Barangay Online Voting System

(BOVS)

Fortright Telco

Punturin, Valenzuela City

Metro Manila, 1447

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1. PROJECT INITIATION

1.1. Business Case

1.1.1.Executive summary

In this business case our project system allows a voter who's 18 above to vote over the internet without going to a polling place and, in addition to pre-registering to vote, cannot vote by proxy or dual voting, quick access, high security, easy maintenance of all voting information, high efficiency and flexibility. Therefore, according to this percentage of votes, will increase significantly. The use of online voting has the potential to reduce or eliminate unwanted human error. In addition to reliability, online voting can handle multiple methods, and provides better scalability for large elections. Online voting is also a great mechanism that does not require voters to be geographically close.

1.1.2 Issue

The voting system is indeed a threat to the integrity of the democratic process. If a barangay online voting system has a problem, even if the problem is successfully fixed, chances are many Filipinos will be suspicious of the program. Even if the system proves solid, those worried about the risk of hacking and other "cheating" methods can avoid voting online. This process can also alienate voters who do not have a computer or do not like to use a computer. In addition, savvy hackers can find ways to manipulate the results of elections, such as changing the way ballots are sent and counted, or even vote for people who don't actually intend to vote.

1.1.3 Anticipated Outcomes

Moving to a centralized web-primarily based totally administrative platform will permit Fortright Telco to control its Barangay Online Voting System and administrative features in a continuing and consolidated manner. This generation migration will lessen overhead prices related to the massive body of workers presently required to control those tasks. Companies can also get more timely and accurate election results. This real-time access reduces errors, reduces cycle times, and provides easy access to all authorized users.

1.1.4 Recommendation

This project could be undertaken to see how Barangay organizations can raise awareness among people so they can learn about new technologies being used and new ways to deal with situations such as online voting. This project could focus on the type of infrastructure identity needed to support online voting and how that infrastructure will help the new system thrive. Infrastructure has a lot of work to do. As our project/system is aimed at 18 above, it may not reflect the wishes of all age groups, so we may implement a project to seek input from other age groups in the future. The level of transparency can be problematic for both humans and barangays. Therefore this system can be made to know what level of transparency would be sufficient for the people and the barangay.

1.1.5 Business case analysis team

The following people form the business case group. They are responsible for analyzing and creating the business case for the WP project.

Role	Description	Name/Title
Executive Sponsor	Providing executive support for your project	Oliverio, Catherine and Francisco, Joan- VP Operations
Technology Support	Providing all technical support for the project	Vigilia, Carla- VP Information Technology
Process Improvement	Advise the team on process improvement techniques	Palencia, Charles- Process Team Lead
Project Manager	Lead business cases and project teams	Caprio, Richard- Project Manager
Software support	Provides all software support for your project	Castro, Jan Carlo- Software Group Lead

1.1.6 Problem definition

1.1.6.1 Problem statement

There are the certain disadvantages using OVS because the software products that we used is stand-alone system and this are not part of a larger system so expect the maintenance due to server error. For purposes such as viewing candidate records and election results in real time. The system will reach the system through websites using web browsers such as Google Chrome, Internet Explorer, Microsoft edge, Firefox Mozilla, Safari and Opera mini when using another browser in the above expect there is a problem or a changes in the design because the properties used in the design of the browser are not supported there.

There are certain disadvantages to this system, such as the possibility of software issues. Failure, unsafe internet connection, and voting fraud are all issues that need to be addressed. Internet knowledge is required. It lowers the total cost of running and managing elections over time. Helps to expedite the counting of votes and the distribution of final election results.

The proposed system will provide online voter registration forms to the citizens of barangay specifically where the voter will register and from there be allowed to login as a voter, candidate or administrator pellets. Each registered user will have a password to log in. The proposed system would provide an interactive platform where voters would be able to view the platforms of each candidate based on their position in the election. The system will also perform a result count type.

1.1.6.2 Organizational Impact

This project will help voting in several ways. The following provides a high-level explanation of how the organization, tools, processes, and roles and responsibilities will be affected as a result of the WP Project implementation:

Tools: The current voting process will be phased out completely by the time we start putting up our project. All employee will require to have a training in OVS tools and their use in support of other organizational tools.

Processes: With the WP Project comes more efficient and streamlined administrative and payroll processes. This improved efficiency will lessen the burden on managers and provide autonomy to the voters, candidates and also the community.

Roles and Responsibilities: In addition to WP projects that give workers, voters and candidates' greater autonomy, there will be less manpower needed for the right staff and payroll departments. The new platform is managed by the IT team and does not anticipate changes to the needs of the IT staff.

Hardware/Software: In addition to the software and licensing for the project, Fortright Telco will be required to purchase additional servers to accommodate the platform and its anticipated growth for the next 5 years.

1.1.6.3 Technology Migration

This section provides a high-level overview of how the new technology will be implemented and how data from the legacy technology will be migrated. This section should also explain any outstanding technical requirements and obstacles which need to be addressed. In order to effectively migrate existing data from our legacy platform to the new Web-based platform, a phased approach has been developed which will result in minimal/no disruption to day to day operations, administration, and payroll activities. The following is a high-level overview of the phased approach:

Phase I: The hardware/software is procured, the WP system is built in a web environment and tested by a team of IT developers.

Phase II: The IT team will install a temporary legacy platform in the tech lab for schedules operations related to voters, candidates, and results. It is used as a backup system and also holds all data on the company's mainframe.

Phase III: OVS is a web page system that has basic features related to web technologies such as a client server and database properties that define the software requirements for this project.

Phase IV: All voters and candidates will be trained on the new web-based platform to learn how to use the online voting system.

Phase V: The Online Voting System is a software that can view the results of the Barangay election and its legacy mainframe systems are archived and disabled.

1.1.7 Project Overview

The process of this system is ambiguous in that voters need to register and continually check if their details are in the system and voters need to vote on ballots on Election Day. To register to vote, the voter is added to a list of eligible voters, as with any election. They then receive authentication information, such as a username and password, to access the voting system. Voters can vote by opening the election website from an Internet browser, identifying themselves (e.g. with their username and password) and choosing their voting options. Then they simply click the "cast" button. Verification is the final and often optional step, allowing voters to verify that their ballot was correctly recorded by the voting system. Dealing with people with disabilities has proven to be a system challenge and time consuming. On the other hand, online voting offers the advantages of these alternatives without any disadvantages. With online voting, every voter is guaranteed an accessible and secure method of voting, their vote remains private and confidential, and they can participate in the election from anywhere,

whenever. The project overview helps to manage the entire project life cycle, from setting up the structure to creating detailed plans, running and completing the project.

1.1.8 Project description

Online voting refers to using hardware and software to set up an electronic system that will help in the voting process by generating electronic ballots to replace paper ballots. Votes are saved so that they can be counted again if necessary. Online voting can accelerate election results and reduce election costs by significantly reducing the number of people required to work at the polling place and vote the results. However, the main issue with voting is how to store votes so that they can be counted again if needed.

1.1.9 Goals and objectives

This section lists the business goals and objectives supported by the project and how the project will address them. The WP Project directly supports several corporate goals and objectives set by Fortright Telco.

Business Goal/Objective	Description
Accuracy	The level of accuracy of the proposed system will be higher. All operations are performed correctly and all information from headquarters is guaranteed to be correct.
Ease of voting	The easier it is to vote, the more votes you will get. In some cases, this can -even affect turnout, so we didn't just classify it as a turnout sub goal.
Security	The most discussed sub goal of accuracy is safety. Security is often regarded as a goal of its own, but it is just a means of accuracy.
Authentication	Those who are not eligible to vote should not be able to vote. Each voter only needs to vote once.
Unbiased	The voting system itself should not distort the outcome in the direction of the election.
Reliability	Systems should record votes as cast. Systems should not break down, impeding or delaying voting. Systems must be up to the job of handling the full complexity of a ballot.
No Redundancy	In the proposed system, great care is taken to ensure that the information is not repeated anywhere. Memory or Other. This saves storage space and ensures data at rest consistency.
Immediate retrieval of information	The main purpose of the proposed system is to ensure a quick and efficient search of information.

- Project performance

The following assumptions apply to the WP Project. As project planning begins and more assumptions are identified, they will be added accordingly. All staffs will be trained accordingly in their respective data entry, timesheet, and reporting tasks on the new web-based system

- Funding is available for purchasing hardware/software for Online Voting Web based system. All department heads will provide necessary support for successful project completion Project has executive-level support and backing
- Expected more efficient and reliable voting system because of its well organized concept and more security features.
- More funds and time will be save in this kind of voting system because of automated system that will lessen the required staffs and can now focus the funding for security purposes.
- This can resolve some of electoral fraud during the election like vote buying and vote manipulation that mostly occurs in traditional voting or physical voting.

- Project constraints

The system allows voters to vote from any terminal connected to the Internet, but voters must first contact an elections office to authenticate themselves and set up a user ID. This restriction is imposed to ensure that only genuine people can vote in elections.

- Major project milestones

Below are the major project milestones identified so far. As the project plan and schedule development progresses, milestones and target completion dates are revised, adjusted, and improved as necessary to establish a baseline schedule.

Milestones/Deliverables	Target Date
Project Charter	03/07/2022
Project Plan Review and Completion	03/22/2022
Project Kickoff	03/29/2022
Phase I Complete	04/16/2022
Phase II Complete	05/13/2022
Phase III Complete	05/30/2022
Phase IV Complete	
Phase V Complete	
Closeout/Project Completion	

- Strategic Alignment

The WP project directly supports many of Fortright Telco strategic technology plans. By directly supporting these strategic plans, this project will improve our business and help take the company to the next level of maturity.

Plan	Goals/Objectives	Relationship to Project
Information Management	Improve record keeping and information management	This project will allow for real-time information and increased information accuracy and keep the data no redundancy, efficient search of information, improve Accessibility, eliminate possible vote duplication.
Security	Prioritize transparency and more security to avoid any kinds of electoral fraud or manipulation of votes.	The most discussed sub goal of accuracy is safety. Security is often regarded as a goal of its own, but it is just a means of accuracy.
Tools and Technology	The system must be able to handle a very large amount of data (that is, support for large databases) so the system is prepared for any changes in the technologies used to provide value to users.	These tools and technologies used for development a web such as a client-side, server-side and database properties that define the software requirements for this project
For people with disabilities and senior citizen	Voters will no longer need to enter to register as a voter just a click away through online registration within the system and it also provides training to make it easy for its users to use.	This project gives importance to the voters there are disabled and elderly people to guide them and give them consideration

- Cost-benefit analysis

The following table captures the cost and savings actions associated with the WP Project, descriptions of these actions, and the costs or savings associated with them through the first year. At the bottom of the chart is the net savings for the first year of the project.

Action	Action Type	Description	First year costs (- indicates anticipated savings)
Purchase Web-based product and licenses	Cost	Initial investment for WP Project	₱ 200,000
Software installation	Cost	Cost for IT group to install new software	₱ 100,000
Reduce the number of staff needed to count votes manually	Saving	Expected benefits include that results can be reported and published faster because it's automated within the machine.	-₱ 100,000

Improved accessibility for voters	Saving	Citizen groups benefiting most from on-line elections are the ones living abroad, citizens living in rural areas far away from polling stations and the disabled with mobility impairments.	-₱ 20,000
Advanced submission of report and improved publication.	Saving	Voters save time and cost by being able to vote independently from their location, which may increase overall voter turnout.	-₱ 30,000
Purchase enhanced security features	Cost	To ensure that there is no electoral fraud happen and more transparency during the election.	₱ 50,000
Net First Year Savings			₱ 150,000

According to the cost-benefit analysis above, authorizing the WP Project will save Commission on Elections ₱ 150,000 in the first year alone. This indicates a considerable reduction in our operational costs and demonstrates the value this project will bring to the organization.

- Approvals

The signature of the person below certifies that the person who signed it understands the purpose and content of this document. By signing this document, you acknowledge that you may take the following steps to approve the proposed project described in this business case and create a formal project in accordance with the details set forth herein.

Approver Name	Title	Signature	Date
Jorge Lucero	Professor		

2. PROJECT CHARTER

2.1. Executive Summary

In this business case our project system allows a voter who's 18 above to vote over the internet without going to a polling place and, in addition to pre-registering to vote, cannot vote by proxy or dual voting, quick access, high security, easy maintenance of all voting information, high efficiency and flexibility. Therefore, according to this percentage of votes, will increase significantly. The use of online voting has the potential to reduce or eliminate unwanted human error. In addition to reliability, online voting can handle multiple methods, and provides better scalability for large elections. Online voting is also a great mechanism that does not require voters to be geographically close. Paper voting is both costly and burdensome for the environment. One of the advantages of online voting is that it does not require as many resources compared to voting by mail. Hold an eco-friendly election and save on printing paper. In addition, save on staff costs and time and avoid lengthy manual counting processes by opting for online voting. By eliminating the use of physical mail and manual counting of votes, you can avoid errors that may skew results, such as lost voting documents and miscounted votes. Automated Vote Counting with Online Voting Fortright Telco provides access to results immediately after an election. Results can also be checked using an external tool.

2.2. Business Need/Case

Online voting system has a security measures target system availability, elimination of potential manipulations, as well as compliance with data protection and security. Further engage voters by creating an election website and containing an overview of all important information relevant to the election.

2.3. Business Objectives

The business objectives for this project directly support our corporate strategic plan to improve IT security and reduce costs and time consumed.

-The system must provide specific security features such as creating users and assigning privileges to users of the system.

-The system must be able to track all the detailed descriptions of the customer and the full details of the services provided by the customer's organization.

-The system must be able to handle a very large amount of data (that is, support for large databases).

-The system must provide less hassle and ease type of voting system during the election

-Voters will no longer required to walk in to register as a voter it is one click away through online registration within the system

-The system must be fully automated.

-Added credentials, platforms, etc. in the web page as a basis from voting a candidate.

-Improved accessibility for the voters.

-Prioritize transparency and more security to avoid any kinds of electoral fraud or manipulation of votes.

Project Description

Online voting refers to using hardware and software to set up an electronic system that will help in the voting process by generating electronic ballots to replace paper ballots. Votes are saved so that they can be counted again if necessary. Online voting can accelerate election results and reduce election costs by significantly reducing the number of people required to work at the polling place and vote the results. However, the main issue with voting is how to store votes so that they can be counted again if needed.

The objectives which mutually support the milestones and deliverables for this project have been identified. In order to achieve success on the ISA project, the following objectives must be met within the designated time and budget allocations:

-Develop security solution methodology to present to the VP of Technology within the next 20 days

-.Complete list of required hardware/software which meets budget allocation within the next 25 days.

-Create a simulated solution in the IT lab using all purchased hardware and software to test the solution within the next 60 days

-Achieve a simulated solution which allows no security breaches and complete testing within the next 90 days

-Implement the solution across the organization within the next 120 days

1.2.5. Requirements

II. Voters must be able to use the system with their account to access
III. The system should include a section for validation requirements and voting purpose
IV. Systems must be up to the job of handling the full complexity of a ballot.

As the project progresses, you can add additional requirements as needed with the approval of the project sponsor.

1.2.6. Constraints

System allows voters to vote from any terminal connected to the Internet, but voters must first contact an elections office to authenticate themselves and set up a user ID. This restriction is imposed to ensure that only genuine people can vote in elections.

1.2.7. Assumptions

This section lists the preliminary assumptions for the proposed project. As the project is selected and moves into detailed project planning, the list of assumptions will most likely grow as the project plan is developed. However, for the business case there should be at least a preliminary list from which to build.

The following assumptions apply to the WP Project. As project planning begins more assumptions are identified, they will be added accordingly.

- All staff and employees will be trained accordingly in their respective data entry, timesheet, and reporting tasks on the new web-based system
- Funding is available for training
- Funding is available for purchasing hardware/software for web-based system
- All department heads will provide necessary support for successful project completion
- Project has executive-level support and backing

1.2.8. Preliminary Scope Statement

The OVS challenge will encompass the design, testing, and shipping of a stepped forward intranet protection device all through the organization. All project funds will be managed by the Project Manager up to and including the amounts allocated herein. Any additional funding requires project sponsor approval. This project will end when the final report is submitted within 15 days after the intranet security solution has been tested and implemented throughout the organization, all technical documentation has been completed and approved distributed to the appropriate staff, and a list of future security considerations to be completed and submitted to vice president of technology.

1.2.9. Risks

The following risks for the OVS project have been identified. The project manager will determine and employ the necessary risk mitigation/avoidance strategies as appropriate to minimize the likelihood of these risks:

-Software products are a stand-alone system and are not part of a larger system so expect the maintenance due to server error.

-The system will reach the system through websites using web browsers such as Google Chrome, Internet Explorer, etc. when using another browser in the above expect there is a problem or a changes in the design because the properties used in the design of the browser are not supported there.

-There are certain disadvantages to this system, such as the possibility of software issues. Failure, unsafe internet connection, and voting fraud are all issues that need to be addressed.

1.2.10. Project Deliverables

The following deliverables must be accomplished after the Online Voting project is completed successfully. The project sponsor must approve any changes to these deliverables.

-An intranet security system that has been fully implemented

-Technical documentation for intranet security solution

-Recommendation list for future security considerations

-Software and Hardware requirement for the project

-Database backup for emergency purposes.

1.2.11. Summary Milestone Schedule

Below is an overview of the project's milestone plan. You can change this schedule because the requirements are more clearly defined. All changes are communicated through the project status meeting by the project manager.

Summary Milestone Schedule – List key project milestones relative to project start.	
Project Milestone	Target Date (mm/dd/yyyy)
Project Start	03/07/2022
Complete Solution Design	03/22/2022
Acquire Hardware and Software	03/29/2022
Complete Solution Simulation with New Hardware/Software	04/16/2022
Complete Solution Simulation and Testing	05/02/2022
Deploy Solution	05/13/2022
Project Complete	05/30/2022

1.2.12 Summary Budget

The table below shows a summary budget based on the planned cost components and expected expenses needed to complete the project successfully.

Summary Budget – List component project costs	
Project Component	Component Cost
Personnel Resources	₱ 250,000
Hardware	₱ 100,000
Software and Licensing	₱ 150,000
IT Lab Preparation	₱ 100,000
Security tools	₱ 100,000
Total	₱ 700,000

1.2.13 Project Approval Requirements

Success for the Online Voting System project will be achieved when a fully tested intranet security solution, and all technical documentation, is fully deployed throughout the company within the time and cost constraints indicated in this charter. Additionally, this measure of success must include a recommendation list for future security considerations as we fully anticipate the necessity of this solution to evolve in order to prevent future threats. Success will be determined by the Project Sponsor, Mr. Jorge Lucero, who will also authorize completion of the project.

1.2.14 Project Manager

The Online Voting System or OVS project during its tenure was managed and named project manager and he was John Richard Carpio. Mr.Carpio's responsibility is to manage all project tasks, scheduling, and communication regarding the OVS project. His team, consisting of two IT specialists and one security specialist. Mr. Carpio will coordinate to Jorge Lucero the IT department manager to manage all resource requirement. Mr. Carpio is authorized to approve all budget expenditures up to, and including, the allocated budget amounts. Any additional funding must be requested through the Project Sponsor, Jorge Lucero. Mr. Carpio will provide weekly updates to the Project Sponsor.

1.2.15. Authorization

This section provides the names and authorization, once signed, for the project to move forward in accordance with the information contained in this charter.

Approved by the Project Sponsor:

_____ Date: _____

<Project Sponsor>

<Project Sponsor Title>

1.3 STAKEHOLDER STRATEGY

1.3.1 Introduction

This Stakeholder Management Strategy has been prepared by Fortright Telco, in collaboration with Bestlink College of the Philippines for the proposed system (OVS). The Stakeholder Management Strategy Plan has been prepared as part of the constitution and democratic society as proposed OVS project. A constructive interaction and cooperation with community neighbors and stakeholders. Ensuring the transparency, efficiency, implementing and progress of stakeholder's communication and its early identification. The service is relevant for businesses where online voting promises to bring a new management style, simple and most transparent. Moreover, taking into account the fact that entrepreneurship in the IT industry is becoming more and more international, company owners need to find new ways to make equal decisions. The main advantage of this process is to provide a clear and practical plan for interacting with project stakeholders to support the interests of the project.

1.3.2 Identify stakeholders

A brainstorming session will be held by the Fortright Telco Project Team in order to identify project stakeholders. The principal project team and the project sponsor will participate in the brainstorming session. The presentation will be divided into two sections. The first section will concentrate on SANGGUNIANG BARANGAY's internal stakeholders. Functional managers, operations personnel, financial personnel, warehouse and material handlers, and any other SANGGUNIANG BARANGAY employee who will be impacted by the Online Voting initiative are examples of stakeholders.

The session's second half will be devoted to external stakeholders. Suppliers, trial customers, partner organizations, and everyone else who lives outside of SANGGUNIANG BARANGAY fall under this category.

The following criteria will be used to evaluate whether or not a person is a stakeholder:

1) Will the person or their organization be directly or indirectly affected by this project?
2) Does the person or their organization hold a position from which they can influence the project?
3) Does the person have an impact on the project's resources (material, personnel, funding)?
4) Does the person or their organization have any special skills or capabilities the project will require?
5) Does the person potentially benefit from the project or are they in a position to resist this change?

Stakeholders are defined as those who match one or more of the aforementioned criteria. Stakeholders from the same organization will be grouped together to make stakeholder management and communication easier

1.3.3 Key stakeholders

Stakeholders need to be informed about the Online Voting System and asked for their acceptance and support. All participants in the voting process may feel that they have the right to comment, participate and evaluate the effectiveness of the program. Anyone can choose not to exercise this right. Nevertheless, some people may choose to criticize or even undermine the system. Therefore, wise educators, along with all major stakeholders, not only set goals and parameters for the program, but also make every effort to clarify their mission and objectives. This interaction can be planned, but often involves unexpected activity. At times, there may even be

some public controversy. This is not desirable unless it is counterproductive and reduces the credibility and self-esteem of the educator.

There are three stakeholder constituencies involved in an election:

Election Rights: In many cases, election law establishes a barangay election commission or designates a barangay agency responsible for managing elections. Depending on the organizational structure of this organization, there may be specific departments responsible for areas such as voter education, public relations, training, rule drafting, and election preparation.

Participants: The main candidates for elections are those that are run independently or are proposed by registered political parties, public institutions, or election groups.

Voter: The third group of stakeholders consist of all voted people. Voter can be considered in size. Women's voters, young and segmented in groups such as first voters and military voters. And for the formal organization and association described in the short version as "civil society".

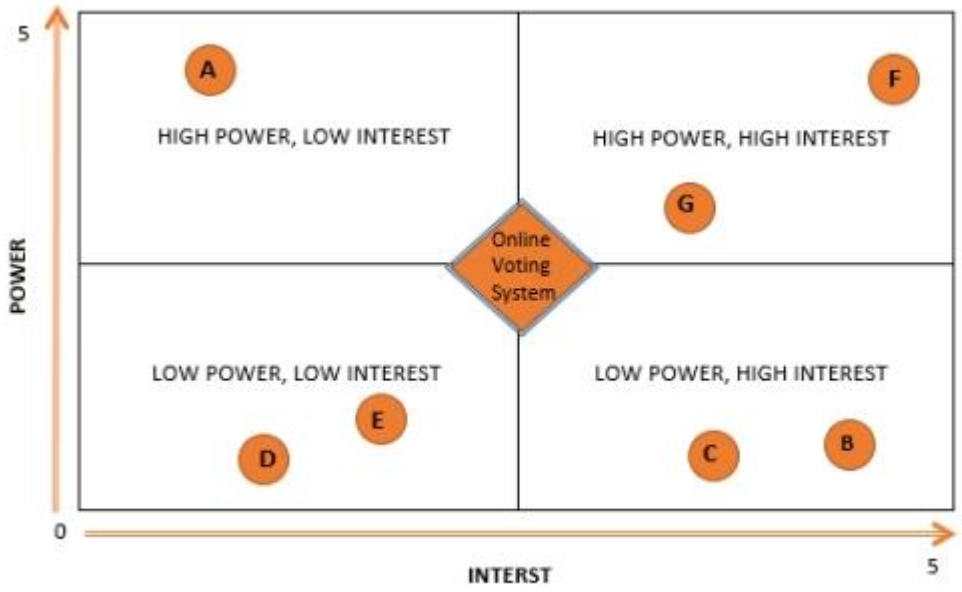
1.3.4 Stakeholder analysis

The project team will categorize and assess each stakeholder once all Fortright Telco Project stakeholders have been identified. The goal of this study is to figure out what level of power or influence each stakeholder has, design the management style for each one, and figure out what level of communication and participation each one will have on the project. Stakeholders will be classified by the project team according to their organization or department. The project team will use a power/interest matrix to highlight the possible impact each stakeholder could have on the project once all stakeholders have been classified. The project team will also construct a stakeholder analysis matrix based on this analysis, which will show each stakeholder's issues, level of involvement, and management strategy.

The chart below will be used to establish stakeholders and their levels of power and interest for use on the power/interest chart as part of the stakeholder analysis.

Key	Organization	Name	Power (1-5)	Interest (1-5)
A	Trial Customer	A. Borja	5	3
B	Trainee	B. Manny	1	5
C	Trainer	C.Roach	1	3
D	Employees	D. Isko	1	2
E	System Admin	E. Charles	1	4
F	Manager	F. Richard	5	5
G	Government Partnership	G. Ferdinand	3	5

Below is the power/interest chart for the Light Wave Project stakeholders. Each letter represents a stakeholder in accordance with the key in the chart above.



Based on the power and interest analysis and chart above, stakeholders D, E, and will require minimal management effort as they reside in the lower left quadrant of the matrix. Stakeholder A, in the upper left quadrant, must be kept satisfied by ensuring concerns and questions are addressed adequately. Stakeholder C, B, in the lower right quadrant, must be kept informed through frequent communication on project status and progress. Stakeholders F and G, in the upper right quadrant, are key players and must be involved in all levels of project planning and change management.

The stakeholder analysis matrix will be used to capture stakeholder concerns, level of involvement, and management strategy based on the stakeholder analysis and power/interest matrix above. The stakeholder analysis matrix will be reviewed and updated throughout the project's duration in order to capture any new concerns or stakeholder management strategy efforts.

Stakeholder	Concerns	Quadrant	Strategy
A	Concerns regarding resources to assist project team with product design	Keep Satisfied	Communicate resource requirements early and ensure resources are released back to engineering when they're no longer required
B	Questions regarding design of Light Wave product	Keep Informed	Allow technical staff to work with stakeholder to answer questions and address concerns and provide test results for validation
C	Familiar with software that will used in the day-to-day running of the company.	Keep Informed	Online Voting system administrator to assign training and upload computer-based training; track training completions and report metrics. Understanding of maternal and child health and health systems issues.
D	Possible union strike may impact material delivery	Minimal Effort	Solicit frequent updates and develop plan for alternative supply source
E	Ensuring proper handover of project to operations team	Minimal Effort	Communicate project specifications as required
F	Resource and scheduling constraints for production once project is transitioned to operations	Key Player	Solicit stakeholder as member of steering committee and obtain feedback on project planning. Frequent communication and addressing concerns are imperative
G	Product performance must meet or exceed current product	Key Player	Communicate test results and performance specifications and obtain feedback on customer requirements or any changes. Provide frequent status reports and updates.

1.4 PROJECT PLANNING

1.4.1 Project Management Plan

Introduction

The Barangay Election Committee (BEC) is recently approved the Barangay Online Voting System project to move forward for project initiation within the project adviser. By eliminating the use of physical mail and manual counting of votes, you can avoid errors that may skew results, such as lost voting documents and miscounted votes. Automated Vote Counting with Online Voting Fortright Telco provides access to results immediately after an election. Results can also be checked using an external tool. In this project system allows a voter who's 18 above to vote over the internet without going to a polling place and, in addition to pre-registering to vote, cannot vote by proxy or dual voting, quick access, high security, easy maintenance of all voting information, high efficiency and flexibility. Therefore, according to this percentage of votes, will increase significantly. The use of online voting has the potential to reduce or eliminate unwanted human error. In addition to reliability, online voting can handle multiple methods, and provides better scalability for large elections. Online voting is also a great mechanism that does not require voters to be geographically close.

1.4.2 Project management approach

Richard Carpio, the Project Manager, oversees managing and executing this project in accordance with this Project Plan and its Subsidiary Management Plans. Personnel from the coding group, quality control/assurance group, technical writing group, and testing group will make up the project team. To plan the project, the project manager will collaborate with all resources. The project sponsor will examine and approve all project and subsidiary management plans. The project sponsor will also make all financial decisions. Any delegation of approval authority to the project manager must be documented and signed by both the project sponsor and the project manager.The project team will be structured as a matrix, with team members from each organization reporting to their respective organizational management throughout the project. The project manager oversees reporting on the status and performance of each project resource to organizational manager.

1.4.3 Project scope

To achieve receiptfreeness, the voting system should not leave any information about votes of voters. Also, votes should not include any information peculiar to the voters. Receiptfreeness shares the same notion with privacy. Incoercibility: Incoercibility protects voters against coercers who can communicate with the voters actively. Incoercibility must cope with randomization, forcedabstention and simulation attacks. Randomization attacks force voters to submit invalid votes by manipulating the manner in which votes are cast. Forced abstention attacks enable coercers to force voters to abstain from casting their votes, and Simulation attacks let coercers impersonate valid voters at some stage of the voting scheme and submit votes on their behalf. Receiptfreeness property does not imply incoercibility but incoercible schemes must be receiptfree.

Disputefreeness: Even if dishonest voters are involved in elections, disputes among entities should be solved without involving irrelevant entities. The notion of universal verifiability is similar to disputefreeness but it is limited to the voting and tallying stages.

Robustness: You need to ensure that no entity can interfere with voting. The reconciliation system must be able to detect the rogue entity and complete the reconciliation process without the help of the detected rogue entity.

Scalability: The schema needs to be extended to meet the computational, communication, and storage needs of large elections.

Practicality: The schema should not contain assumptions or requirements that are difficult to implement. Some of these security requirements are usually met and not difficult to implement, while others are difficult to meet. In particular, meeting multiple stringent requirements at the same time is very difficult due to the trade-offs between them.

1.4.4 Milestone list

Below are the milestone list identified so far. As the project plan and schedule development progresses, milestones and target completion dates are revised, adjusted, and improved as necessary to establish a baseline schedule.

Milestone	Description	Date
Complete Requirements Gathering	All requirements for BOVS must be determined to base design upon	03/29/22
Complete BOVS Design	This is the theoretical design for the software and its functionality	04/28/22
Complete BOVS Coding	All coding completed resulting in software prototype	05/01/22
Complete BOVS Testing and Debugging	All functionality tested and all identified errors corrected	05/05/22
Complete Transition of BOVS to Fortright Telco	Completed software and documentation transitioned to operations group to begin production	05/10/22

1.4.5 Schedule baseline and WBS

The Online Voting system uses (WBS) to break down the project into small parts which contain work packages for the project team to proceed on a schedule of at least 160 hours a month or 40 hours a week. This work packages were conducted with project team members and stakeholders including comparison and analysis with other projects. The Online Voting System is defines all work packages using WBS Dictionary. The details of the tasks, activities, and deliverables of the work breakdown structure are located. The content includes whatever milestones are related, the project scope and in some instances dates, resources, cost and quantity. The schedule of the Online Voting System was derived from the WBS and Project Charter with participation from all members of the project team. The schedule is completed, reviewed by the Project Sponsor, and approved and base-lined. The schedule will be maintained as MS Word Gantt Chart of the Online Voting System. Any agreed schedule changes are prepared to follow. Project change control process.

If established boundary controls can be exceeded, a change request will be submitted to the Project Manager. The Project Manager and team will determine the impact of the change process through which all requests to change the approved baseline of a project, program or portfolio are captured, evaluated and then approved, rejected or deferred. And if a change has already taken place approved by the Project Sponsor, it will be implemented by the Project Manager who will update the schedule and all changes that occur will be notified to all stakeholders in accordance with the Change Control Process.

1.4.6 Change management plan

The following steps describe TSI's enterprise-wide change control process, which will be implemented on the Online voting system:

Step #1: The Web developer will update the system
The team leader will submit to the project manager a completed document requesting a modification in web hosting obligations.

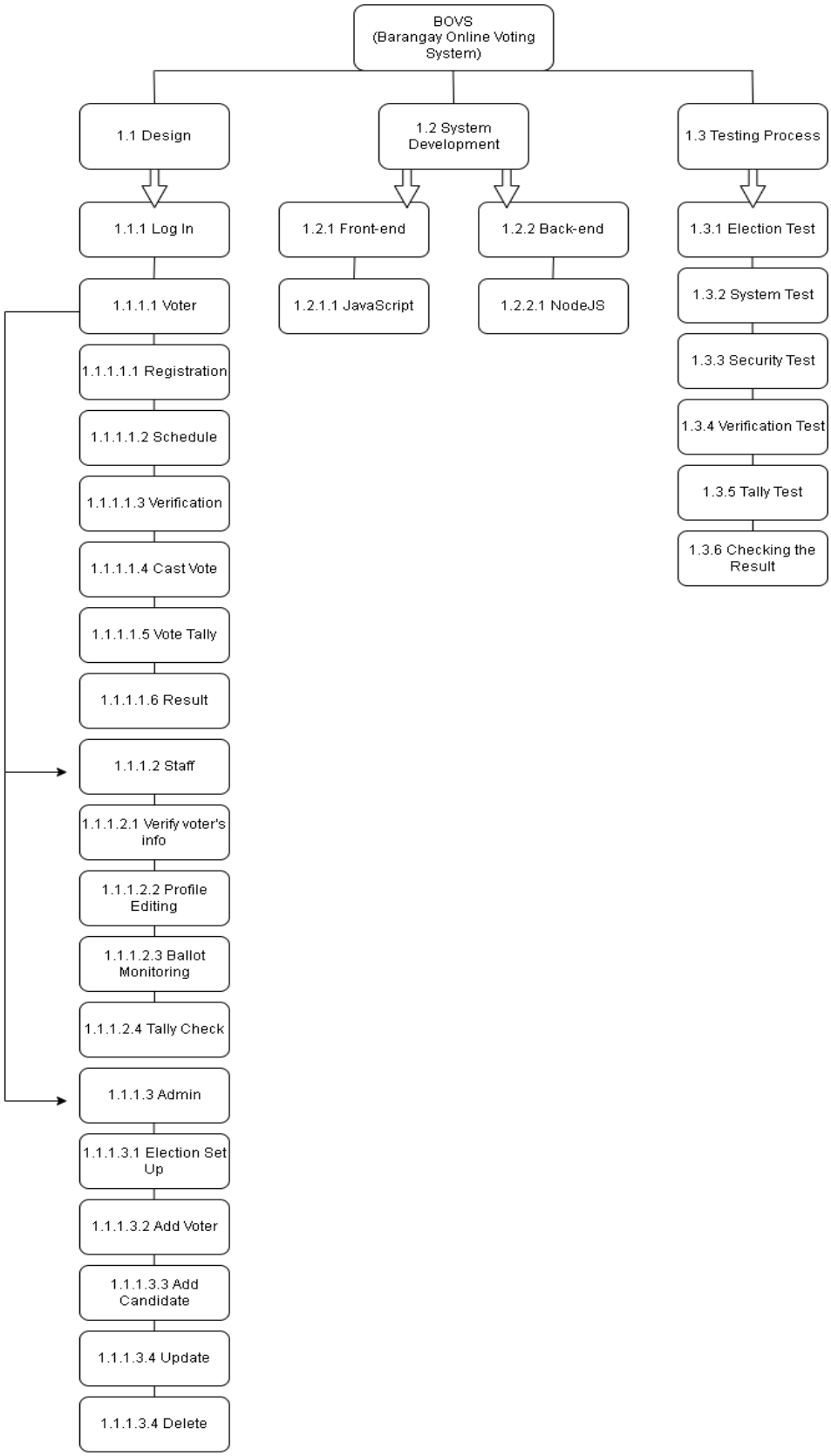
Step #2: Keeping the record by the team leader
For the course of the project, Mr. Carpio will keep a record of all modification requests.

Step #3: Undertaking the cost, risk, schedule, and the scope
Mr. Carpio will undertake a cost, risk, schedule, and scope analysis in light of the modification.

Step #4: Submit change request to Change Control Board (CCB) (Project Manager)
Mr. Carpio the modification request and analysis and submit them to the CCB. Step #5: Change Control Board decision (CCB)
The CCB will discuss the proposed change and decide whether it will be approved based on all submitted information

Step #6: Implement change (Project Manager)
If a change is approved by the CCB, the project manager will update and baseline project documentation as necessary as well as ensure any changes are communicated to the team and stakeholders. The Online voting system's (OVS) team leader, Charles Palencia, may submit a modification request. OVS Sponsor will preside over the CCB, and any modifications to the project's scope, cost, or timeline must be approved by him. The Project Manager, Mr. Carpio, will document all change requests in the change control register and follow them through to completion, whether authorized or not.

1.4.7 Work Breakdown Structure



1.4.8 Communication Management Plan

This communication management plan defines the communication framework for this project. It serves as a communication guide throughout the project and is updated as communication needs change. This plan identifies and defines the role of Fortright Telco project team members in communication. It also contains a communication matrix that maps the communication requirements of this project to the communication behavior of meetings and other forms of communication. A project team directory is also included to provide contact information for all stakeholders directly involved in the project. The Project Manager will play a leading role in ensuring effective communication in this project. The communication requirements are listed in the communication matrix below. The Communication Matrix is used as a guide on what information to convey, to whom, when to convey, and to whom.

Communication Type	Description	Frequency	Format	Participants / Distribution	Deliverable	Owner
Weekly Status Report	Email summary of project status	Weekly	Email	Project Sponsor, Team and Stakeholders	Status Report	Project Manager
Weekly Project Team Meeting	Meeting to review action register and status	Weekly	In Person	Project Team	Updated Action Register	Project Manager
Project Monthly Review (PMR)	Present metrics and status to team and sponsor	Monthly	In Person	Project Sponsor, Team, and Stakeholders	Status and Metric Presentation	Project Manager
Project Gate Reviews	Present closeout of project phases and kickoff next phase	As Needed	In Person	Project Sponsor, Team and Stakeholders	Phase completion report and phase kickoff	Project Manager
Technical Design Review	Review of any technical designs or work associated with the project	As Needed	In Person	Project Team	Technical Design Package	Project Manager

Project team directory for all communications is:

Name	Title	E mail	Cell Phone
Jorge Lucero	Project Sponsor	jblucero28@gmail.com	xxx-xxx-xxxx
Richard Carpio	Project Manager		xxx-xxx-xxxx
Charles Palencia	Programmer	charlespalencia21@gmail.com	+639072147761
Catherine Oliverio	Quality Specialist	catherine07luha@gmail.com	+639484836480
Carla Vigilia	Quality Specialist	cvigilia999@gmail.com	+639463312203
Jan Carlo Castro	Technical Writer	Jancarlo0612@gmail.com	+639303661413
Joan Clarence Francisco	Testing Specialist	Clarencejoan025@gail.com	+63938079583

Communications Conduct:

The project have conducted the communication via messenger and google as we are in a pandemic we required all the stakeholders to join the distance communication.

Meetings:

The project manager distributes the meeting agenda at least two days before each scheduled meeting, and all participants must confirm the agenda before the meeting. During all project meetings, the timer ensures that the group adheres to the time stated on the agenda, and the note taker takes all notes for distribution to the team at the end of the meeting. It is imperative that all mobile phones and Blackberries be turned off or set to vibration mode so that all attendees arrive at each meeting on time and minimize distractions. Minutes will be distributed within 24 hours after the end of each meeting.

Email:

All emails related to the Fortright Telco project should be professional, accurate, and contain brief contact. The content of the email should be distributed to the appropriate project participants according to the communication matrix above. All attachments must be included in one of your organization's standard software suite programs and comply with established corporate formats. If the email is intended to raise an issue, you should explain the issue, provide a brief background on the issue, and include recommendations on how to fix the issue. The project manager must be included in all emails related to the Fortright Telco project.

Informal Communications:

Informal communication is part of the project and is necessary to successfully complete the project, but issues, concerns, or updates arising from informal discussions between team members can take appropriate action. You need to communicate to the project manager.

1.4.9 Cost management plan

The Project Manager will be responsible for the process of identifying, estimating, allocating, and controlling costs carried. This continues throughout the project to ensure that costs and expenditures remain within the budget frame. The project cost management plan is an important part of the project. It offers you a predefined budget and helps regulate cash flow for Online Voting System. For the Online Voting System. Control accounts will be created at the fourth level of the WBS which is where all costs and performance will be managed and tracked. Work started on work packages will grant that work package with 50% credit; whereas the remaining 50% is credited upon completion of all work defined in that work package. Costs may be rounded to the nearest peso and work hours rounded to the nearest whole hour. Estimating costs is a bit of complex and the project manager needs to take certain factors into account for careful and accurate estimation. The most common factors include fixed and variable costs, organizational budget, inflation, and overheads. It is important to note that accuracy is the key to cost estimation higher the deviation between estimated costs and actual costs and fewer chances of project success.

1.4.10 Procurement Management Plan

This procurement management plan defines the procurement framework of the online voting system specifically called Barangay Online Voting System project. It serves as guidance for procurement management throughout the project and is updated to as procurement needs change. This plan identifies and defines the items to be procured, the contract type used to support this project, the contract approval process, and the decision criteria. It includes the importance of coordinating procurement activities, establishing fixed contractual deliverables, and establishing indicators for measuring procurement activities. Other items included in the sourcing management plan include sourcing risk and sourcing risk considerations; how to determine costs. How to use standard procurement document and procurement restrictions.

1.4.11 Project scope management plan

The Project Manager will be in charge of managing the scope of the Online Voting Project. The Scope Statement, Work Breakdown Structure (WBS), and WBS Dictionary outline the project's scope. The Project Manager, Sponsor, and Stakeholders will create and approve project scope measurement paperwork. The Project Manager, Stakeholders, or any member of the project team can propose scope revisions. All requests for changes will be sent to the Project Manager, who will assess the requested scope change. Acceptance of the final project deliverables and project scope is the responsibility of the Change Control Board and the Project Sponsor. The Project Sponsor is in charge of approving the project's final deliverable in detail. This approval will be based on a detailed analysis of the entire project.

1.4.12 Schedule management plan

The project schedule for the online voting system was created using MS Word in 2022 for the initial steps to be divided into small parts the project assignment for the job to be more

manageable and the tools that utilizes this technique and is one of the most important in project management were using Work Break Down Structure or (WBS) as a deliverable oriented hierarchical decomposition of the work to be executed by the project team. Once a preliminary schedule has been developed, it will be reviewed by the project team and any resources tentatively assigned to project tasks. The project team and resources must agree to the proposed work package assignments, durations, and schedule. Once this is achieved the project sponsor will review and approve the schedule and it will then be base lined.

Once the scheduled one is released, it will be reviewed by the project team and any resources tentatively assigned to project tasks. And they agree to the proposed work durations, and schedule once this is achieved the project sponsor will review and approve the schedule and it will then be base lined.

- Priority equity
- Better Utilization of Time & Resources
- Software and System Maintenance
- Centralized data and easy access to all

Roles and responsibilities for schedule development are as follows:

Project Manager are responsible for planning, organizing, and directing the completion of specific projects for an organization while ensuring these projects are on time, on budget, and within scope.

The project sponsor engages in reviewing the report and designates a schedule for approval.

The stakeholder participates in the review of the report and the schedule that has been decided and assists in its approval.

1.4.13 Quality management plan

It will be guaranteed that all voters who use this system are addressed and monitored so that any voters who have concerns can be resolved immediately and the users of the system can receive the best quality online voting system possible. To protect the significant files of users of this system there is improved and quality security features within the system. A well-planned online voting system can provide a more detailed mechanism for people to use when voting in elections. On our website, you may get a comprehensive and detailed Quality Management Plan. The project sponsor is responsible for the approval of the online voting system, which must be carefully inspected to ensure that the system's manufacturer meets the required standards.

1.4.14 Risk management plan

To prevent electoral fraud during the election. The online voting system enhanced the security features of the project to provide a transparent and fair outcome of the election. Vote manipulation is one of the threats during the online voting system so to address that problem the database of the system is strictly accessed only by the developers to avoid the alterations of the result during the election. After the online voting system is done results can't be change the data is fixed after the counting of votes is done. Also developers will assign monitoring team during the counting of votes to monitor the possible problems and issues may encounter within the system and resolved it immediately.

The project manager will examine each risk as well as the risk management approach throughout the closing phase when the project is completed. Based on this research, the project manager will identify any risk management process changes that may be addressed for future projects.

1.4.15 Risk Register

The Risk Register for this project is provided in Appendix C, Risk Register.

1.4.16 Staffing Management Plan

The Online Voting System will consist of a matrix structure with support from various internal organizations. All work will be performed internally. Staffing requirements for the Online Voting System include the following:

Project Manager (1 position) - responsible to lead role in planning executing, monitoring, controlling, and closing out projects for Online Voting System. They are accountable for the entire project scope the project team and resources, the project budget, and the success or failure of the project.

Full Stack Developer (1 position) - responsible to oversight of all coding and programming tasks for the Online Voting System as well as ensuring functionality is compliant with quality standards. Include designing user interactions on websites, developing servers, and databases for website functionality, and coding for mobile platforms.

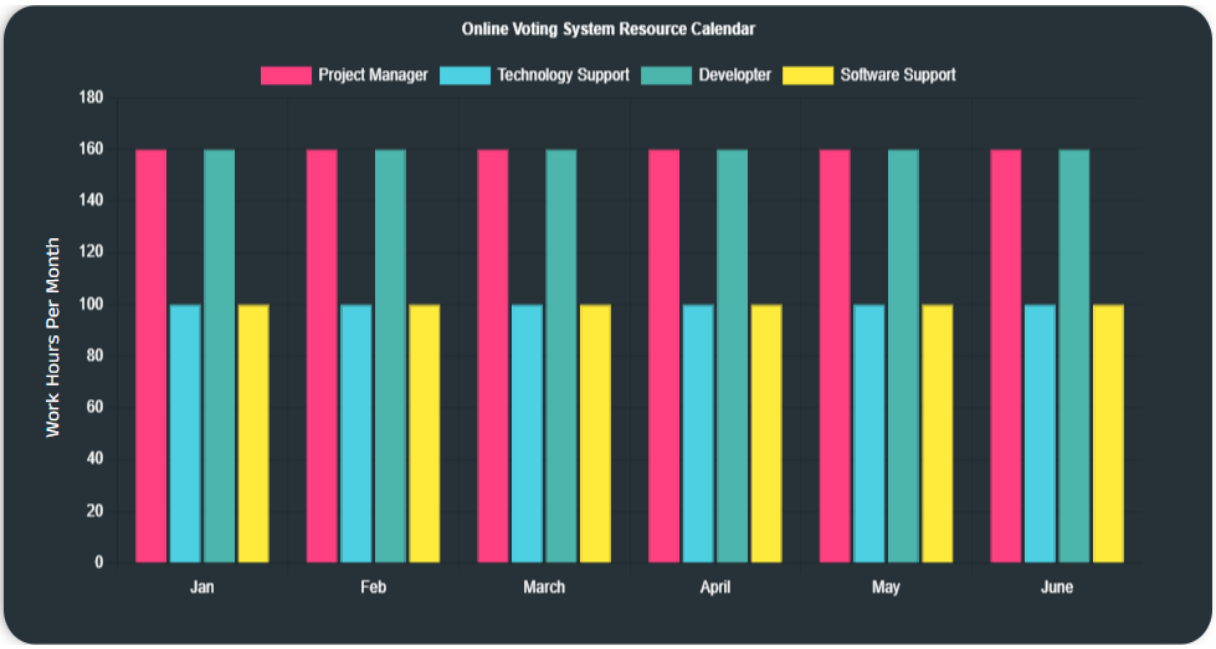
Front End Developer (1 position)-responsible for including and determining the structure and design of web pages, for Online Voting System and striking a balance between functional and aesthetic design and ensuring web design is optimized for mobiles. Completely free trial, no card required.

Software Tester (1 position)-responsible in the quality assurance stage of software development of the Online Voting System to insure the system is without failure before to deploy. You'll conduct automated and manual tests to ensure the software created by developers is fit for purpose and any bugs or issues are removed within a product before it gets deployed to everyday users.

The Project Manager will negotiate with all necessary TSI functional managers to identify and assign resources for the Online Voting System. All resources must be approved by the appropriate functional manager before the resource may begin any project work. The project team will not be co-located for this project and all resources will remain in their current workspace.

1.4.17 Resource Calendar

The Online Voting System will require all project team members for the entire duration of the project although levels of effort will vary as the project progresses. The Online Voting System is scheduled this year with standard 40 hour work weeks. If a project team member is not required for a full 40 hour work week at any point during the project, their efforts outside of the Online Voting System will be at the discretion of their Functional Manager.



1.4.18 Cost Baseline

The cost baseline for the Online Voting System includes all budgeted costs for the successful completion of the project.

Project Phase	Budgeted Total	Comments
Planning	200,000	Includes work hours for all project team members for gathering requirements and planning project
Design	62,400	Includes work hours for all project team members for work on Online Voting System conceptual design
Coding	62,400	Includes all work hours for coding of Online Voting System
Deployment	20,000	Includes all work hours for deployment of Online Voting System
Security Features	150,000	Includes all work hours for security features for the Online Voting System
Licenses	200,000	Includes work hours to implement license permit the use of the Online Voting System on one

		server for internet and other server base application

1.4.19 Quality Baseline

The Online Voting System Project must meet the quality standards established in the quality baseline. The quality baseline is the baseline which provides the acceptable quality levels of the Online Voting System Project. The software must meet or exceed the quality baseline values in order to achieve success.

Security	95%	It was difficult to make the software secured but through certain measures it was achieved.
Accuracy	100%	As this objective, Is one of the main purpose of the project. It is guaranteed that the results and calculation from the voting system is correct.
Authentication	90%	Ensures that every vote put onto the voting unit during acceptance testing is counted by this central tabulating computer. And that the correct ballot totals are maintained throughout the counting process.
Reliability	89%	Systems should record votes as cast. Systems should not break down, impeding or delaying voting. Systems must be up to the job of handling the full complexity of a ballot.
Unbiased	100%	The voting system itself should not distort the outcome in the direction of the election.

1.5 RISK MANAGEMENT PLAN

1.5.2 Introduction

Risk is unavoidable. Every project has risks, but the impact of risk on the project Reduced by preparation and planning. "Risk management plan" is a communication tool used by project teams in risk planning. Anyone can execute the plan because it reveals the risks and impacts on the project. I was surprised that the risks became apparent. Of course, the best case is the execution case. The content of the plan reduces or eliminates the negative impact of risk on the project. OVS's risk approach is based on communication, all team members think positively about the risks of your project. Processes and tools when risks are discovered the risks described in this management plan should be used to record and communicate the risks. The rest of the team. These processes also quantify and provide the impact of risk. A tool for recording mitigation or prevention plans.

The program or project manager will act as risk manager. The responsibilities of the risk

managers are:

- Demand new risks from team members.
- Make sure the new risk is recorded in the risk database.
- Track impact information from related team members.
- Work with your team members to determine the best way to deal with them risk.
- Once the risk trigger is identified, work with your team members, it is scheduled to determine if a trigger has occurred.

1.5.3 Top three risk

Malware

It one of the most dangerous be avoided and ensured to be given action and safety. Malware is harmful because its purpose is to disable a system or destroy it

Data Breaches

Data breaches are one of the most dangerous things that can happen due to taking private details from someone such as phone number or email because the system uses account verification using them and it is dangerous to get it to others.

Cross-Site Scripting

Cross-Site Scripting is one of the risks that the system can take because the system is running on the web it is attack are type of injection in which malicious scripts and it is usually used to access a site that has not been verified

1.5.4 Risk management approach

The overall description to identify and control the identified risks requires strategy and they are included in the risk management plan, and these are such requirements to properly manage the identified risks led by the project manager with his team and some of which here are the risk identification, how can it be reduced, what will be its impact on the project, what are the main risks that must be acted upon, when holding a meeting for change to take place, are the things that must be analyzed to perform and ensure system improvement and control risks

1.5.5 Risk identification

Identifying the risks is the responsibility of all project participants. The risk is identified at any time. To keep risk identification in the mind of the team. Identifying the members, risks become part of risk, problem, and change project management. During these meetings, each participant will be asked about new risks they may have appeared from the last meeting. Each identified risk is recorded in the measure position list by risk manager. Participants are asked to record the risk in the risk database. In this project the risk identification was already conducted in the initial project risk assessment meeting. The method or technique used by the project team to identify risks was SWOT analysis as it helps to develop an understanding of the circumstances. The project manager chaired the risk assessment meeting, distributed notepads to each team member, and gave each team member at least 15-20 minutes to record as much risk as possible.

Project Adviser Meeting

This interview revealed some risks, which were mitigated by changes to the project plan. Some risks are included in the risk manager.

Risk Assessment Meeting

A threat evaluation assembly changed into held with key crew participants and stakeholders. The dangers diagnosed at some points of this assembly have been delivered to the undertaking plan and Risk Register.

Existing System of Online Voting

The project team reviewed few similar systems (OVS) to determine the most common risks and the strategies or techniques used to mitigate those risks.

1.5.6 Risk Qualification ad Prioritization

To determine the impact of the risk on the project, with such risks identified by the team in the system it allows the project manager to prioritize the risks based on its impact on the system, the project manager conducts a meeting with his team to identify risk effects with the team so they can validate it and break it down on the chart. Once the probability and impact risks have been assigned and placed in the appropriate position on the chart, the recorder captures the finished product, and the project manager moves the process to the next step: risk reduction/prevention planning.

1.5.7 Risk Monitoring

The risk manager and project team are aim of preventing election interference by advocating for increased transparency and fighting the use of disinformation in campaigns. In pursuing its objectives. It is systematically assessing the adequacy of laws, policies and practices in order to evaluate the electoral resilience and their ability to preserve the integrity of them elections. To consider the online voting system performance in this regard. The special report that follows was prepared as a foundation for that assessment. It describes the legal and

administrative regime that governs. It refers to threats that have been identified and to new laws, policies and investments intended to anticipate and respond to them. It documents strategies that have been adopted by the federal government and explains how the system is contributing to manage those threats. The report discusses policy choices that project team is facing as it decides how best to deal with unresolved issues arising from the exploitation

1.5.8 Risk Mitigation and Avoidance

This project has risks that must be addressed the person responsible for it is the project manager who leads his team to develop a response that uses strategies appropriate to the risks posed by the system. The risk detected in the system is given attention and guidelines on how to avoid it and the team is ready to respond to any risks detected to take action to ensure the safety of stakeholders or users of the system and ensure that all of this is reported for progressive record changes

1.5.9 Risk Register

The risk record for this project is a log of all identified risks, their potential and impact on the project, the categories to which they belong, mitigation strategies, and when the risks occurred. The register was created by the first project risk management meeting chaired by the project manager. During this meeting, the project team identified and categorized each risk. In addition, the team assigned each risk a score based on its likelihood of occurrence and its potential impact. The risk registration also includes each risk mitigation strategy and when the risk may occur. Each risk has been added to the project plan based on the risks and timeframes identified in the risk register. The project manager appoints a risk manager to ensure compliance with the agreed mitigation strategy at the right time for the plan, that is, before the risk is most likely to occur. Each risk manager provides the status of the assigned risk at a biweekly project team meeting in a planned time frame for the risk.

1.6 SCOPE MANAGEMENT PLAN

1.6.1 Introduction

The scope management plan provides the scope framework for this project. The online voting system consists of the identified requirements to perform this project it is supported by the open-source-environment. It is accessible anywhere for the voters to vote and supported real -time so they will know the changes quickly just like they will know immediately the result if their vote has been added to the candidates because it is web-based application. All systems have errors, maybe system security or UI bugs. Our system has WBS to break down into smaller tasks and to quickly determine the plan and arrange the task and to define the scope. Verifying the scope of online voting system include reviewing deliverable. And lastly control scope to monitor the status of our project and managing changes to the scope baseline

1.6.2 Scope management approach

The project manager is responsible to manage projects from start to end, ensuring that work is done efficiently and as team leaders with daily schedules, report, reviewing the request, proposed changing. After review by the project manager, it must also go through the project sponsor for acceptance and must be updated by project manager all documents that can change with the changes requested and notify all members of the changes so that they are also updated on all changes that occur.

1.6.3 Roles and responsibilities

The Project Manager, Sponsor and team will all play key roles in managing the scope of this project. As such, the project sponsor, manager, and team members must be aware of their responsibilities to ensure that work performed on the project is within the established scope throughout the entire duration of the project. The table below defines the roles and responsibilities for the scope management of this project.

Name	Role	Responsibilities
Carla Vigilia	Team Member	- Responsible for helping establish testing specifications for the Online Exam Project with the assistance of the Project Manager and Programmers. - Responsible to do the documentation, assign by leader. - Participate in defining change resolutions.
Richard Carpio	Project Manager	- Measure and verify project scope - Facilitate scope change requests - Facilitate impact assessments of scope change requests - Organize and facilitate scheduled change control meetings - Communicate outcomes of scope change requests - Update project documents upon approval of all scope changes
Charles Palencia	Team Lead	- Responsible for compiling all project documentation and reporting into organizational formats. - Responsible for assisting the project manager in configuration and revision control for all project documentation.
Charles Palencia, Catherine Oliverio	Team Lead, Team Member	- Responsible for coding and programming for Online Exam System. - Responsible to access assessment test may contain MCQ's (Multiple Choice Questions), MAQ's (Multiple Answer Questions), Fill in the Blanks, Descriptive, Audio / Video Questions, Coding Simulations, etc.
Jan Carlo Castro Joan Clarence Francisco	Team Member	- Participate in defining change resolutions - Evaluate the need for scope changes and communicate them to the project manager as necessary - Evaluate the need for scope changes and communicate them to the project manager as necessary

1.6.4 Scope definition

Online voting refers to using hardware and software to set up an electronic system that will help in the voting process by generating electronic ballots to replace

paper ballots. Votes are saved so that they can be counted again if necessary. Online voting can accelerate election results and reduce election costs by significantly reducing the number of people required to work at the polling place and vote the results, Online voting system is using Open-source-development to support web-based-application it is responsible for installing API to the system and support security. This project is inspired based on the physical voting of the voters due to the many reasons and difficulties, they encounter in voting, so this project already has processes to follow because it is based on the previous physical voting. But now, you can see the scope of online voting system is intentionally growing through technology in the modern era.

1.6.5 Project scope statement

The project scope statement provides a detailed description of the project, deliverables, constraints, exclusions, assumptions, and acceptance criteria. Additionally, the scope statement includes what work should not be performed to eliminate any implied but unnecessary work which falls outside the of the project's scope. This project includes the design, programming, and testing of a new software application for tracking the company's finances. The deliverables for this project are a completed software application for Online Examination with the flexibility to modify and expand the application as necessary in the future. This project will be accepted once the new software has been successfully tested in each department and has been shown to be compatible with the company's current information technology (IT) infrastructure. This project does not include ongoing operations and maintenance of the software. Only internal personnel and resources may be used for this project. Additionally, the project is not to exceed 120 days in duration or $700,000 in spending. Assumptions for this project are that support will be provided by the project sponsor and all department managers and that adequate internal resources are available for the successful completion of this project.

1.6.6 WBS

In Online Voting System's work required to complete this project, it will be subdivided into individual work packages which will not exceed 40 hours of work. On this project will allow online examination to have an admin to manage the working hours and monitor the other to gather 40 hours on their work.

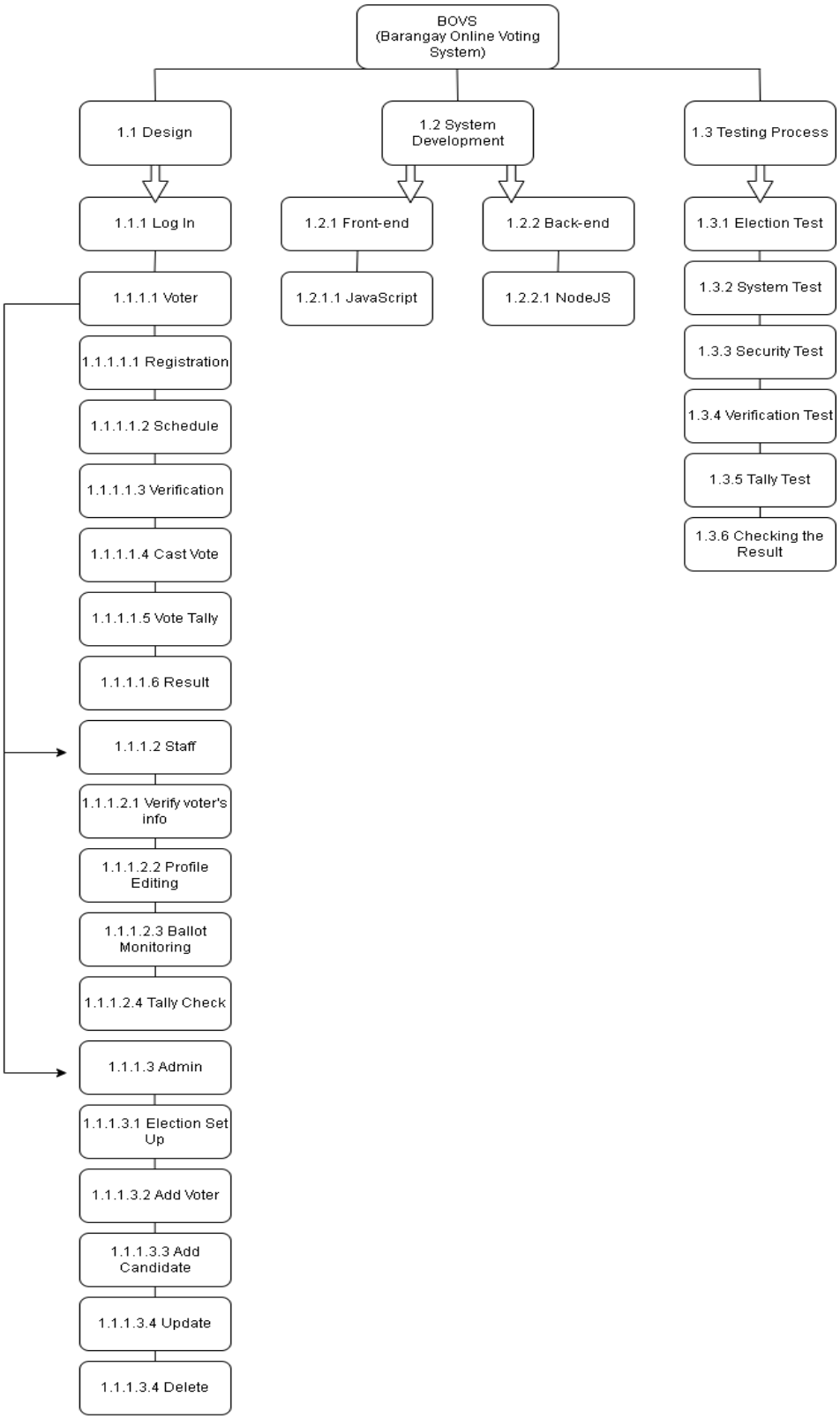


Figure 1.1 Work Breakdown Structure (WBS)

To define the work necessary more clearly for project completion the WBS Dictionary is used. The WBS Dictionary includes an entry for each WBS element. The WBS Dictionary includes a detailed description of work for each element.

Level	WBS Code	Element Name	Description of Work
1	1	Online Voting System (Barangay Online Voting)	A software platform that allows voter to cast a vote online
2	1.1	Cast Vote	Initiation to cast a vote
	1.1.1	Log in/registration	Create user account and verify user information in database
	1.1.2	Verification	To verify user requirement to check its true identity
	1.1.3	Candidates' positions	List of candidates' positions.
	1.1.4	Name of candidate	List of names of the aspirant candidates
	1.1.5	Tally	Counting process in each candidate
3	1.2	Voting Process	A process where voters are able to choose their candidates in different positions
	1.2.1	Create voting schedule	Creating voting schedule for the voters to when they can start to cast a vote and when it ended
	1.2.2	List of candidates	Viewing List of candidates
	1.2.3	List of positions	Viewing List of candidates Position
	1.2.4	Create voters' info	Creating or updating voter's information
	1.2.5	Create poll/ballot	List of choices including the candidate's name and position to run
	1.2.6	Create candidate's platform	For additional reason whom vote
4	1.3	Viewing	Who should be monitor in the system
	1.3.1	Voter's info	All voters Information in the database
	1.3.2	Candidate's percentage	After tallying this process shows how many votes did the candidate/s get
	1.3.3	Abstention	These are the people who did not vote for the calculated voters in a specific barangay
	1.3.4	Results	A final results taken from an online voting system
5	1.4	Security	Secure all data and private information of users
	1.4.1	Candidates' info	All candidates' Information are highly secured

	1.4.2	Voter's info	All voters Information are highly secured
	1.4.3	Result	The results will remain inside the barangay community as it is conducted in a specific barangay
6	1.5	Election	A process where voters already given a schedule to cast a vote
	1.5.1	Candidates result	The results will shows in their dashboards after 2-3 hours waiting for others to vote

Table 1.2 WBS Dictionary

1.6.7 Scope verification

We all know that technology is made to facilitate our tasks but not everyone is competent enough to come up with such a project. The online voting system may also have limitations, such us functional error, or the browser used by the stakeholder is not compatible with the OVS.

According to the users of the Online voting system, generally, they will consider the following requirements when purchasing our online examination system.

- Support high concurrency.
- Enable shareholders to vote by her/him schedule anytime and anywhere.
- Realize some updates or features
- Add candidates online and manage candidate information
- Achieve shareholders concern via system support
- Vote in different device such as computer and mobile phones etc.
- Achieve online voting query results

1.6.8 Scope control

Members or project sponsors can request for modification of a system. The project manager must submit member or sponsor requests through a document for requests for modification of a project. The project must also review manager each request to select those that can be changed within the system. The project manager can also refuse if these requests are not valid or incompatible with the system.

1.7 PROJECT EXECUTION

Implementation and migration plan

1.7.1 Purpose

This implementation and migration plan was created to convey how Fort Light Telco's Barangay Online Voting System project will be implemented, installed and migrated to the production environment within Barangay's Commission. The purpose of this plan is to ensure that all stakeholders are aware of the details, requirements, and responsibilities of successfully completing this project and migrating products to operations groups. Changes requested for this plan must be submitted through the project's change management process for review and approval prior to implementation.

1.7.2 Description of implementation

The online voting system is a web-based system developed using open-source-development and it is supported by the react.js framework and material UI for designing our webpage and node.js for the server and it is used by MONGODB for our database these steps are what make up our system for migration and adjustment for its continued operation. Required IT groups for testing our system for adding tools, design, security, for the further expansion of our system and while this will take place it is also necessary to enlarge our database for changes to our database, you can take the data from the database and transfer it to a beta version of the database for development and virtual testing of the server. And if the operation of the system is still under maintenance it will send a notification for the organization to inform them for the ongoing maintenance and this system is temporarily shut down for two days to prepare for its return but still requires approval from the IT group for its return and it will be observed by 48 hours by maintenance technicians with the IT Group to ensure the success of the changes made in the system.

1.7.3 Points of contact

Name	Role	Contact Information
Jorge Lucero	Project Sponsor	
Richard Carpio	Project Manager	
Catherine Oliverio and Charles Palencia	Maintenance Division Lead	+6390484836480
Joan Clarence Francisco and Jan Carlo Castro	Maintenance Operations Lead	+6390380792583
Charles Palencia	Lead IT Engineer	+639072147761
Catherine Oliverio	Asst. IT Engineer	+6390484836480
Carla Vigilia	Security Administrator	+63463312203

1.7.4 Major task

The Fortright Telco Database Project has created a list of key tasks required for a successful implementation and migration of this project. All of these tasks have been reviewed by the project team to ensure they are within the scope of this project. In

addition, all critical tasks have been assigned to responsible persons and / or groups and communicated to all stakeholders. The following is a list of the key tasks in the Fortright Telco implementation and migration plan.

- Finished design by Fortright Telco: IT Group This task involves completing all design work for the new MaintMax database.

Complete operator training: IT group and maintenance operations group.This task completes operator training for the new Fortright Telco database

- Verification of maintenance server functionality: IT group

This task involves an IT group loading the database onto a maintenance server and testing its functionality.

- Finished data acquisition: IT group

This task involves capturing all existing maintenance data from the legacy database to the Fortright Telco database.

- Up / Start: IT Group and Maintenance Operations Group

This task represents the official launch of the Fortright Telco database.

- Operational Approval: Maintenance Organization Group

This task involves formal approval of the Fortright Telco database by the Maintenance Operations Group.

1.7.5 Implementation Schedule

The implementation schedule of the IntraNet Corps Database Project is as follows. To be consistent and to raise awareness of the project team and stakeholders, the main tasks / milestones mentioned above are included in this schedule.

Task/Milestone	Scheduled Completion Date
Complete IntraNet Design	March 31 2022
Complete Testing	April 17 2022
Complete Operator Training	April 212022
Verify Functionality on Maintenance Servers	April 23 2022
Complete Data Structure	April 29 2022
Go Live/Launch	April 30 2022
Operational Acceptance	June 1 2022

1.7.6 Security

IntraNet Corp's IT Group establishes and enforces IntraNet Corp's information technology security procedures. IntraNet Corp's existing firewalls and security measures will be used to protect the Online Voting Database, which will be managed by the IT

Group's Security Administrator. While no extra security measures beyond those in place for the old database will be installed, the Security Administrator will be involved in all aspects of design, testing, implementation, and migration. In addition, once the OV Database is operational, the Security Administrator will monitor it, as well as other IT Tools, to guarantee continuing compliance with IntraNet Corp. security rules.

1.7.7 Implementation Support

The Online Voting System Project will require a moderate level of support from internal Ace Corp. groups. The groups directly involved in providing support for this project are the Program Management Office (PMO), the Maintenance Operations Group, and the IT Group. The Project Manager (PMO Group) will facilitate all meetings and discussions in completing the tasks for this project. The Project Manager will work directly with both the IT Group and the Maintenance Operations Group to complete these tasks. With feedback and requirements from the Operations Maintenance Group, the IT Group will design, test, and implement the OVS on both the virtual testing servers and the maintenance servers. The IT Group will also develop and provide training to maintenance operators on the OVS. These tasks will be done by the lead and assistant IT engineers. If additional support is needed, it will be coordinated through the Project Manager and IT Group Lead. The Maintenance Operations Group will provide all operational requirements to the IT Group for inclusion in the design and implementation of the database. The Maintenance Operations Group will also be required to provide feedback on testing. Additionally, all maintenance operators will participate in OVS training. If additional support is needed, it will be coordinated with the Project Manager and the Maintenance Division Lead.

1.7.8 Listing of hardware, software, and facilities

The Online Voting System Project needs a database architecture on an enhanced MongoDB 406 platform, rather than the present MongoDB platform. While this improves usefulness and capabilities, it does not require the purchase of new hardware or the upgrading of existing systems. Similarly, no more resources are required to finish the project's implementation and migration. This project will be executed within the hardware and present facility capabilities of IntraNet Corp.

1.7.9 Performance Monitoring

As for the monitoring of performance of the system developed by the Fortright Telco. Its database will not only reconstruct the capabilities of the existing database, but will also offer new features. As a result, the design team has included these extra capabilities in the planning for continuing performance monitoring of the Fortright Telco Database. Additional monitoring criteria have been added to the operational environment to capture actual information once the database has been transferred to its operational environment in order to accomplish this. The Maintenance Operations Lead is in charge of keeping track of performance and preparing weekly reports for the IT group. If Fortright Telco's database performance falls below acceptable levels, the issue

will be reported to the staff leads, who will select and implement corrective measures as well as begin analysis on the issue identified.

1.7.10 Implementation Requirements (Hardware/Software/ Personnel/Facilities/ other capital investment:

The project team and stakeholders for the Online Voting System have finished their requirements gathering operations. The list of requirements is fairly concise and manageable because this is a modest to moderately sized project that will be executed internally with no contract or external support.

The following is a list of requirements that must be met in order for the OVS to be implemented successfully:

Hardware/Software:

Functional features virtual testing servers – existing

Functional maintenance servers – existing

Mongo Database 406 Upgrade - new purchase for the OVS

Personnel:

1. Lead IT Engineer – on project team

2. Assistant IT Engineer – on project team

3. Maintenance Operation Lead – on project team

4. Maintenance Operators – as needed for testing, training, and feedback 5. Security Administrator – on project team and ongoing operations support

Facilities:

None - utilize existing facilities Other Capital Investments: None – utilize existing resources

1.7.11 Back Out Plan

The possibility of the new database failing once it goes live on IntraNet Corp.'s maintenance servers was noted during the preparation for the Online voting System Database installation. To reduce this risk, the project team has devised a contingency plan that will enable the maintenance team to continue operations if the OVS launch fails. All maintenance data for both the Online Voting Database and the legacy maintenance database will be updated as the data capture task is completed. The traditional database will be kept on the maintenance servers until the Online Voting Database is fully implemented and operational. If the Online Voting System is deployed and encounters any issues or difficulties, the IT Group will immediately disable all operational maintenance technicians' access and restore access to all other users.

1.7.12 Post Implementation Verification

After the Fortright Telco Database is implemented, there are procedures that will verify and guide a well-organized implementation. In the initial of the implementation to be perform, the maintenance team will guarantee that they have a full access to the database to perform specific task that is assigned to them. After that there is a troubleshooting to be perform by the maintenance team to observe if there is a problem or bugs within the database and if there is any conflict the developer will immediately resolve it to establish a well-organized and hassle free system. Lastly, maintenance managers will query and execute all assigned metrics and reports to confirm that the Fortright Telco Database has all of the essential capabilities. Maintenance managers will meet with the project team when these operations are completed to examine all verification efforts in order to ensure that the implementation requirements were accomplished effectively.

1.8 PROJECT STATUS REPORT

ONLINE VOTING SYSTEM

MONTH ENDING: MAY

1.8.1 PROJECT STATUS SUMMARY Percent Complete: 86%

Scope	Schedule	Cost	Risks	Quality

The status of a project refers to the level of progress it is making towards the end goal. The purpose of project progress reports is to keep our team and stakeholders up to date on many moving parts of the project. The project progress exceeded 86% of the plan. It should not set a project completion date. Project risk is red due to poor internet connection and coding problems, that's why the project may not be updated soon and the project team program error. The impact of these risks on the schedule will be mitigated by have a team that makes up for time by working all day and extending the time. Now we are working with codes to troubleshoot system and problems including errors, logic errors, etc. Software development teams can experience productivity issues, which can happen due to delays, member burnout and many other factors.

1.8.2 WORK PLANNED FOR LAST MONTH

The following is a timetable for the OVS project work planned for last month.
This chart is comprised simplest of fundamental project milestones consisting of completion ofa project section or gate review.

Milestone	Date
Complete all important requirements for the OVS Project.	05/25/22
Complete OVS Coding and Program	06/10/22
Complete Testing the Program Software	06/11/22
Complete the Design structure for OVS	06/15/22
Complete the final OVS output.	06/20/22

1.8.3 WORK COMPLETED LAST WEEK

The table below indicates the weekly timeline of OVS project that is already completed.

Milestone	**Date**
Complete all relevant requirements for the Online Voting System Project.	4/20/2022

1.8.4 WORK PLANNED FOR NEXT WEEK

The following is a timetable for the OVS project work planned for next week.

Milestone	**Date**
Making Functionality	May 10, 2022
Continuous Testing	May 10, 2022
Complete Data Capture	May 18, 2022
Implementing Security	May 26, 2022
Complete Implementing Design	June 15, 2022
Making Operator Training	June 17, 2022
Go Live/Launch	June 20, 2022

1.8.5 OPEN ISSUES

1. Eliminates the need to print ballot papers or open polling stations

2. Electronic voting systems must be legitimate, accurate, safe, and convenient when used for elections.

3. Electronic voting solutions with distributed, non-repudiation, and security protection characteristics.

4. The security of remote participation must be viable, and for scalability, transaction speed must be addressed.

5. Polling method served to increase people's confidence in the selection by majority voting.

1.8.6 DELIVERABLES AND MILESTONES

The following is a quick table which shows the status of the project milestones and deliverables of the AMS project.

Milestone/Deliverables	WBS	Planned	Forecasted	Actual	Status

Programming Phase	1.1	June 10, 2022	June 20, 2022	July 1, 2022	On-going
Testing Phase	1.2	June 11,2022	June 25,2022	July 1, 2022	On-going
Design Phase	1.3	June 15,2022	June 30, 2022	July 1, 2022	On-going

1.8.7 OPEN CHANGE REQUESTS

Change Request Name	**Change Request Number**	**Request Date**	**Current Status**
Add security features to avoid discrepancies.	V1	4/23/2022	Approved and being Added to the Project Plan
Add OVS system functionalities.	V2	4/25/2022	Approved and being Added to the Project Plan
Additional servers to avoid system traffic or crash.	V3	4/26/2022	In review by the Project Sponsors.

1.8.8 KEY PERFORMANCE INDICATOR (KPI's)

1.9 ISSUE LOG

Issue log with Explanations:

Issue Log								
Project: Barangay Online Voting System (BOVS)							Date: 04/30/2022	
Issue	Description	Priority (H, M, L)	Category	Reported By	Assigned To	Status	Date Resolved	Resolution/ Comments
1	We cannot meet the requirements and expectations due to a serious lack of information	H	System knowledge	Carla Vigilia	All group members	Active		Enough information and research for the existing system.
2	If the system needs to be developed at a particular point in time, it will not be available to other project team members.	H	Resources	Carla Vigilia	Carla Vigilia	Active		Setting a specific schedule for the availability of each member/s.
3	Insufficiency in equipment	M.	Hardware	Charles Palenciano	Charles Palenciano	Active		The cooperation to find enough equipment.

1.10 ROOT CAUSE-ANALYSIS

1.10.1 Introduction

The goal of this root cause analysis (RCA) is to figure out what factors contributed to the material failure of a recent fiber optic cable project at the research lab. We'll figure out what happened during the failure, how it happened, and why it happened using this RCA. To do so, the leader of Technology will assemble an official investigating team. A list of root causes will be created after the team has determined what, how, and why this event occurred. This list of root causes will be utilized to make any necessary changes in order to avoid a repeat failure. It is important to note that for the purpose of this RCA, root causes should be: -As specific as possible -Reasonably identifiable -Able to be managed/controlled. All results linked to this RCA must be carefully considered because they will have an influence on the OVS project, as will their corrective measures. Throughout and after the execution of this RCA, formal communication with the OVS project team must occur.

1.10.2 Event Description

On Wednesday morning, May 25, 2022 at 9:00am the formal process of selecting a person for public office or of accepting or rejecting a political proposition by voting. In some cases, electoral forms are present but the substance of an election is missing, as when voters do not have a free and genuine choice between at least two alternatives. The online voting system allows the audience to rate according to their preferences and record comments on what they are watching, considering different scenarios. Organizers take advantage by accessing the vote in real-time. An event voting system is a simple technological tool that can be implemented at any event, which helps organizers to increase participant's engagement. Organizers can also take the opportunity to create new dynamics for participation in events and, above all, they can consult measurable results regarding participant's preferences and feedback. The product release currently scheduled for the last week of May 2022 respectively. During the pitches, the audience evaluated the overall performance of each candidate based on a "feeling" towards what was presented.

1.10.3 Chronology of Events/Timeline

1.10.4 Investigative Team and Method

The goal of this root cause analysis (RCA) is to figure out what factors contributed to the material failure of a recent fiber optic cable project at the research lab. We'll figure out what happened during the failure, how it happened, and why it happened using this RCA. To do so, the leader of Technology will assemble an official investigating team. A list of root causes will be created after the team has determined what, how, and why this event occurred. This list of root causes will be utilized to make any necessary changes in order to avoid a repeat failure. It is important to note that for the purpose of this RCA, root causes should be: -As specific as possible

-Reasonably identifiable -Able to be managed/controlled. All results linked to this RCA must be carefully considered because they will have an influence on the OVS project, as will their corrective measures. Throughout and after the execution of this RCA, formal communication with the OVS project team must occur.

1.10.5 Findings and Root Cause

1.10.6 Corrective Action

1.11 Transition-out Plan

1.11.1 Executive Summary

This plan formally documents the process for the transition of the powers, duties, activities and functions of tasks and tools for the Barangay Commission .It describes to the approach to transitioning work and employees from Fortright Telco (incumbent contractor) to Bestlink College of the Philippines . The Fortright Telco's contract is for the creation and implementation of a new Online Voting System for the Barangay Commission (BC) and for citizen of Barangay Punturin, Valenzuela project by Beslink College of the Philippines . This database will allow BC to integrate all results for the election and reporting into a consolidated database. This will be completed not more than 160 days after contract award. The period of performance is from 4 March 2022 to 31 May 2022. The value of the contract is ₱150,000.

1.11.2 Transition Approach

During the transfer of the project for a new contract one of the ways or plans to accomplish this is to instruct the staff for the transfer to take place because it depends on the project how long it will take so it takes time based on the project. the main managers of this project have decided to transfer it within 30 days for the transfer and observe, testing and review for any changes to be made such as the design and anything else agreed upon the transfer of the project contract.

1.11.3 Transition Team Organization

1.11.4 Workforce Transition

For this should be able to articulate how they intend to administer a mistake-free electronic election, while supplying security measures within their online voting system. In addition, some associations hire an accounting firm to ensure the integrity of an election and that ballots are accurate and complete. The project team provide an added measure of security for an election. A CPA can collect input from board members and then help the organization determine voting procedures. Association leaders are understandably concerned about board election integrity and security at all stages of the process.

1.11.5 Workforce Execution during Transition

For the transition to be made, it really takes time for it. For the changes that will take place due to the new contract of the project, one of which is the approval of the WBS, schedule report if it has been fixed or will be changed. So the project manager with his team is retain all responsibility for tasks and deliverables. Before the end of the 30 days transition of the new contract and the implementation of what is expected to be delivered exactly as planned and negotiated

1.11.6 Subcontracts

1.11.7 Property Transition

In the nomination phase, an election manager should be able to assist with the collection of paper and electronic documentation that associations require of candidates, as well as petition signatures supporting nominees. Election managers can assist organizations with branded design and production of both paper and electronic ballots, as well as advise on cost-saving strategies for print production and postage costs.

1.11.8 Government Furnished

1.11.9 Equipment (GFE)

1.11.10 Incumbent Owned Equipment

1.11.11 Intellectual Property

1.11.12 User Accounts and Passwords

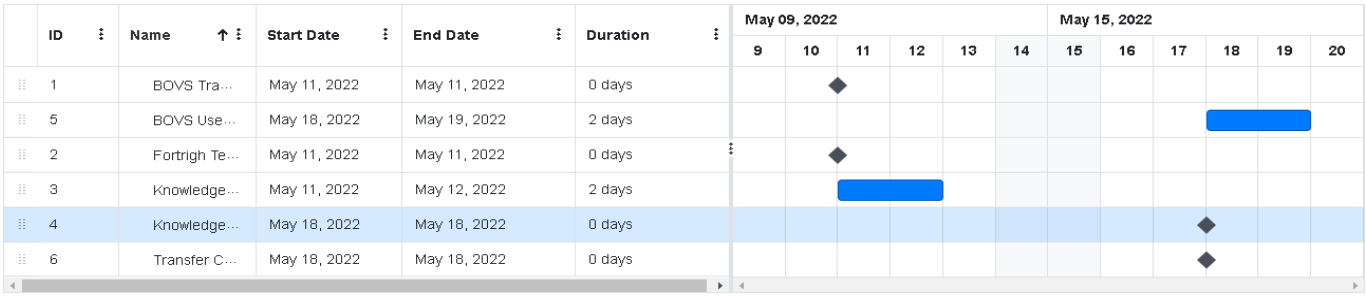
Online voting system accounts is cumbersome so during the development it was decided to first disable the accounts to be transferred for security so as not to be able to access. and these accounts can be transferred using a clone or beta of the database for the transfer of accounts and for the main accounts such as the accounts listed in the table below depends on the contract of the project who his i will be assigned for that and must be approved for good transaction and transition to take place in the project

User Account	**Barangay Commission**	**Bestlink College of the Phil.**
FortRigth Telco. Master User	IT Transition Lead and Configuration Manager	IT Transition Lead and Configuration Manager
Database Administrator	IT Transition Lead	IT Transition Lead
Customer FortRigth Telco. Master User	Transition PM and IT Transition Lead	Transition PM and IT Transition Lead

1.11.13 Knowledge Transfer

1.11.14 Schedule

The following Gantt chart illustrates the schedule for transition of the Barangay Commission from Fortright Telco to the citizen of Punturin, Valenzuela. Any changes to this schedule will require review and approval from the customer and all other parties.



ID	Name	Start Date	End Date	Duration
1	BOVS Tra…	May 11, 2022	May 11, 2022	0 days
5	BOVS Use…	May 18, 2022	May 19, 2022	2 days
2	Fortrigh Te…	May 11, 2022	May 11, 2022	0 days
3	Knowledge…	May 11, 2022	May 12, 2022	2 days
4	Knowledge…	May 18, 2022	May 18, 2022	0 days
6	Transfer C…	May 18, 2022	May 18, 2022	0 days

1.11.15 Handover and Acceptance