system can leave comments and questions under the manifestos. After the election, focus will only be given to the manifesto of the selected aspirants. This manifesto will be used to measure the progress and work rate of the incumbent. Since it acts as a supporting document for a campaign message, regular polls will be held on the site regarding progress made by the incumbent and his team. Students can access the system by going through a short registration process. Ideally, every Ashesi student has a working email provided by the school so that can be used for registration and sign up.

Kofi Awuah is an Ashesi student. Kofi can access the system before the election period. Kofi will have to sign up using an active email address and a password. After registration, he is redirected to the login page to enter his credentials for validation. When logged in, he can view the various manifestos of all the candidates aspiring for the position of Ashesi Student Council President and Vice and Judicial and Electoral Committee Chairpersons. If there are any polls running, Kofi can take part in them.

Kofi can also access the system after elections. Rather than seeing all the manifestos like before, he can only see the manifesto of the incumbent. With each point listed in the manifesto, links will be provided to ongoing polls regarding the progress/fulfillment of pledges in the manifesto. Kofi can view the results of polls rendered in charts for easy interpretation. Kofi can also leave comments/questions regarding the policies and promises enlisted in the manifesto.

Kofi can also access a page enlisting the various committees, their roles and members. To also track the progress of each committee, Kofi can fill a feedback form which is always available.

A system administration maintains and monitors the system. A system administrator logs unto the system the same way a user will, but instead is redirected to the admin page. Since a new set of students are inducted every year, they will have to register to gain access to the system. When there is a change in student government, the admin can add a new committee or edit the current committee details to suit the preferences of the incumbent.

2.2.2 Use Cases

Use case diagrams will be used to illustrate all the various activities a single user can undertake. They are derived from the scenarios given. They will also indicate how the users interact with regards to a specific activity in the system.

Figure 2.1 shows the use cases for both the student and the JEC.

Figure 2.2 shows the use cases for the system administrators.

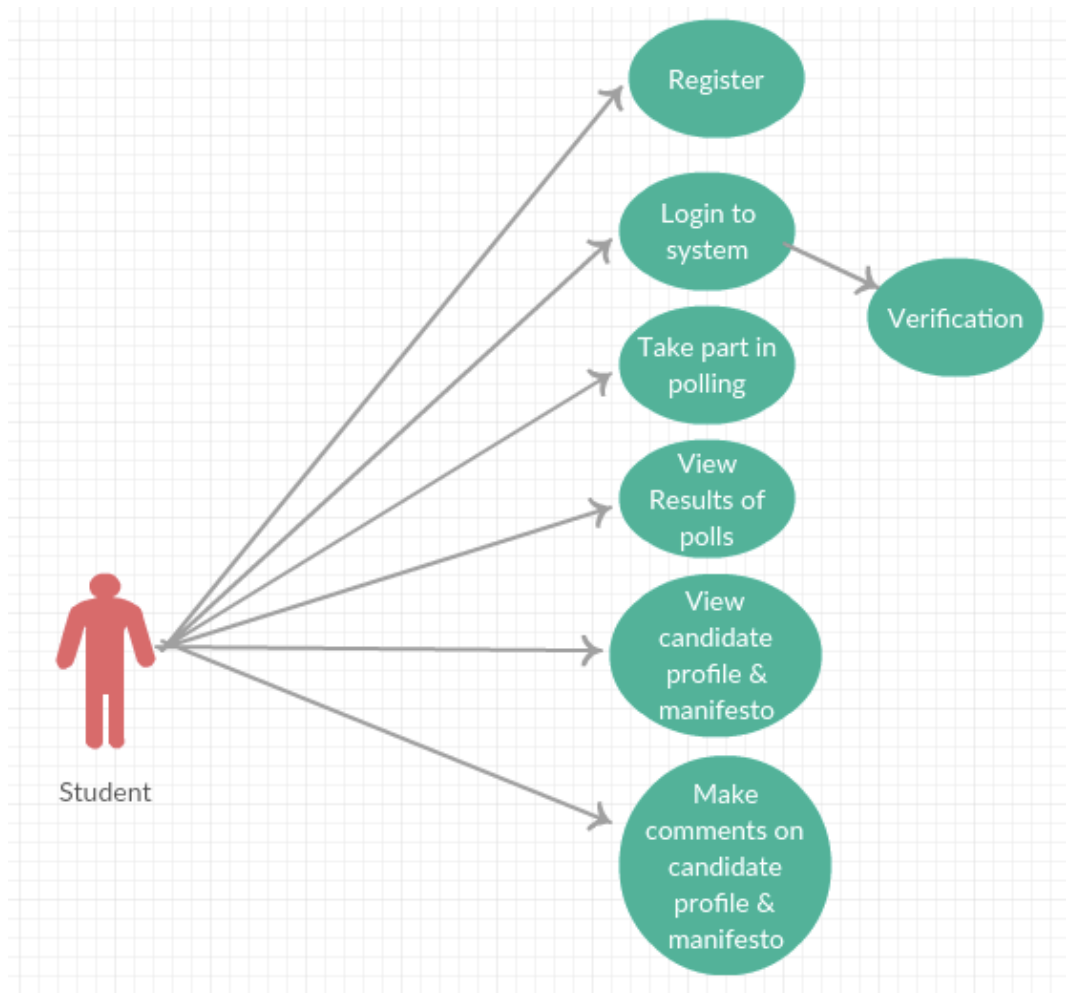


Figure 2.1 Use case diagram for student

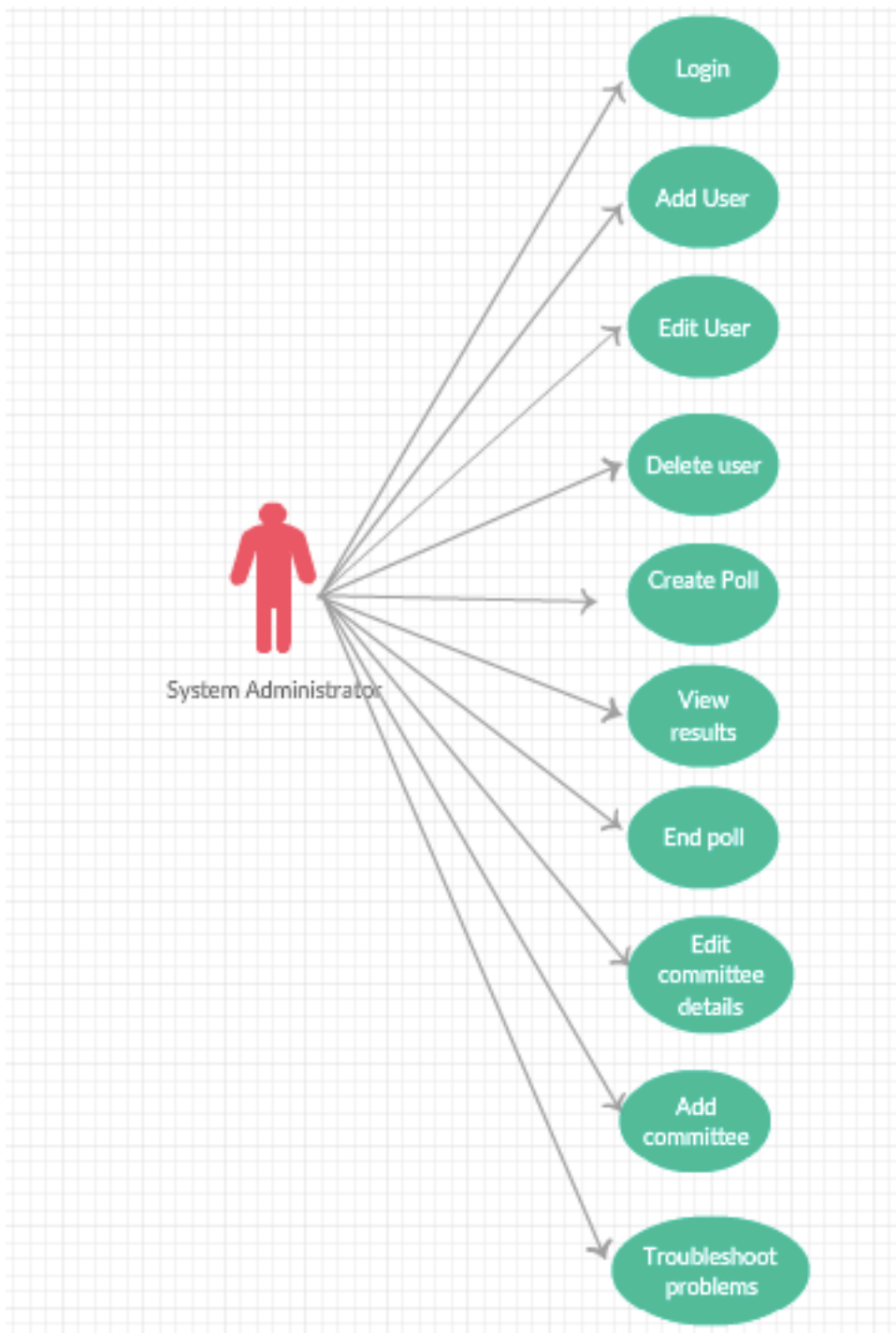


Figure 2.2 Use case diagram for system administrator

2.3 Requirements Analysis

Requirements for the system were gathered with the use of a campus-wide questionnaire. The questionnaire was administered using a free online survey tool, Google forms. A total of 108 responses were collected from the questionnaire.

Results from the data showed a perfectly even distribution of male and female respondents. Amongst the four classes of students, most of the respondents were sophomores, followed by seniors, juniors then freshmen, in that order. The age bracket for majority of respondents was between 20-25 years, with majority of them being Ghanaian, Nigerian, Kenyan and Rwandan. The results of the survey also indicated that most respondents were eligible voters in their country of origin with most of them having some experience with electoral process and voting.

Over 70% of the respondents expressed an interest in student politics with over 80% having taken part in the annual student council elections. To further assess voter behavior, the questionnaire asked respondents to indicate the number of times they have taken part in student council elections. The questionnaire also asked whether or not they would be interested in post-election assessment and continuous evaluation of an incumbent. Figure 2.3 indicates that close to 80% were interested in the idea of assessment and evaluation after elections. However, over 50% had had little or no experience in post-election assessment or with continuous evaluation of an incumbent whether within or outside Ashesi.

How interested are you in an incumbent's assessment/evaluation post-elections? (1= no interest at all, 5= very interested)

108 responses

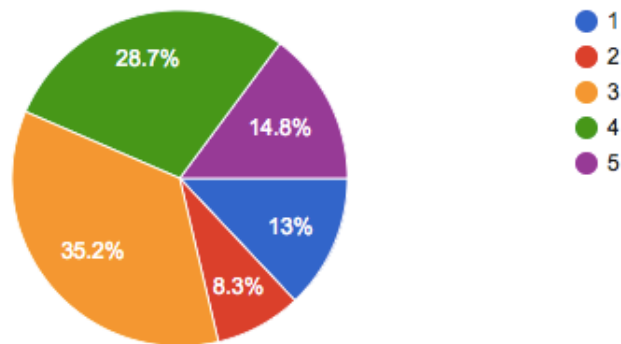


Figure 2.3 Results showing respondents interest in post-election evaluation and assessment

For the few who had had some experience, it was within the Ashesi community. A few respondents pointed out other instances of experience such as high school elections and MasterCard Foundation Scholars elections. Majority of the participants had assessed an incumbent by directly speaking with a representative, attending town hall meetings, using a suggestion box and taking part in open forums. The purpose of the questionnaire was to gather requirements for the viability and development of a post-election assessment and evaluation system, which it successfully did. Figure 2.4 shows the section who lauded and voted in favor of the idea.

Would you be interested in a web platform that ensures accountability after student elections and assessment of the incumbents manifesto?

108 responses

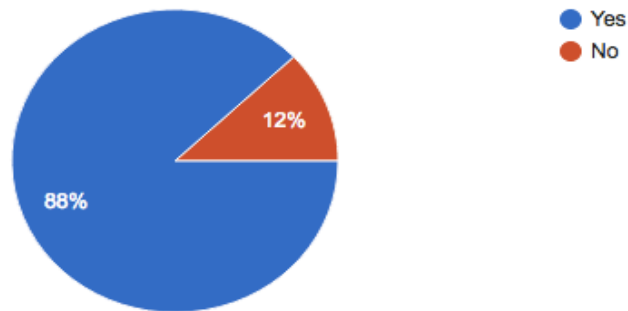


Figure 2.4 Results showing respondents interest in development of system

Participants suggested that the system should support online polling, give regular updates from the incumbent, host portfolio of incumbent, include feedback section for committees and have a comments section for manifesto(s). Figure 2.5 shows the distribution of requirements chosen by participants. A few participants expressed delight at the idea and were in support of keeping leaders in check by assessing their manifestos.

What features would you want the system to have?

100 responses

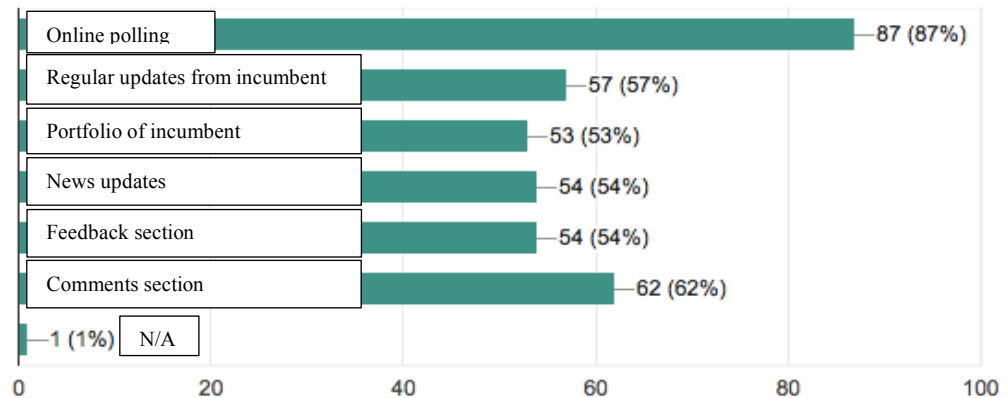


Figure 2.5 Results showing user preferences/requirements for the system

2.4 System Requirements

These requirements describe what the system must have in order to support either hardware or software. The system should be able to do the following things:

- The system should allow users to register only once.
- The system should allow users to log in.
- The system should be able to easily accept new entry of users without altering an already existing list.
- The system should support online polling.
- The system should allow users to toggle between anonymous and signed posts.
- The system should be able to record accurately user responses from polling.
- The system should be able to collate results accurately.
- The system should allow administrators to manage polls and results.
- The system should be able to save data to a database.

2.5 Functional Requirements

These requirements describe what the assessment system should do. These requirements also specify what users of the system should be able to do.

2.5.1 Students

- A student should be able to register.
- A student should be able to log in.
- A student should be able to make comments.
- A student should be able to take part in polling.
- A student should be able to log out.
- A student should be able to see results of polls.
- A student should be able to send feedback to various arms of the student government.

2.5.2 System Administrator

- System administrator should be able to create new polls.
- System administrator should be able to view results of polls.
- System administrator should be able to end polls.
- System administrator should be able to see/remove list of users.
- System administrator should be able to add a new committee if needed.
- System administrator should be able to edit existing committee details.

2.6 Non-Functional Requirements

The non-functional requirements describe how the system works. The system should follow the following requirements.

- It should ensure that user login is secure.
- It should block out attacks on the database.
- It should be reliable.
- Results entered into database should not be duplicated.
- It should allow many users to log on at once.
- Maintenance should be cost-effective.

2.6.1 Security

The system should be able to prevent a user from registering with the same email/username twice and detect and prevent malicious user login. It should prevent users from taking part in a poll more than once. Database security is also important to prevent SQL injections.

2.6.2 Reliability

The system should be reliable. Users of the system should trust that whatever information they enter into the system should be verified and accurate. Polling results should be collated without errors.

2.6.3 Usability

The system should be usable by all users identified. It should have a very user-friendly interface to allow users to easily navigate through pages and functions. The use cases identified should be valid for users of the system.

2.6.4 Supportability

The system should allow for easy maintenance. It should also be cost effective so that frequent maintenance can take place at very little cost.

2.6.5 Performance

The system should function properly even when there's a lot of traffic. As much as possible, it should be able to avoid crashes. Crashes that do occur should not affect system data nor the database.

Chapter 3: Architecture and Design

3.1 Introduction

This chapter highlights and discusses the architecture and the design plan for the implementation of the system. A high-level architecture diagram will be used to illustrate the system architecture and design showing the interaction between components. The diagrams will also show user interaction with the system and how data is entered into the system, how data is collected and collated.

3.1.1 Purpose

The main goal of the architecture and design chapter is to highlight on how the system works as a unit and how different components work together. It will show how various users interact with various components to produce an action.

3.1.2 Assumptions and Constraints

- The electorate is solely made up of the student body.
- All members of the student body are eligible to vote.
- Other members of the Ashesi community can also use the system.

3.2 System Overview

All users can have access to the system before and after elections. Users can access candidate manifestos and leave comments if they wish.

The system allows users to take part in timed polls. When made available, users of the system will be able to view the results. System administrators will make sure every user has

authorized access to the system. They will be available to fix and maintain the system in the case of an error or crash. The system is developed using the client-server architecture which is well suited for web applications. Figure 3.2 shows how the client interacts with the system to get response from the SurveyJS server, Firebase real-time database and phpMyAdmin web server.

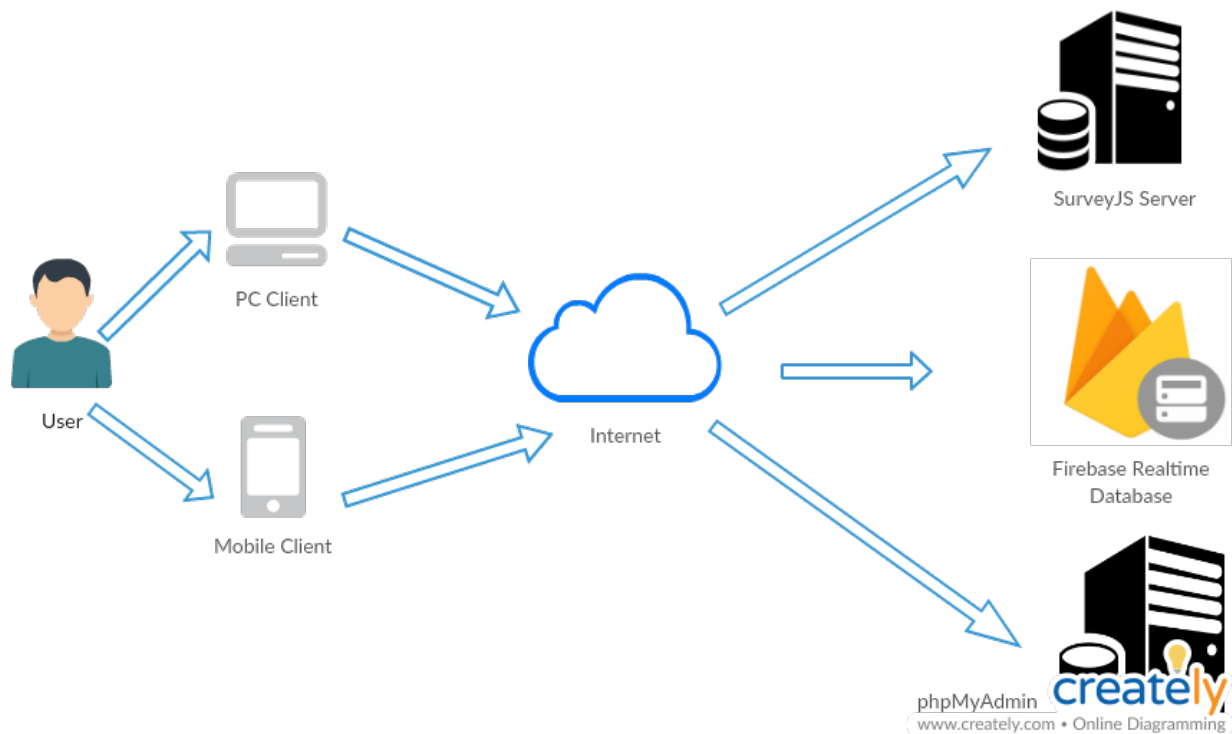


Figure 3.1 Client-server architecture

3.2.1 Registration and Login

Accessing the system for the first time directs the user to the registration page. The user is asked for details such as first name, last name, year group, email address and password which are all required fields. When the details are sent to the database, a function checks whether the email already exists in the database. If it returns an error, the user is notified that

the email already exists. If successful, details are stored, and the user is redirected to the login page. The same authentication process happens here where the user details are checked against the database. Passwords collected are hashed for security purposes. A function checks the hashed password corresponding to the email entered against what the user enters. If successful, the user is redirected to the home page. The figure below shows the activity diagram for registration and login.

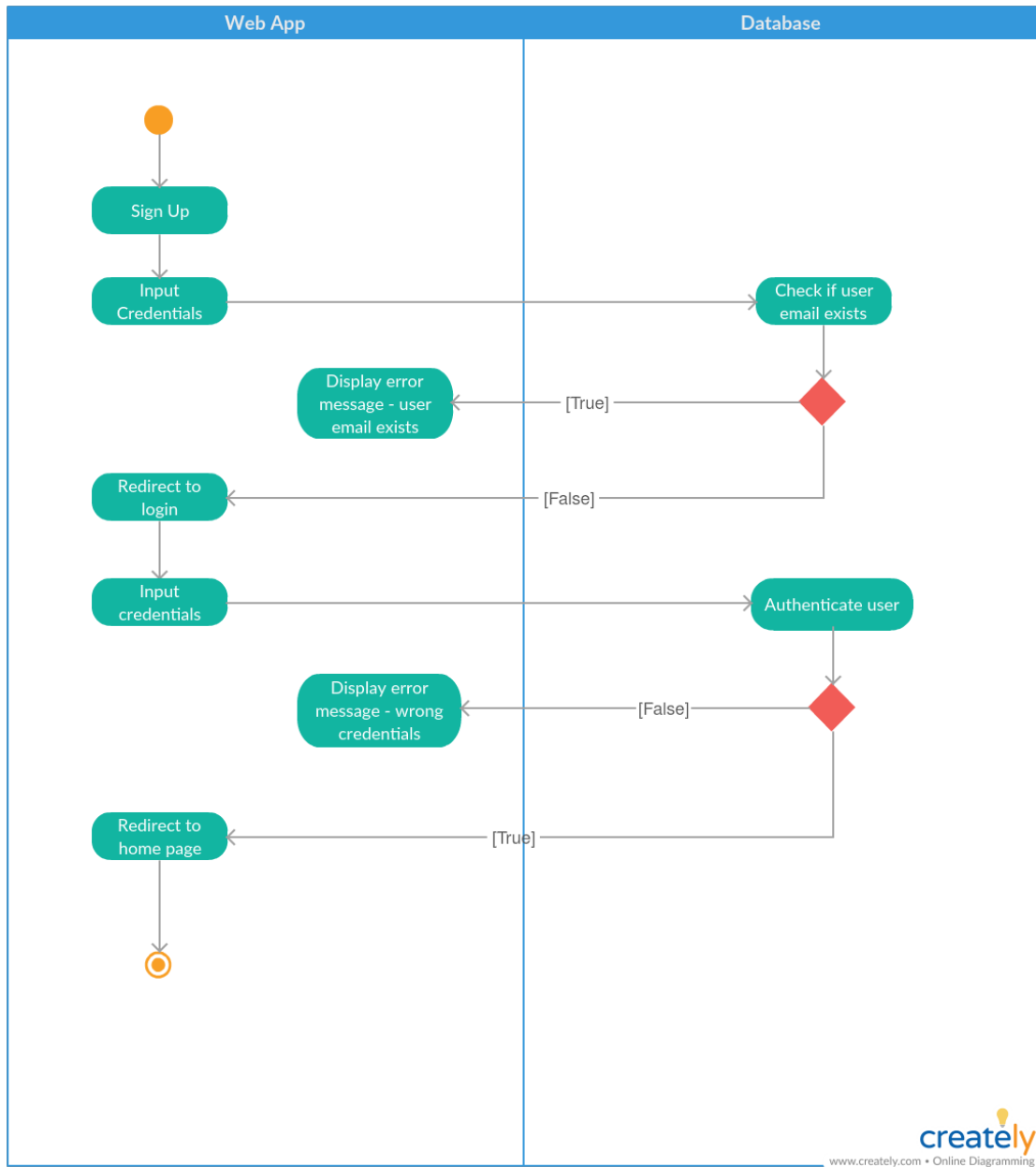


Figure 3.2 Activity diagram for registration and login

3.2.2 Participating in poll

A user has to login to participate in a poll. When login is successful, session variables are created with user id, email address and username. The user can navigate to the poll page

and select any poll to participate in. When a particular poll is selected, a response is sent to the SurveyJS server. The figure below shows the activity diagram for partaking in a poll.

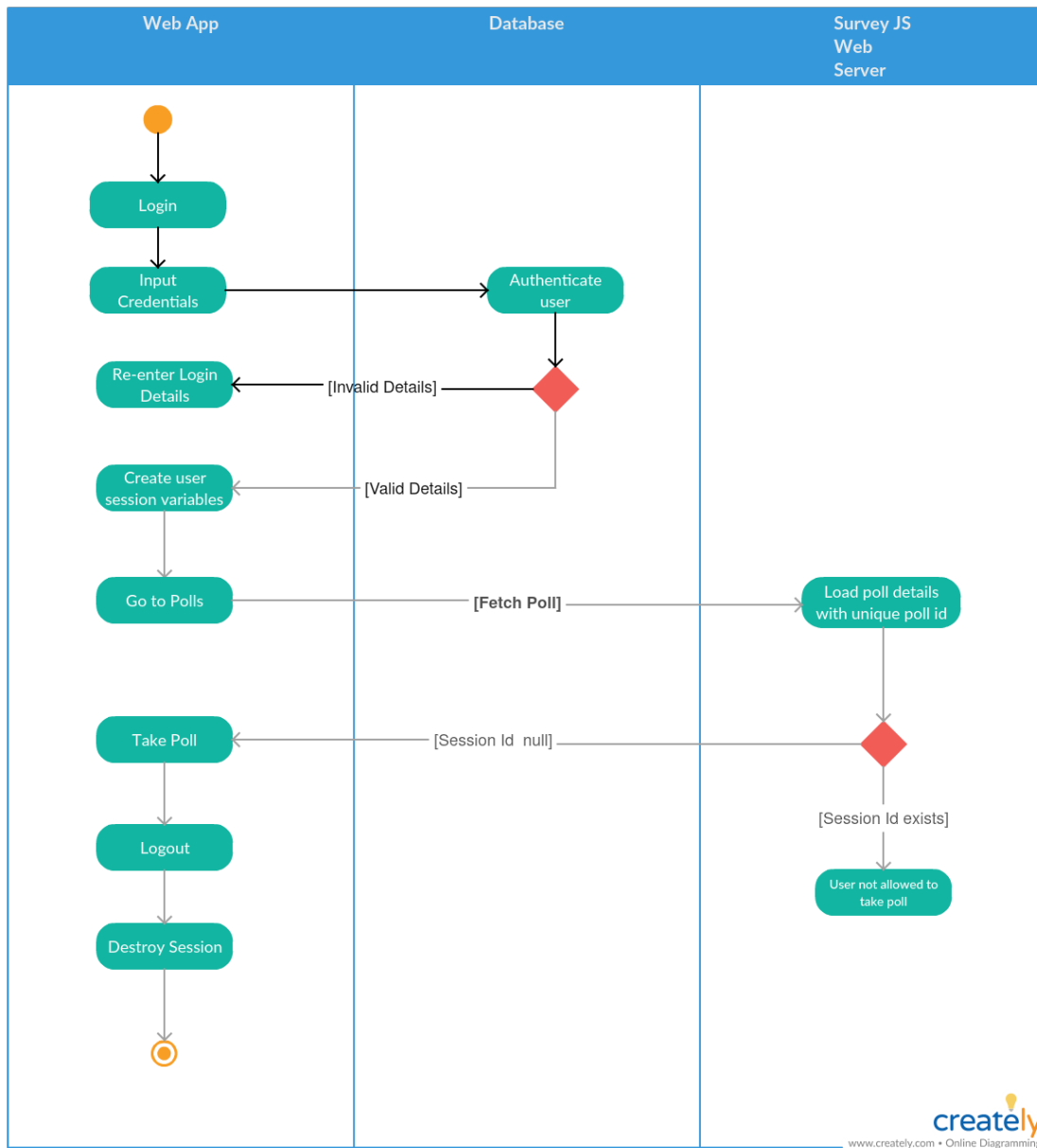


Figure 3.3 Activity Diagram for poll participation

3.2.3 Component Diagram

The component diagram illustrates how users interact with the system and components. It gives a brief description of various stages of the communication process between the system and individual components involved.

A user can access the system with a phone or personal computer. Two databases exist for the project: phpMyAdmin on the web and Firebase which is a cloud real-time database platform. Depending on what action the user performs, calls made the database execute queries for the required information.

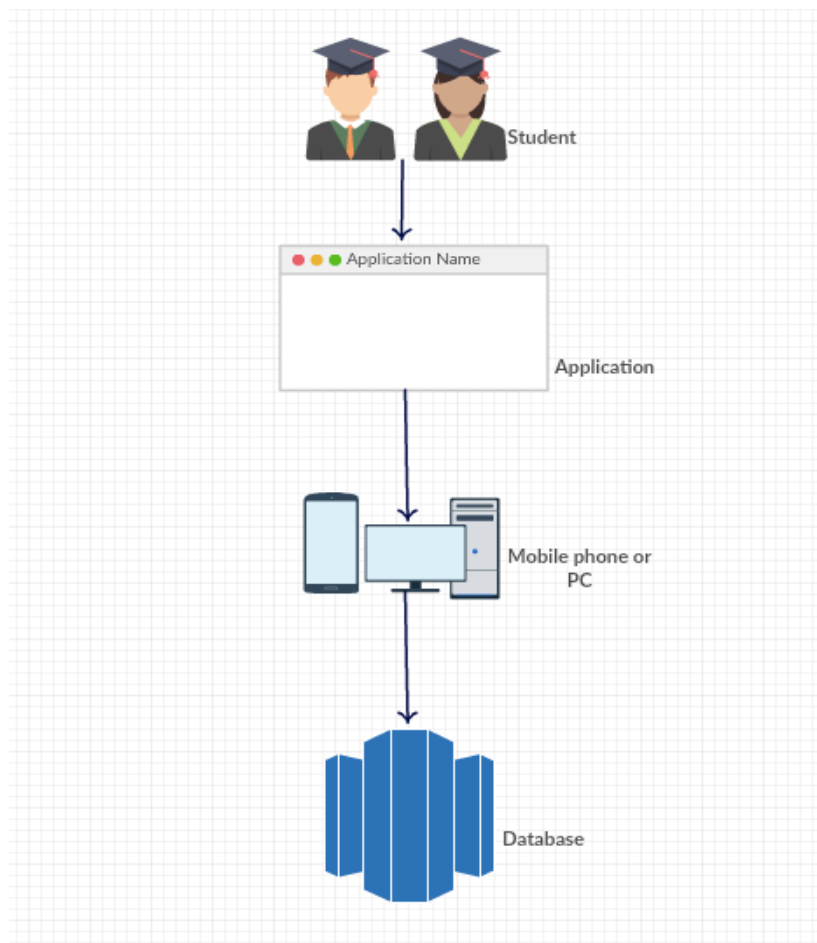


Figure 3.4 Component diagram

3.2.4 Application

The application focuses on what the user sees. Being a web application, the user requires internet to access the app given a URL. The student can access the web application on either a laptop, computer or mobile device.

3.2.5 Database Architecture

This is the component that deals solely with the collection and storage of user data. When a user registers, user data is stored in the database. This is to help prevent multiple users from registering with the same account details. The login process is quite similar and requires an extra level of authentication. The system checks if that username/email exists in the database and if it does, the user can go ahead and login with the valid password. An invalid login will throw an error and give the user the chance to login again.

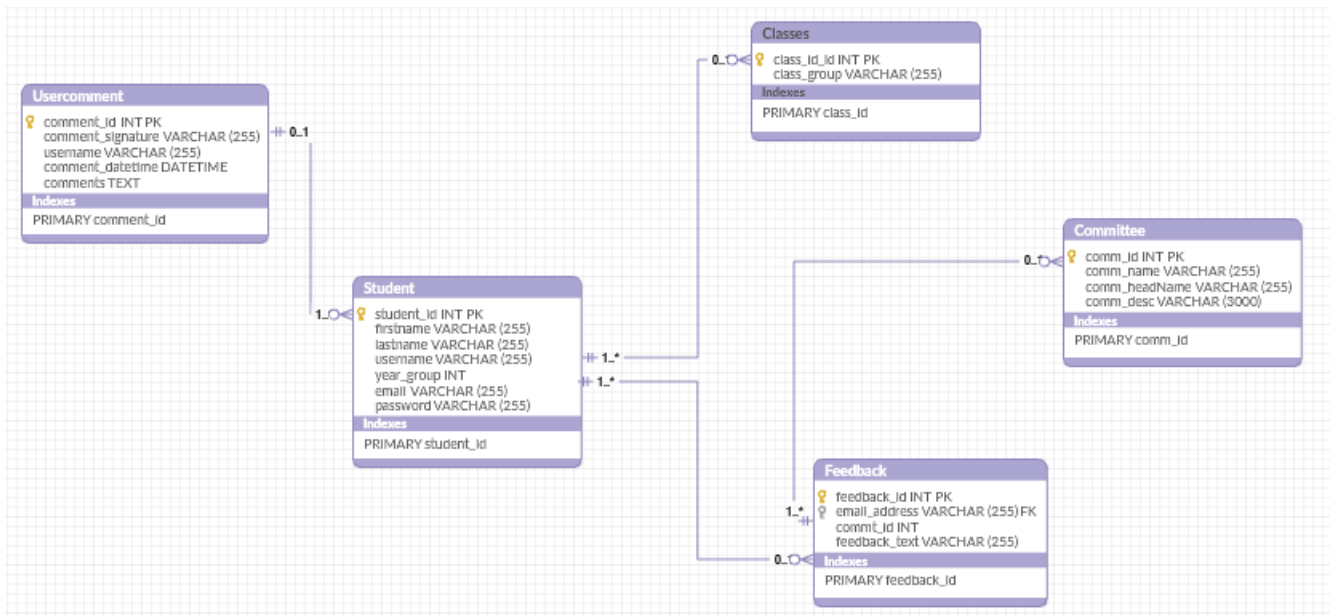


Figure 3.5 Entity relation diagram

3.3 Sequence Diagram

The sequence diagram shows a representation of the sequence of action for a defined activity. It shows a step by step process of every action and the processes that go on in the back end, to make it possible.

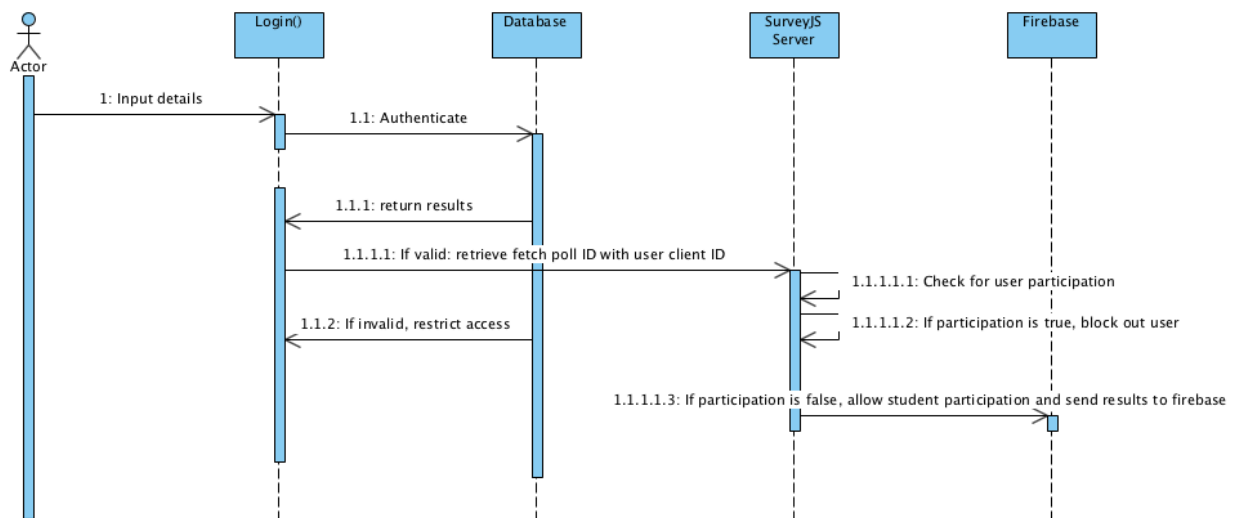


Figure 3.6 Login sequence diagram

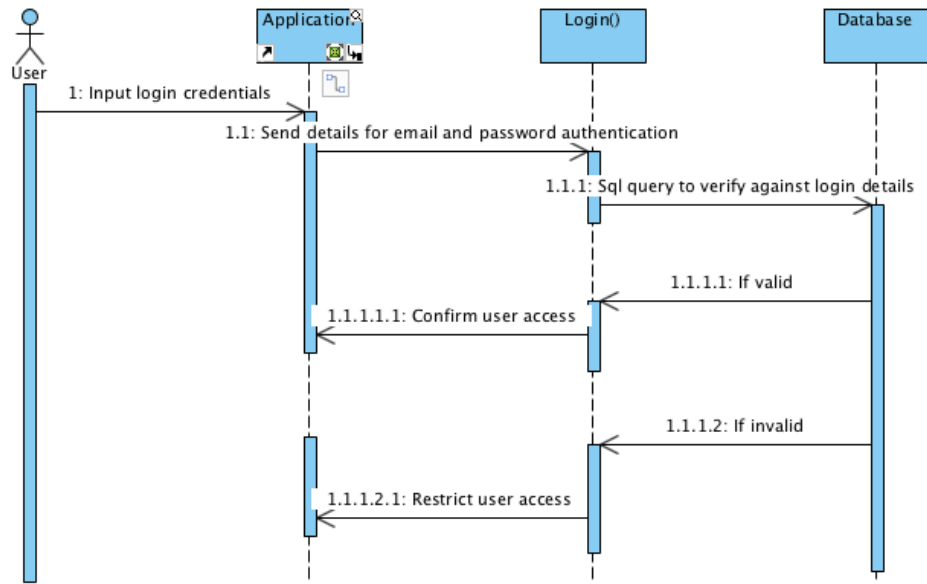


Figure 3.7 Polling sequence diagram

Chapter 4: Implementation

This chapter focuses on the implementation of the system and the technologies that are useful at each stage.

4.1 Hardware Configuration

There is very little use of hardware for this project. The only hardware used is that which the client uses to access the system, such as a PC or mobile phone. From the developers end, most of the work done is based primarily on the web platform.

4.2 Backend Implementation

4.2.1 Tools and Technologies

Table 4.1 Description of tools and technologies

Tools	Description
HTML5	HyperText Markup Language was used for front end development which is suited for web applications.
CSS3	Cascading Style Sheets was used for styling web pages built with HTML.
Bootstrap	Bootstrap is a tool used for web development alongside HTML, CSS and JavaScript
PHP 7.1.7	PHP stands for Hyper-Text Pre Processor which is a server-side scripting language. A web application makes it easy to use PHP.
JavaScript	JavaScript is a supporting language for web development needed to customize the behavior of web applications.

JQuery	JQuery, a JavaScript library was used for front-end development of some functionalities.
JQuery-Tabledit	This library was used to perform basic operations such as edit, ordering and deletion of data in tables.
Datatables	Datatables is a JavaScript and AJAX library used for performing edit and remove operations on data in tables.
AJAX	AJAX, built off JavaScript, was used for retrieving data from web server/database without reloading a page.
GitHub	GitHub is a version management tool which was very essential during the system development stage. I used it to track changes and manage versions during development.
Sublime Text	Sublime Text is an integrated development environment that I used to develop and edit the application. It supports all file extensions useful to this project.

4.2.2 Software Implementation

The software for this project is hosted on a web platform. Users can access the application via a web URL that will be made available at the end of the development stage. As such, all devices that can connect to the internet and access a URL can be used to access the application. The app is developed using the basic languages for web technologies and a few other API's. These web technologies include PHP, HTML, CSS, JavaScript, JQuery and AJAX. Bootstrap is used as a framework for the front-end interface design alongside traditional CSS. Some elements of JavaScript are used alongside the front-end interface design to achieve some effects. Calls to the database are made using PHP via phpMyAdmin database. User details are stored in the database so there is authenticated access to the system.

4.2.3 Interface Design

The interface for the system was developed using the Bootstrap library and raw CSS.

Figure 4.1 shows the login interface for the user.

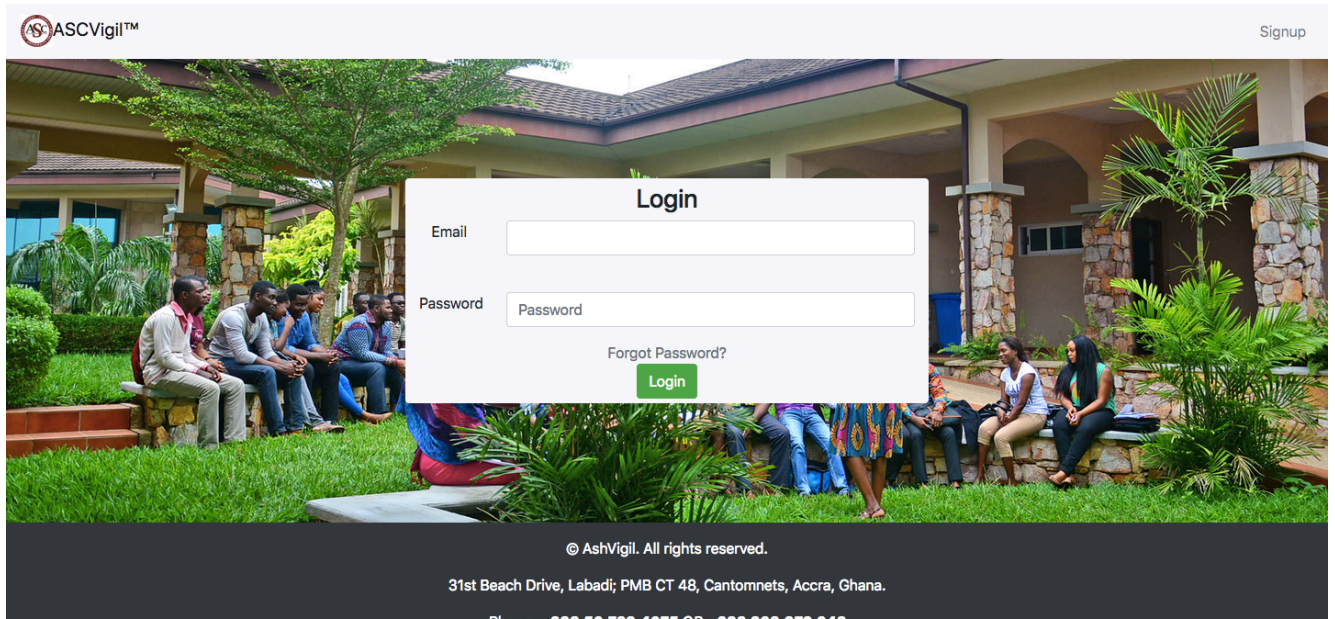


Figure 4.1 Login Page

The user is redirected to the home page after login is successful. The home page features a menu with a list of options/actions a user can participate in. A carousel displays images with captions.

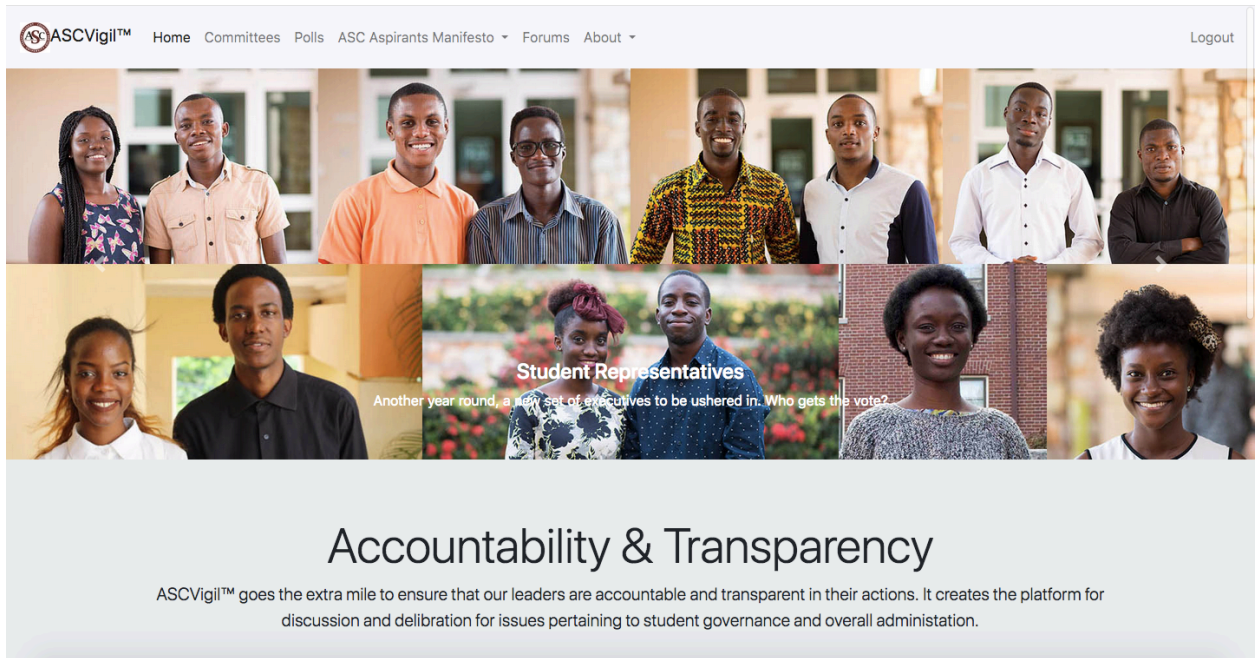


Figure 4.2 Home page

On selecting a poll, a user has to fill required fields as shown below in figure 4.3.

Thoughts on ASC Outreach Activity

Student Inclusion Survey

1. * Gender?

Please answer the question.

☒ Male
☐ Female

2. * Class?

Please answer the question.

☐ 2018
☐ 2019
☐ 2020
☐ 2021

3. * Are you part of any student committee or involved in student government?

Please answer the question.

☐ Yes
☐ No

Next

Figure 4.3 Example of a poll

The main polling service makes use of the SurveyJS library which makes use of JavaScript and JQuery. The results obtained from polls are secure and can be verified by the

system administrator to certify whether a user voted twice. IP addresses can also be looked up to verify whether a user is accessing the application from a suspicious location. The system blocks a user from taking part in a poll more than once. Results are stored on the SurveyJS server and can be obtained in various file formats such as XML, JSON and CSV. Alternatively, live results can be obtained by appending the data to a chart to display the results whenever a user participates in a poll. I will use ChartJS, a JavaScript enabled charting library to show data analytics.

Overview My Surveys Examples Docs Public API Docs						
	Submitted	Gender	Year Group?	What is your major?	On a scale of 1(poor) - 5(excellent), how well wou...	On a scale of 1(poor) - 5(excellent), how well wou...
▼	3/12/2018 6:13:48 PM +00:00	Female	2018	Business Administration	5	2
▼	3/12/2018 6:13:07 PM +00:00	Male	2019	Computer Engineering	5	3
▼	3/12/2018 12:16:12 AM +00:00	[Female]	[2020]	[Management Information Systems]	4	4
▼	3/12/2018 12:14:54 AM +00:00	[Male]	[2019]	[Mechanical Engineering]	5	3
▼	3/12/2018 12:13:19 AM +00:00	[Male]	[2020]	[Mechanical Engineering]	4	3
▼	3/12/2018 12:11:24 AM +00:00	[Female]	[2019]	[Computer Engineering]	5	4
▼	3/12/2018 12:07:51 AM +00:00	[Male]	[2020]	[Computer Engineering]	4	3
▼	3/12/2018 12:06:38 AM +00:00	[Male]	[2020]	[Computer Engineering]	5	1
▼	3/12/2018 12:06:19 AM +00:00	[Male]	[2020]	[Mechanical Engineering]	3	5
▼	3/12/2018 12:06:11 AM +00:00	[Female]	[2019]	[Business Administration]	4	5
▼	3/12/2018 12:05:20 AM +00:00	[Female]	[2021]	[Computer Science]	3	5
▼	3/12/2018 12:04:50 AM +00:00	[Male]	[2021]	[Management Information Systems]	5	3
▼	3/12/2018 12:04:20 AM +00:00	[Female]	[2020]	[Computer Engineering]	5	1

Figure 4.4 Results on SurveyJS server

4.2.4 Database Design

This section describes the design for the database to be implemented. This project makes use of two databases namely, phpMyAdmin and firebase. PhpMyAdmin is a free SQL and

database creation and management tool supported by PHP. The database, ashvigil, stored on phpMyAdmin is made up of 5 tables,

- Classes
- Committee
- Feedback
- Student
- Usercomment

The classes table stores information about the various classes/ year groups that indicate the level of the student. The feedback table holds all the feedback collected from feedback forms. The usercomment table also holds comments given under manifesto. Both the feedback and usercomment table have a rather challenging aspect to them.

Comments and feedback differ for each candidate manifesto and each executive committee respectively. To retrieve the corresponding feedback or comments for display, each comment/feedback will have a unique identifier that matches its type (executive committee/ candidate), so results can be easily retrieved without conflict.

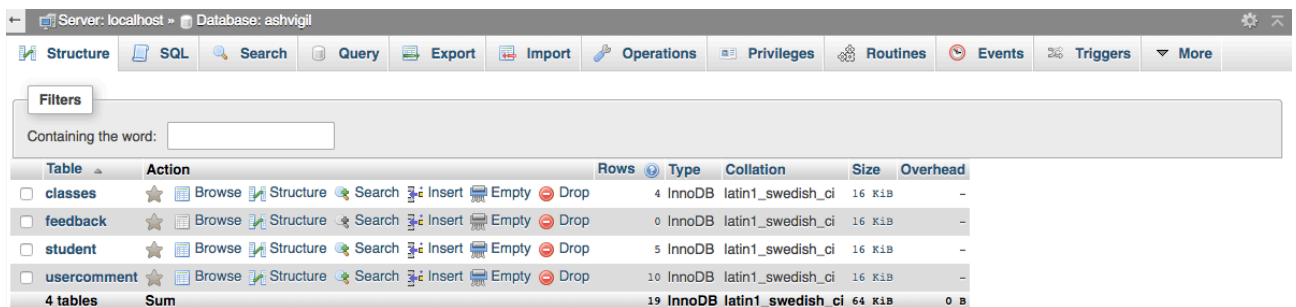


Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> classes	★ Browse Structure Search Insert Empty Drop	4	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> feedback	★ Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> student	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> usercomment	★ Browse Structure Search Insert Empty Drop	10	InnoDB	latin1_swedish_ci	16 KiB	-
4 tables	Sum	19	InnoDB	latin1_swedish_ci	64 KiB	0 B

Figure 4.5 Database in phpMyAdmin

Table 4.2 Database Structure

TABLE	FIELD	DATA TYPE	NULL VALUES	DESCRIPTION
Classes	class_id	int (11)	NO	Id of class groups
	class_group	varchar (255)	NO	Class groups in years
Student	student_id	int (11)	NO	Id of students automatically generated
	firstname	varchar (255)	NO	First name of student
	lastname	varchar (255)	NO	Last name of student
	username	varchar (255)	NO	Automatically generated username. Concatenation of firstname and lastname
	year_group	int (11)	NO	Year group of student (foreign key from classes table)
	email	varchar (255)	NO	Email address of student
	password	varchar (255)	NO	Password of student
Usercomment	comment_id	int (11)	NO	Id of comment
	comment_signature	varchar (255)	NO	Signature/unique identifier of aspirant page
	username	varchar (255)	NO	Signature of user; either username or anon
	comment_datetime	datetime	NO	Date and time comment was added

	comment	text	NO	Comment added
Feedback	feedback_id	varchar (6)	NO	Unique identifier of feedback added
	email_address	varchar (255)	NO	Email address of user
	commt_id	int	NO	Unique identifier of committee
	feedback_text	varchar (255)	NO	Feedback given by user

The real-time database, Firebase, stores JSON data collected from survey results solving the limitation posed by phpMyAdmin and the SurveyJS server. This enables collation of results in real time. Figure

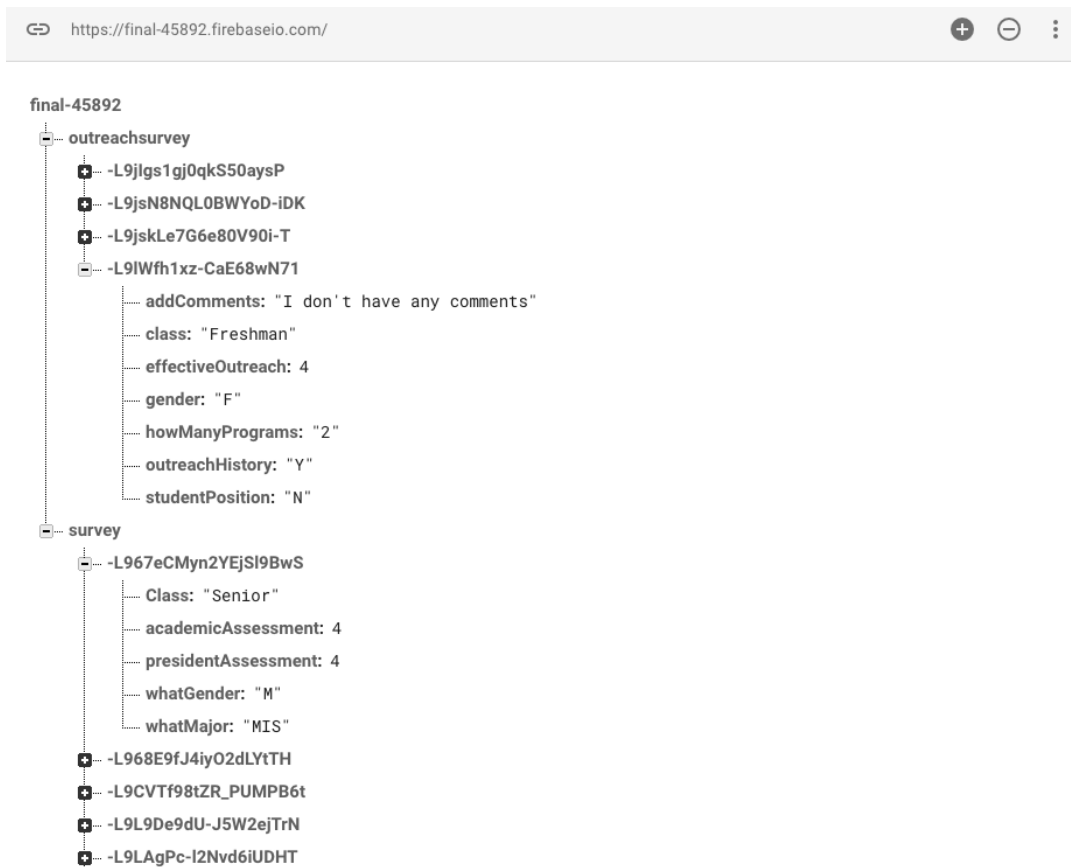


Figure 4.6 Firebase real-time database

4.2.5 Charts

To show the results of polls, I made use of the ChartJS library which is an API that is built on JavaScript and supports the use of JSON data to create and display a chart. Whenever a poll is run by a user, the results are automatically sent to the SurveyJS server and a firebase database. The use of the firebase database is to get real time results whenever a user participates in a poll. This was an efficient solution as opposed to the periodically retrieving results from the SurveyJS server.

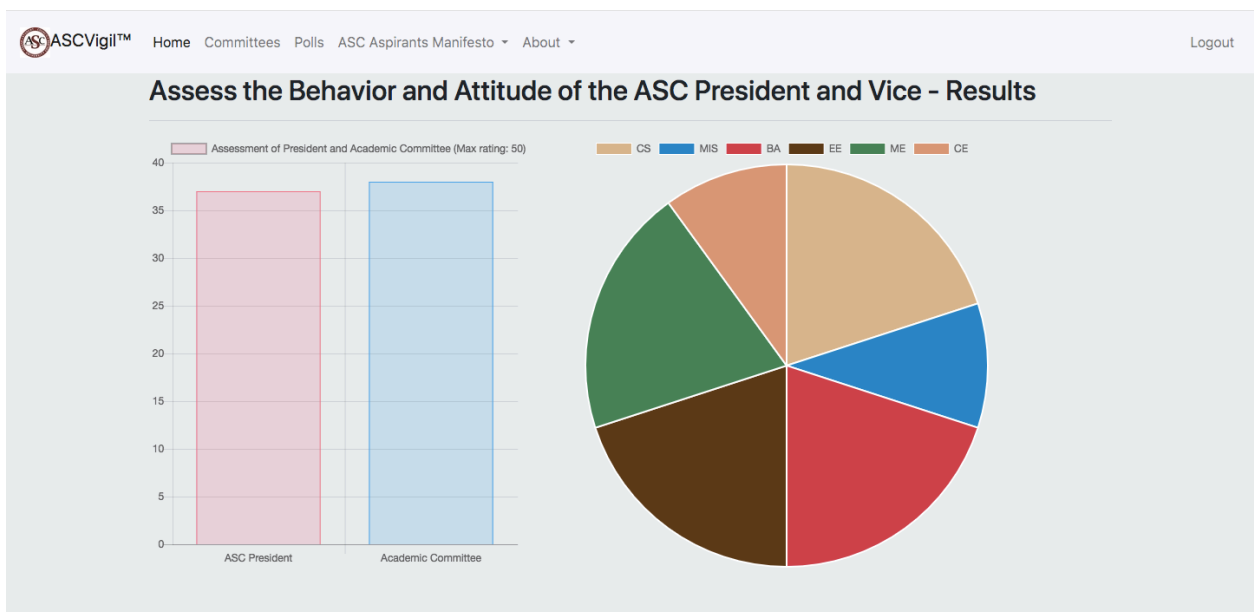


Figure 4.7 Chart developed from poll results using ChartJS

Chapter 5: Testing and Results

5.1 Introduction

This chapter focuses on testing components and units of the system for the desired output. When conducted, errors that were identified, were fixed before the application was released.

5.2 Development Testing

Tests were carried out during the system development stage to detect and correct errors that occurred.

5.2.1 Component Testing

Table 5.1 Database tests

PHP Function	Description	SQL Command	Expected Result	Actual Result
insertComment(\$pageid)	Add a comment	INSERT INTO usercomment (comment_signature, username, comment_datetime, comments) VALUES ('\$pageid', '\$username', '\$datetime', '\$comment')	Row inserted with unique id	1 row inserted. Inserted row id: 33
addFeedback(\$comt_id)	Send feedback via feedback form	INSERT INTO feedback (feedback_id, email_address, commt_id, feedback_text) VALUES ('\$fid',	Add row	1 row inserted

		'\$eml', '\$comt_id', '\$resp')		
updateCommData()	Edit committee details	UPDATE committee SET comm_name = '\$cm_name', comm_headName = '\$cm_head', comm_desc = '\$cm_desc' WHERE comm_id = '\$cm_id'	Update affected row	1 row affected . Query took 0.0163 seconds
loadFeedbackForm(\$id)	Load feedback forms dynamicall y with respective committee names	SELECT comm_name, comm_id FROM committee where comm_id = '\$id'	Retrieve rows	Showin g rows. 1 total, query took 0.0026 seconds
displayComments(\$pageid)	Display comments based on page	SELECT username, comment_datetime, comments FROM usercomment where comment_signature = '\$pageid'	Display total rows	Showin g 0-7. 8 total, query took 0.0017 seconds.

5.3 User testing

On completion of the development of the project, I carried out a black box test by allowing users to use the application, as they would wish. A total of 8 users took part in the black box test. I asked users to test registration and login functionalities which were both successful. Introductory emails were sent after users successfully registered. Users also tested the polling functionality, which allowed them to partake only once. Most users viewed results

before and after taking part in a poll, as a way of identifying any changes made to the results. Comments and manifesto feedback were successfully collected from the user through well-functioning forms.

5.3.1 Analysis of User Test

During the testing phase, most users wanted to assess how the results of the charts before and after they took part in a poll. As desired, the system showed the desired changes. Two users pointed out that the font was a little distracting, whereas the remaining users thought otherwise. Three users preferred to access poll results via a separate link while two others suggested that result charts show up on completion of a poll. The remaining users were indifferent to these views. Majority of the users (5) were motivated to use the application because of its easy navigation and interactive user interface.

5.4 Summary of Tests

The tests conducted showed the expected and actual results when data is queried from the database. The right feedback forms are loaded from the database as desired. A new committee can be added and existing committee details, which are loaded dynamically from ajax calls, can be edited. These satisfied the functional requirements for the system.

Chapter 6: Conclusion and Recommendations

6.1 Introduction

The objective of this project is centered on providing students with an online platform where they can address issues concerning student governance, give constructive feedback to executive arms of the student government and track the manifesto by its pledges to foster accountability and transparency.

The developed system features a fully functional polling system where users can give their honest opinions based on a particular poll. It also features charts that shows data collected from results obtained for analysis and easy interpretation by student government representatives. Also, the system administrators can use the results obtained to improve user experience and attract more users.

6.2 Limitation

Due to time and financial constraints, representatives of the student government are unable to send updates to the entire Ashesi community directly. Instead, they have to contact the system administrator to send updates on their behalf.

The administrator of the system cannot directly add, delete and see results of polls from the system. The SurveyJS system has to be accessed outside the application for manipulation of polls.

6.3 Future Work

This project will produce a system which is very vital for elections and fostering accountability. Since this project is centered on Ashesi, members of the student government

can identify particular issues/areas they need to work on and improve. This system can be merged with a voting application that allows members of the Ashesi community to vote during student government elections. This will lead to the development of an all-in-one application for voting, assessing student government performance and ensuring accountability and transparency after elections.

6.4 Conclusions

The road to good governance rests in the hands of both the government and those being governed. Finding ways to maintain good governance can be a herculean task. Transparency and accountability are ensured by the arms of government through separation of powers and checks and balances. Nonetheless, the electorate also needs to keep the government accountable and in check through the adoption of strategic and efficient measures.

In the age of technological advancements, it is always better to look to innovative ways of solving problems. Ashesi's student government also upholds the same values of accountability. This system solves the problem of post-election assessment and evaluation by giving people the opportunity to track manifesto pledges. Also, it allows students to make comments on the incumbent's manifesto and give feedback to the president, vice president and executive committees of the student council. The use of tailored polls will also allow users to share their thoughts and express opinions concerning manifesto pledges as a way of tracking sturdy development. This application will prove vital in colleges and institutions with student councils and can be extended to nationwide use. "When technology meets good governance, accountability and transparency prevail."

Bibliography

- About*. (2018). *mySociety*. Retrieved 25 March 2018, from <https://www.mysociety.org/about/>
- Ashesi (2018). *Ashesi.edu.gh*. Retrieved 25 March 2018, from <http://www.ashesi.edu.gh/>
- Ashworth, S. (2012). Electoral Accountability: Recent Theoretical and Empirical Work. *Annual Review of Political Science*, 15, 183–201.
- Ayee, J. A. (2011). Manifestos and elections in Ghana's Fourth Republic. *South African Journal of International Affairs*, 18(3), 367–384.
<https://doi.org/10.1080/10220461.2011.622951>
- Ayee, J. A. (2016). The Roots of Corruption: The Ghanaian Enquiry Revisited. *Governance Newsletter*, 21(4), 21.
- Chart.js | Open source HTML5 Charts for your website. (n.d.). Retrieved April 17, 2018, from <http://www.chartjs.org/>
- DataTables | Table plug-in for jQuery. (n.d.). Retrieved April 1, 2018, from <https://datatables.net/>
- Felsenthal, D. S., & Brichta, A. (1985). Sincere and Strategic Voters: An Israeli Study. *Political Behavior*, 7(4), 311–324.
- Ibrahim Prize for Achievement in African Leadership*. (2018). *Mo Ibrahim Foundation*. Retrieved 25 March 2018, from <http://mo.ibrahim.foundation/prize/>
- Institute of Economic Affairs. (n.d.). Inauguration of the IEA Presidential Debates Committee | IEA. Retrieved April 16, 2018, from <http://ieagh.org/iea-event/inauguration-of-the-iea-presidential-debates-committee/>
- jQuery-Tabledit. (n.d.). Retrieved April 1, 2018, from <http://markcell.github.io/jquery-tabledit/>

- Jockers, H., Kohnert, D., & Nugent, P. (2010). The Successful Ghana Election of 2008: A Convenient Myth? *The Journal of Modern African Studies*, 48(1), 95–115.
- Judicial Service of Ghana. (n.d.). The Constitution Of The Republic of Ghana. Retrieved April 15, 2018, from http://www.jsg.gov.gh/constitution/chapter/chap_7.htm
- Otto, M. A. (2018). *Bootstrap*. *Getbootstrap.com*. Retrieved 25 March 2018, from <https://getbootstrap.com/>
- McLachlan, H. (2017). Making big manifesto promises is unethical – and can be disastrous for politicians. Retrieved January 26, 2018, from <http://theconversation.com/making-big-manifesto-promises-is-unethical-and-can-be-disastrous-for-politicians-78650>
- Norris, B. (1997). Should Politicians Be Legally Accountable for Their Election Promises? *Interstate - Journal of International Affairs*, 1996/1997(2). Retrieved from <http://www.inquiriesjournal.com/articles/1160/should-politicians-be-legally-accountable-for-their-election-promises>
- O'Day, B. J. (2003). POLITICAL CAMPAIGN PLANNING MANUAL. *National Democratic Institute for International Affairs*, 9–15. Retrieved from <https://www.ndi.org/sites/default/files/Afgh-campaign-planning-manual-ENG.pdf>
- Ochieng, A. (2015, November 3). Odekro: The End of Politics As Usual. Retrieved April 16, 2018, from <http://ayibamagazine.com/odekro-the-end-of-politics-as-usual/>
- Odekro | *What has your MP done for you?*. (n.d.). *Odekro.org*. Retrieved 25 March 2018, from <http://www.odekro.org/info/partners>
- Party rules: Promises and pitfalls. (2016). In *Party Rules?* (pp. 1–36). ANU Press. Retrieved from <http://www.jstor.org/stable/j.ctt1rrd7k8.8>

Student Government (n.d.). *Ashesi.edu.gh*. Retrieved 25 March 2018, from <http://www.ashesi.edu.gh/student-life-5/student-government.html>

SurveyJS: Online Survey Tools for your Application. (2018). *SurveyJS*. Retrieved 25 March 2018, from <https://surveyjs.io/>

Thomson, R., Royed, T., Naurin, E., Artes, J., Ferguson, M., Kostadinova, P., & Moury, C. (2012). The Program-to-Policy Linkage: A Comparative Study of Election Pledges and Government Policies in Ten Countries. Retrieved April 16, 2018, from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2106482

Voting | Definition of Voting by Merriam-Webster. (n.d.). Retrieved September 24, 2017, from <https://www.merriam-webster.com/dictionary/voting>

APPENDIX

Consent Form for Questionnaire

I would like to ask for your permission to be part of an empirical study for my final capstone project. The purpose of this study is to collect data from students/electorate considering the viability and features of an electronic voting system for the annual student representative council elections. Your participation and feedback will be much appreciated. You are free to be part of this study and also free to stop at any moment you wish. There are no risks involved in this study - your identity will remain confidential since personal details will not be collected. If you agree to be part of this study, your views and preferences will be used as data forming the basis for the design of an e-voting system. For further information, you can contact my supervisor, Mr. David Ebo Adjepon-Yamoah (dadjepon@aucampus.onmicrosoft.com).

This study and consent form has been reviewed by Ashesi IRB for Human Subjects Research. For further information, contact the committee through irb@ashesi.edu.gh.

.....

Participants Signature

Questionnaire

1. Gender *

☐ Male ☐ Female

2. What class are you in? *

☐ 2018 ☐ 2019 ☐ 2020 ☐ 2021

3. What is your age? *

☐ 15-19yrs ☐ 20-25yrs ☐ 25-30yrs ☐ 31yrs and
Above

4. What is your nationality? *

5. Are you an eligible voter in your country? *

☐ Yes ☐ No

6. If YES, how many times have you taken part in national elections?

7. How interested are you in student elections and politics? (1 = no interest at all, 5 = very interested) *

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

8. Have you ever taken part in student council elections? *

☐ Yes

☐ No

9. If YES, how many times have you taken part in Ashesi Student Council Elections?

☐ 1

☐ 2

☐ 3

☐ 4

☐ Never

10. If NO, what was your reason for not voting?

11. How interested are you in an incumbent's assessment/evaluation post-elections? (1 = no interest at all, 5 = very interested) *

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

12. Have you had any experience in post-election assessment (or a candidate's manifesto assessment), whether in Ashesi or outside Ashesi? *

☐ Yes

☐ No

13. If yes, in what situation did you experience this? **(Tick all that apply)**

☐ Ashesi SRC elections

☐ National elections

☐ Other: _____

14. How was the assessment carried out? **(Tick all that apply)**

☐ Direct interaction with representative

☐ Suggestion Box

☐ Open Forum

☐ Town Hall Meeting

☐ Online Poll

15. Would you be interested in a web platform that ensures accountability after student elections and assessment of the incumbent's manifesto? *

☐ Yes

☐ No

16. What features would you want the system to have? **(Tick all that apply)**

☐ Online polling

☐ Regular updates from incumbent

☐ Portfolio of incumbent

☐ News updates

☐ Regular updates from committees and parliament

☐ Comments section

☐ Other: _____

17. Any additional comments, suggestions or recommendations?

Questionnaire Results

The results of the questionnaire were displayed in charts.

Gender?

108 responses

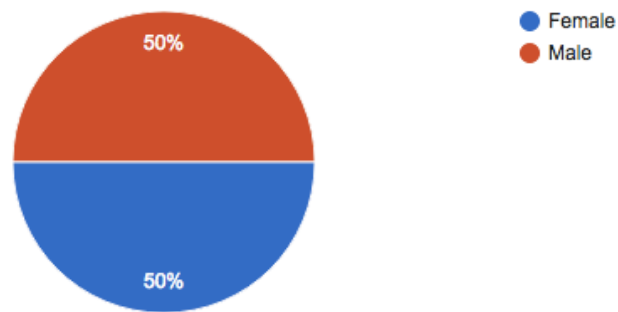


Figure 7.1 Results showing the distribution of genders

Class?

108 responses

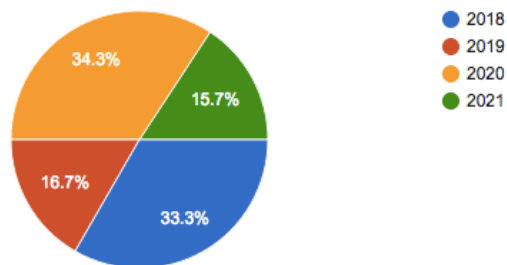


Figure 7.2 Results showing distribution of classes

Age?

108 responses

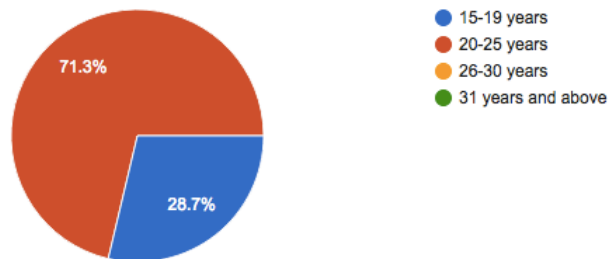


Figure 7.3 Results showing the distribution of age groups

Are you an eligible voter in your country?

108 responses

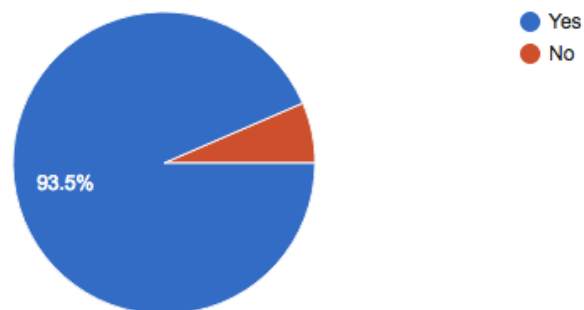


Figure 7.4 Results showing distribution of eligible voters

How interested are you in student elections and politics? (1= no interest at all, 5= very interested)

108 responses

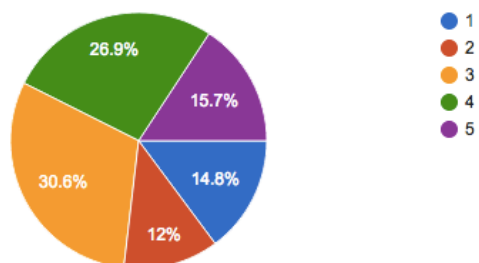


Figure 7.5 Results showing participants interest in student politics

Have you ever taken part in student council elections?

108 responses

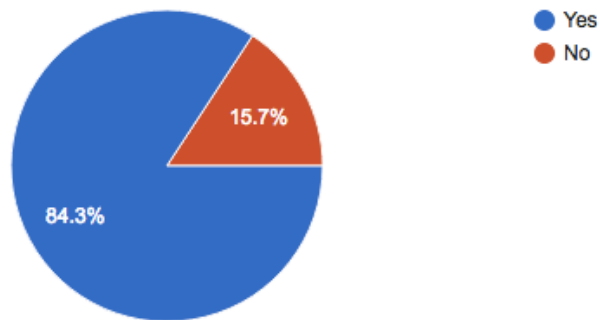


Figure 7.6 Results showing participants history of partaking in student elections

How interested are you in an incumbent's assessment/evaluation post-elections? (1= no interest at all, 5= very interest)

108 responses

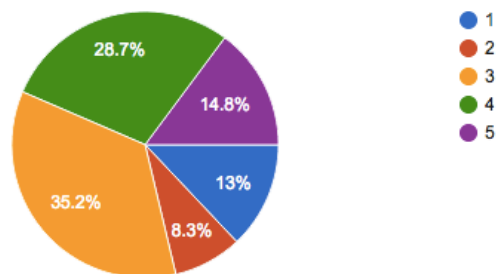


Figure 7.7 Results showing participants interest in post-election assessment

Have you had any experience in post-election assessment (or a candidate's manifesto assessment), whether in or outside Ashesi?

108 responses

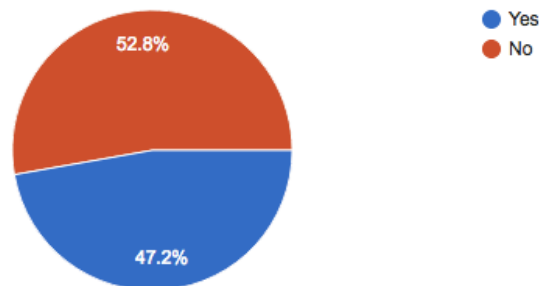


Figure 7.8 Results showing participants experience in post-election assessment

Any additional comments, suggestions and recommendations?

11 responses

No (4)
No no no, that will be all 😊
I'm really not interested in politics
It is a worthwhile decision for leaders to give regular feedback on their achievements
I think it is a good idea, we really need to keep our leaders in check by assessing their manifestos
ASHESI NEEDS ONLINE POLLING
I think that a post-election assessment system should be stating the roles of the leaders consistently, may every week, in a way that can convey message to the public easily. If it was at a national level, I would say that there should a facebook post every week that describes the role of position in government, eg judiciary, counselor, et c, so that citizens should be aware of what they vote for in power. Government and governance should not be abstract and boring to understand. That's why many people do corruption and abuse of power. (Because a majority of people in the system do not keep pay attention to them.)
NA

Figure 7.8 Results showing additional comments by participants