**Chapter 1**

**INTRODUCTION**

Over the years, technology has improved the lives of us humans in every way it can. It can now be found in almost every aspect of our lives today, and one example of it is it makes us more connected with other people which made seem that distance will no longer be a problem in communication as long as there is an access to the modern technology.

Aside from communication, another example of solution provided by technology is the use of computers and internet to help people learn more. According to Hedges (2009), "The internet is growing rapidly in this era. It seems like many people are using internet to enhance their knowledge about everything". People, including teenage students, would also express their opinions online, and some would even actively engage in debates in social media. Even in the use of democracy, the computers and internet have also found its roles. In fact, these past few years, the country Estonia has been conducting its national and municipal elections over the internet. And in conducting Student Government Elections in school, what then should stop students from utilizing the internet to express their choices in voting? The proponents did an analysis and implementation plan on how to harness the potential of web technology in conducting Student Government Elections.

**Project Context**

The proponents did some analysis in the school’s existing voting system to ensure that they have built the right system based on the requirements of the client (school) for the project.

Over the years, part of the Mater Dei Academy’s curriculum in developing its students into well-rounded individuals is involving them in extra-curricular activities such as Student Government (SG). This aims to develop the potential and skills of students when it comes to leadership, who in turn, may become future leaders in the different aspects of the society.

The project, which was entitled Web-Based Voting System for the Student Government Election of Mater Dei Academy, is a computerized voting system that was designed for holding Student Government Elections in web platform. This project intends to solve the project beneficiary’s problems in their current system of voting, which is done manually by using paper ballots and manual counting of votes.

In the school’s existing system of voting, every process was being done in a manual and traditional fashion. Ballots are being printed in bond papers, there is a limit of only five students voting at a time in a room, the name of the voter is being handwritten on the ballot, the choices being shaded by the voters, and the vote canvassing and tallying were done in the manual manner also.

However, having a voting system done in a manual fashion has its disadvantages. First, the method is quite costly because the school needs to print ballots every year since the names of the candidates in the yearly elections are dynamic. Secondly, the results are prone to fraud because the ballots can be tampered, and the vote counts can be manipulated. Third, if a student fails to shade a candidate in a position, his/her ballot will be considered null and void, which would be unfair for the voter who spent time and effort filling up the ballot while it gets discarded in the end because of a mistake which is most likely unintentional. And lastly, because the votes are being counted manually, it tends to consume a lot of time. The last two things mentioned above were very prone to human errors, which when overlooked will produce an erroneous and inaccurate result of the election. And of course, because those processes mentioned above were being done manually, it will take a long time for the election itself to finish.

Upon the interview, it was found out that the beneficiary was quite reluctant to use technology upon some certain activities such as the SG Election due to lack of their knowledge on how to implement it so they resorted to doing such activities in a manual way.

As for the by-laws of the School’s Student Government Elections, albeit its principles are largely based on the DepEd Order No.47, s.2014, Article III, there is no concrete constitution that has been formulated yet by the Election Committee as of the time of proponents’ data gathering from the beneficiary. This is because according to the Election Committee, the Mater Dei Academy is a private institution which has the right to devise its own by-laws in the said event, unlike the public elementary and high schools, which are obliged to implement and comply with the said order strictly.

**Purpose and Description**

This portion deals with the possible benefits of the project for the proponents, as well as the functions of the system and its benefits.

**Purpose.** We, the proponents, believe that the very purpose of the accomplishment of this capstone project is to make us ready to work in the IT Industry by giving us the knowledge and applying it at the same time, as well as the discipline, character, and mindset it molds inside of us as IT students and future IT professionals.

**Description.** The system is divided into two parts: The Admin Side and the Client-Side Application, in which there is a corresponding user access level on each, namely: admin user and the voter. The Admin Side modules include user access verification, election module to create, manage and close an election, monitoring of partial results and voters, archives (module for vote traces, login records, records of currently enrolled students who are eligible for voting, candidates, results of current and previous elections, reports etc.), account settings and management which enables the admin user to add or delete admin accounts, and lastly, the configuration settings just in case the beneficiary wants to run the system in LAN-based environment. The Client-Side is composed of user access verification module and the voting module where the voter is going to vote based on the choices of candidates provided by the admin user in the system. The said module also allows the voter to review his/her ballot before casting it. There are also additional optional functional units for the two types of users, the backup module for the Admin Side which is a backup of data which can be imported or dumped in the system. On the Client-Side, there is an election monitoring module which enables the voters to track the partial results of the election. The password settings, when enabled is also available for both types of users so that they can modify their passwords.

If the proposed system will be implemented, the school doesn’t need to layout and print hundreds of ballots every year whenever there is an election, the canvassing will be much faster, no more votes getting voided because the system will check if the required fields/choices are satisfied, and its output more accurate because every calculation will be done by the computer. Also, instead of having to shade the choices in ballots, votes are being done in just a few clicks. By applying the use of modern technology, the proponents believe that it will greatly ease up the school’s election process.

**Objectives**

There are two types of objectives in this project, the General Objective which provides a macro view on the goals of the proponents for the project, and the Specific Objectives which explains in detail the aim of the system in which its functions were based.

**General Objective.** To design, develop, and deliver a reliable and efficient software solution that will help the beneficiary to appreciate and maximize the use of web technology in conducting their Student Government Elections and replace their traditional way of doing it.

**Specific Objectives.** The following are the specific objectives that the system must accomplish.

* 1. To understand how the existing (present) system operates;
  2. To determine the problems encountered in the existing (present) system;
  3. To develop a software application that would:

1. Enable users to login and logout of the system and access its content which would depend on the type of the user access they have
2. enable the election committee to easily input the records that are required for an election
3. enable the election committee to create, manage, and close an election event
4. enable the election committee to manage the records inside the database of the proposed system
5. enable the election committee to generate reports and other information that are considered as required outputs based from the existing (present) system
6. let the election committee monitor an ongoing election event, as well as provide real-time partial results of it
7. enable the election committee to create a candidate list and generate ballots that will be used later in voting
8. Let the voters vote in a ballot generated by the system, choosing the candidates from the choices provided by the election committee in the system, and enable them to review their votes before sending it for canvassing which will be stored eventually in the database
   1. To determine whether the proposed project will be technically, operationally, scheduled, and economically feasible to implement; and
   2. To develop an implementation plan for the proposed software/ system.

**Scope and Limitations**

Educational institutions have been using a manual library system for the past many years. This section presents the scope and limitations of the project.

**Scope.** The proposed system was designed only primarily for conducting and managing the Student Government Elections of Mater Dei Academy, though it can be also used for other types of student organization elections as it was designed to cope with dynamic demands of the beneficiary regarding the mentioned types of elections.

**Limitations.** On the other hand, the proposed system does not include free access to the internet (which in whatever case shall be shouldered by the beneficiary or the voters) to access the system if it was being hosted online. Furthermore, the responsibility on keeping the confidentiality of the passwords and other sensitive information are expected to be on the election committee, students and other individuals entrusted by the said committee to handle it. The system and the developers are not responsible for any leak of password or other sensitive data if the users fail to comply with the condition above.