**AUTOMATED VOTING SYSTEM OF STUDENT COUNCIL ORGANIZATION USING QR CODES OF GOLDENSTATE COLLEGE, GENERAL SANTOS CITY**

A Capstone Project presented to the

Faculty of College of Information Technology Education

Goldenstate College, General Santos City

In partial fulfilment of the Requirements for the degree

Bachelor of Science in Information Technology

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May 15, 2021

**APPROVAL SHEET**

This Capstone Project hereto entitled:

AUTOMATED VOTING SYSTEM OF STUDENT COUNCIL ORGANIZATION USING QR CODES OF GOLDENSTATE COLLEGE, GENERAL SANTOS CITY

developed and submitted by Alicia B. Adasas, John Michael S. Banayo, Roshannie M. Cadavez, Ezexiel D. Dela Cruz, Glenn A. Lopez has been examined and is recommended for acceptance and approval for ORAL EXAMINATION.

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APPROVED by the committee on Oral Examination with a Grade of **PASSED** on May 10, 2022.

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**ELMER M. BALOYO JR., MIT**  Program Head

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Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DEDICATION**

**ACKNOWLEDGEMENT**

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**CHAPTER I**

**BACKGROUND OF THE STUDY**

Introduction

**GENERAL** **OBJECTIVE OF THE PROJECT**

This project was founded and created to replace the existing manual voting system that had produced inconvenience not only to the voters but also to the election facilitators. Our goal was to develop a secure, fast, accurate, user-friendly system for a small-scale election.

**SPECIFIC OBJECTIVES OF THE PROJECT**

Specifically, the project aimed:

* To implement a fast, easy and systematic way of conducting a voter’s registration and candidate applications.
* To properly manage the election in a well-organized manner.
* To secure the integrity of votes of the student.
* To generate quickly a correct, accurate and reliable canvassing result.
* To generate instantly needed summarized and accomplishment reports

**SCOPE AND LIMITATION**

**Scope**

The proposed system includes login for administrator and login for the students. The Admin has the only rights to access the administration area and authorized to access the transaction such as adding, editing, and deleting of information inside the system. The students will login as voter. The system is designed with a user security access level and it is responsible of determining the authenticity of the voter by his/her given student name and id number. Student that officially registered as voter can only vote once. The system would be responsible for counting the votes and has the capability to release required reports regarding the list of voters, candidates and canvassing of results. Candidate records after the election will be saved and can be manually deleted by the administrator. The researchers used a programming language called Visual Basic because Visual Basic is more simple and user-friendly programming application software that can be easily understood by the beneficiary.

**Limitation**

The system is designed solely for the student council election of Goldenstate college only and it is not applicable in other student council election because the running positions were not the same.

**CHAPTER II**

**REVIEW OF RELATED LITERATURE AND STUDIES/SYSTEM**

Related Literature

Related Systems

**CHAPTER III**

**TECHNICAL BACKGROUND**

This chapter discusses the proposed system’s aspects like hardware and software specification, user and how the proposal system will work and how it is to be operated.

**TECHNICALITY OF THE PROJECT**

The Goldenstate College Student Supreme Council is currently using a pen and paper election system. The main focus of this project is to create an automated voting system using QR Codes in casting votes, tallying votes and printing reports and election results.

**DETAILS OF THE TECHNOLOGIES TO BE USED**

1. SOFTWARE – FRONT END
2. SOFTWARE – BACK END
3. OPERATING SYSTEM REQUIREMENTS
4. HARDWARE REQUIREMENTS

**HOW THE PROJECT WILL WORK**

**CHAPTER IV**

**METHODOLOGY**

This chapter contains the analysis of the proposed system. It brings about the plan, design and usefulness of the proposed system. This will help the council in better understanding of the proposal that would be beneficial to them. The operational and technical aspects including the schedules are cited in the implementation of the Automated Voting System.

The next paragraphs will include:

1. What model or method is used in the development of the system?
2. Enumerate the first, second, third, fourth and continuous steps that you did or you will do in the development of the project.

**ENVIRONMENT AND LOCALE**

In this section you will discuss the brief history of the partner-establishment and when it was founded. This also includes the detailed or specific address of the partner-establishment. Attach also a Google map and pictures of façade of the partner-establishment. Cite the pictures as “FIGURE 2.0” to be included in your List of Figures.

**POPULATION OF THE STUDY**

In this section details the number of employees or number of workforce. What are their positions and present the organizational structure. Attach an organizational structure. Cite the organizational structure as ‘FIGURE 3.0” to be included in your List of Figures.

**OPERATIONAL FEASIBILITY**

This section includes the cause and effect diagrams. The fishbone diagrams will help identify the possible causes to problems and sorting ideas into useful categories. The proposed system should be user-friendly and satisfies the end-user requirements.

Attach all the Fishbone diagrams. The topics of the fishbone diagrams should be the problems encountered by the existing system used. Cite the Fishbone diagrams as “FIGURE 4.0” and should be included in the List of Figures.

**TECHNICAL FEASIBILITY**

In considering whether the proposed system is technically feasible, the researchers survey the area and checked the necessary technologies. The following are the needed resources in the proposed system:

**HARDWARE**

These are the requirements for hardware to fully operate the proposed system.

Please include the following in this section

1. CPU Specification
2. RAM Memory Specification
3. HDD Specification
4. Brand/ Model / Description of Monitor
5. Brand/ Model / Description of Keyboard
6. Brand/ Model / Description of Mouse
7. Others such as Printer / Scanner / Speaker

**SOFTWARE**

These are the requirements for hardware to fully operate the proposed system.

1. OS Specification
2. Front-end Specification
3. Back-end Specification

**SCHEDULE FEASIBILITY**

The schedule feasibility is an estimation of the timetable of system development and if it can be completed in a given time period. It is the measurement of how reasonable the timetable of the project is.

Table 1.0 – The Gantt Chart

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

The table above shows how the study is developing by the researchers illustrated through the time frame versus tasks using the Gantt Chart.

**REQUIREMENTS MODELLING (SCREEN LAY-OUT)**

During the requirement analysis phase, the researchers must have to identify and describe all system requirements. The System Requirement Checklist presents the input, process, outputs, performance and controls.

1. INPUT – is the data collected that is being stored in the database
2. PROCESS – is the processes done in a particular sub-system
3. OUTPUT – is the result of all inputted data
4. PERFORMANCE – is the remark that the output is working properly and error-free
5. CONTROL – is the order to limit the operation

Table 2.0 – Sales Transaction

|  |  |
| --- | --- |
| INPUT | New Customer, Quantity, Customer Name,  Amount Tendered |
| PROCESS | Product Available, Transaction Date, Payment Information, Running Total |
| OUTPUT | Sales Information |
| PERFORMANCE | Accurate , No Error |
| CONTROL | None |

The Table 2.0 shows the data and input-process-out, performance and control for Sales Transaction

Add additional tables – the tables will depend on how many sub-system / MENU or functions are there in your system. The table above is a SAMPLE ONLY.

**DATA AND PROCESS MODELLING**

In this section, it shows the whole flow of the system. This includes the Context Diagram, the Entity Relationship Diagram and the Data Flow Diagram used to describe the flow of the data.

1. The System Context Diagram

It is a diagram that defines the boundary between the system, or part of a system and its environment showing the entities that interact with it.

Figure XX.X: The System Context Diagram of the Automated Voting System of the Goldenstate College – General Santos City.

**DATA FLOW DIAGRAM**

The Data Flow Diagram is a graphical representation of the flow of the data through an information system. It enables you to represent the processes in your information system from the viewpoint of data.

After the diagram, please write a Figure XX.X: Name of the Diagram. The number of the diagram will depend on the number MENU in the project.

**SYSTEM FLOWCHART**

After the chart, please write a Figure XX.X: The proposed system flowchart of the Automated Voting System of the Goldenstate College. There is only 1 proposed system flowchart.

**PROGRAM FLOW CHART**

After the chart, please write a Figure XX.X: The Program Flow Chart of the Automated Voting System of the Goldenstate College. The number of program flowchart will depend on the number of MENU in the project

**SYSTEM DESIGN**

In this chapter, it shows the screenshots or Graphical User Interface (GUI) of the system that serves as a manual guide that aims to help the user to familiarize the system and for them to understand the flow of the system.

**INPUT DESIGN ANS USER INTERFACE**

This refers to the space where interaction between humans and machines happened. It is where the users are allowed to manipulate the system or the system to indicate the effects of the user’s manipulation.

**OUTPUT DESIGN**

This refers to the finish product of the system that can usually be printed on paper such as reports that can be displayed in the screen.

**FORMS**

**Insert the Forms**

After the form, please write a Figure XX.X: Log-in Form. The number of forms will depend on the project.

**ENTITY RELATIONSHIP DIAGRAM**

In a definition fromsmartdraw.com, an Entity Relationship Diagram (ERD) shows the relationship of entity sets stored in the database. This illustrates how entities such as people, objects or concepts relate to each other within a system.

INSERT THE ENTITY RELATIONSHIP DIAGRAM

After the diagram, please write a Figure XX.X: Entity Relationship Diagram

There is only 1 Entity Relationship Diagram.

**DEPLOYMENT DIAGRAM**

The Deployment Diagram is used to visualize the topology of the physical components of a system, where software and hardware components are being deployed.

INSERT THE DEPLOYMENT DIAGRAM

After the diagram, please write a Figure XX.X: The Deployment Diagram

There is only 1 Deployment Diagram.

**CONCLUSION**

Create conclusions based on noted observations from manual process and their problems encountered. Thus, the use of particular system will eradicate their problems and making the operation more productive, easy and accessible.

**RECOMMENDATIONS**

Create recommendations based on your noted changes while you implement the shift to computerized system.

**PROJECT IMPLEMENTATION PLAN**

An implementation plan is a management tool designed to illustrate in detail, the critical steps in developing and starting a project. It is a guide that helps program staff to be proactive rather than reactive in developing their program and identifying any challenges in the implementation.

As system developer, what are things you would like to orient and activities to be conducted before deploying the system to them? Enumerate them all in a chronological manner.

**PROJECT IMPLEMENTATION CHECKLIST**

The implementation checklist will be given to the staff and the owner who will use the system. They will be the one to determine if the proposed system can be acceptable in their establishment.

Table XX.X The Implementation Checklist

|  |  |  |
| --- | --- | --- |
| CRITERIA | YES | NO |
| 1. Are the staff who will use the system are computer literate? |  |  |
| 1. Is the project team conducted a user’s orientation to the staff? |  |  |
| 1. Is the project team conducted short trainings in hardware manipulation? |  |  |
| 1. Is the project team conducted short trainings in software / system manipulation? |  |  |
| 1. Is the establishment has computer units? |  |  |
| 1. Are the computer units compatible to the system requirements? |  |  |
| 1. Is the design of the system met the user’s expectation? |  |  |
| 1. Are the contents/menu in the system met the user’s need? |  |  |
| 1. Is the system capable to produce reports? |  |  |
| 1. Is the system acceptable to the management? |  |  |

**PROJECT INPLEMENTATION CONTINGENCY**

The following contingency measures will be implemented to address the gaps based on the result of the Project Implementation Checklist.

Enumerate all the contingency measures. What you are to write here are your suggested solutions to the items which are answered NO. For us to address those gaps, you may provide contingency measures. Write your answers in bulleted form.

**BIBLIOGRAPHY**

**APPENDIX A – RELEVANT SOURCE CODE**

*(Insert the relevant source code of the system/app, use 8 as font size and Courier Newas font style)*

**APPENDIX B - LETTER OF APPROVAL**

(Insert the scanned copy of Letter of Approval signed/received by the proponents, project instructor and client)

**APPENDIX C - GRAMMARIAN’S CERTIFICATE**

*(Insert the scanned copy of Grammarian’s certificate signed by the grammarian and project manager)*

**APPENDIX D - OTHER RELEVANT DOCUMENTS**

*(Insert the scanned copy of relevant documents provided by the clients during interview etc.)*

**APPENDIX H - PROPONENTS’ BACKGROUND**

INSERT 2X2 PICTURE

PICTURE WITH COLLAR

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**PERSONAL INFORMATION**

Birthday:

Birth Place:

Civil Status

Religion:

Name of Father:

Name of Mother:

**EDUCATIONAL BACKGROUND**

Elementary:

Year Graduated

High School:

Year Graduated

College:

Course: