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## **NDRRMC - Logistics System**

Project Documentation Submitted  
to the Faculty of  
School of Computing and Information Technology

In Partial Fulfillment of the Requirements for the subject  
Project Management

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# **I. INTRODUCTION**

## **A. Overview**

National Disaster Risk Reduction and Management Council, also known as NDRRMC, is a working group of government and private sectors that is responsible for the protection and welfare of the citizens during disasters, emergencies, and calamities. The NDRRMC is divided into 12 clusters for better task distinction and dissemination. These clusters, namely *Camp Coordination and Camp Management*, *Education*, *Emergency Telecom*, *Food & Non-Food Items*, *International Humanitarian Relations*, *Law and Order*, *Logistics*, *Management of the Dead and the Missing*, *Protection (IDP)*, *Psycho Spiritual Integration*, *Search, Rescue, and Retrieval*, and *Water, Sanitation, Health (WaSH)*. The council is in charge of formulating effective response schemes in the event of calamities or disasters to ensure the protection and preservation of life, property, and the environment of affected communities.

Given the responsibilities of NDRRMC, they still seek ways to improve their services to provide the society better assistance. One of the service that must addressed is strategic planning since NDRRMC still commits several lapses that could possibly harm the people due to the lack of proper management and allocation of resources, as well as the lack of proper utilization of role players in the event of a disaster or calamity.

## **B. Purpose, Scope, and Objective**

### **Purpose**

The purpose of the project is to implement a system that would streamline the NDRRMC processes by creating a digitized inventory system and centralizing all relevant data records into one system that would improve the management and organization of the NDRRMC which will then further help the users and the society whenever calamities or disasters strike.

## **Scope**

The NDRRMC – Logistics System web application shall be developed in a span of 13 weeks. This project will only focus on the data gathering, system design, system development, and testing of the web application of the NDRRMC – Logistics System. The project system will only focus on the 3 different modules of the system which are the user management module, procurement module, and transport module.

The scope of the NDRRMC – Logistics project are the following:

- The system will only be accessible on web; mobile platforms are not supported
- The end users of the system will only be the regional admin, provincial admin, city municipal admin, and the different cluster members of NDRRMC.
- The end users must have a stable internet connection in order to use the system.
- The system will be deployed through a cloud platform (Amazon Web Services).

## **Objective**

The project team aims to implement a fully integrated system that digitizes the current processes of the NDRRMC-Logistics cluster in order to have a constant coordination between the different clusters; to keep track of the available supplies and vehicles; to locate vital locations such as warehouses, evacuation sites, ports, hangars, and motor pools; and to have guaranteed runtime even during disasters.

## C. Assumptions, Constraints, and Risks

ASSUMPTIONS	DESCRIPTION
AS-1	The system will create a positive impact to the NDRRMC.
AS-2	The system will replace the current manual system of the NDRRMC.
AS-3	The system will reduce the paper works of the Council.

CONSTRAINTS	DESCRIPTION
CO-1	The client may not be available for meetings and presentations.
CO-2	The Philippine Government's allotted budget may not be sufficient for the modernization of the NDRRMC.

RISKS	DESCRIPTION
RI-1	A project team member might resign due to personal matters.
RI-2	Inconsistency of the project if the client unexpectedly changes the requirements.
RI-3	If the contact person from the NDRRMC steps down or was replaced during the project development.

## D. Project Deliverables

DELIVERABLE	RECIPIENTS	DELIVERY DATE	DELIVERY METHOD
Project Proposal	Office of Civil Defense	January 25, 2018	Meeting
Project Plan	Project Team	January 25, 2018	Meeting
Project Charter	Project Team / Office of Civil Defense	January 30, 2018	Email
System Diagrams	Project Team / Office of Civil Defense	February 26, 2018	Meeting
System Prototype	Office of Civil Defense	March 26, 2018	Meeting
Quality Testing	Project Team	March 27, 2018	Meeting
Project Status Report	Office of Civil Defense	April 4, 2018	Email
Final System	Office of Civil Defense	April 14, 2018	Meeting
Quality Assessment Report	Project Team	April 11, 2018	Email
System Manual	Office of Civil Defense	April 15, 2018	Email
Final Documentation	Office of Civil Defense	April 19, 2018	Meeting

## E. Definitions and Acronyms

The following are the operational definitions of the terms and acronyms used in this project plan:

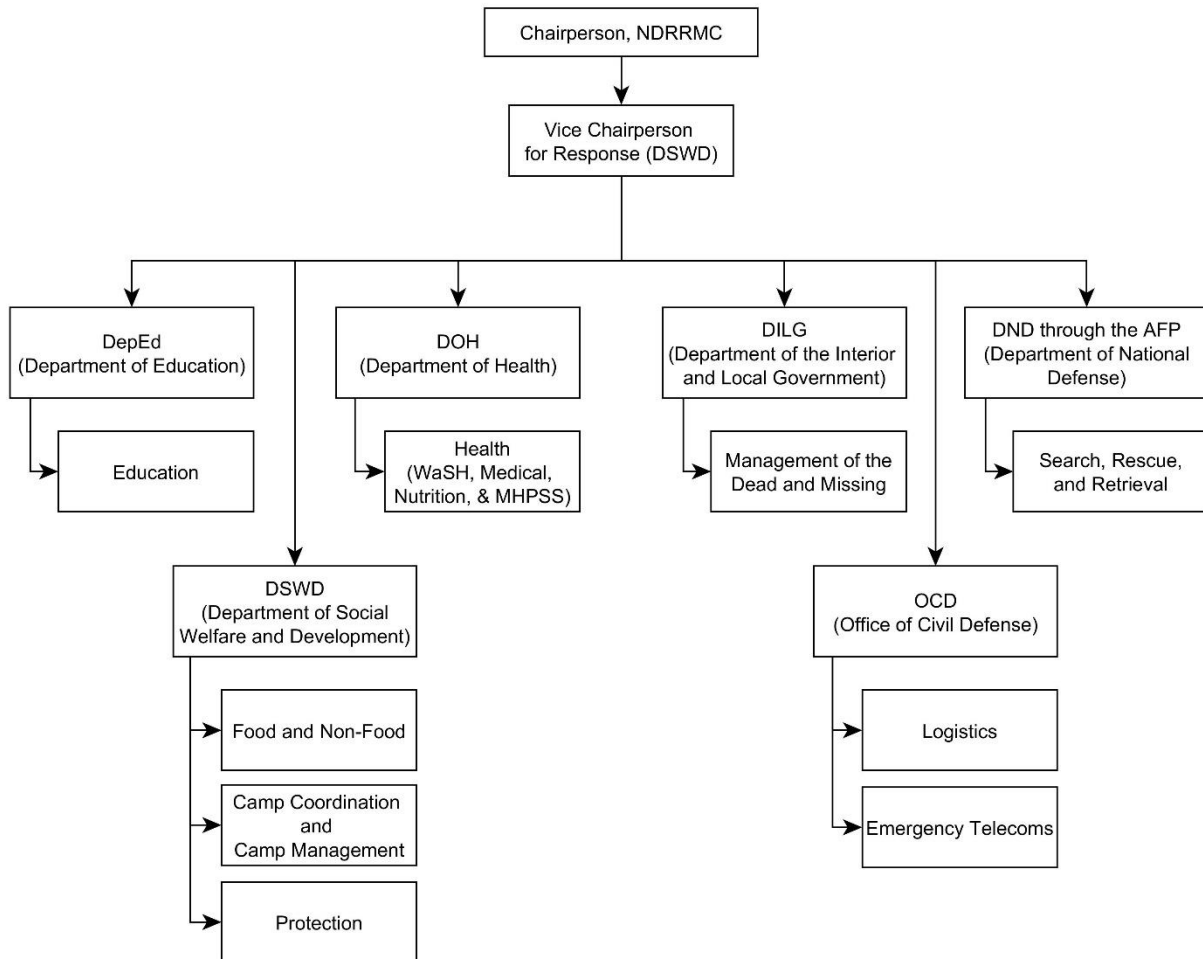
- ₱ - Philippine Peso, the currency to be used for the costs as the project is deployed in the Republic of the Philippines.

- **EC2** – Amazon Elastic Compute Cloud, a cloud hosting service by Amazon to be used to deploy the system.
- **LAN** – Local Area Network, the type of computer network that is limited in a small geographic area.
- **NDRRMC** – National Disaster Risk Reduction and Management Council
- **OCD** – Office of Civil Defense
- **PHP** – Hypertext Preprocessor
- **SQL** – Structured Query Language, the programming language used for all database related entries.
- **SSH** – Secure Shell, the type of protocol to be used in connecting to the Amazon Elastic Compute Cloud Service
- **Yii2** – an open source PHP web framework

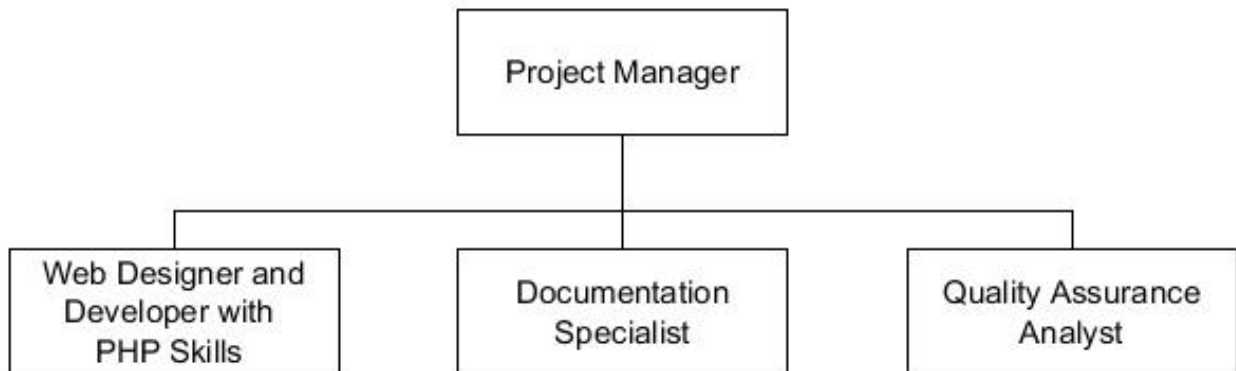


## II. Project Organization

### A. External Interfaces



## B. Internal Structure



## C. Roles and Responsibilities

The following are the roles and responsibilities of the staff needed to implement the project. Responsibilities from the respective roles are gathered from PayScale.com, an American website providing salary, benefits, and compensation information.

ROLE	RESPONSIBILITIES
IT Project Manager	<ul style="list-style-type: none"><li>• Assist technical team in design and development tasks.</li><li>• Utilize software life-cycle methodology.</li><li>• Create and maintain an information technology project plan that communicates tasks, milestone dates, status and resource allocation.</li><li>• Coordinate delivery of development (beta) and production releases that meet quality assurance standards.</li><li>• Assist test team in creating test plans and testing efforts. (PayScale.com, 2018)</li></ul>

ROLE	RESPONSIBILITIES
<b>Web Designer and Developer with PHP Skills</b>	<ul style="list-style-type: none"> <li>• Tests and documents software for web sites.</li> <li>• Work with designers and content producers.</li> <li>• Write, modify, and debug software for web sites.</li> <li>• Write code to generate web pages, access databases and business logic servers. (PayScale.com, 2018)</li> </ul>
<b>Documentation Specialist</b>	<ul style="list-style-type: none"> <li>• Review documents and written external communication for format, consistency and compliance with existing procedures.</li> <li>• Train staff on document control policies and procedures.</li> <li>• Maintain revision control and tracking for controlled documents.</li> <li>• Confirm that all submitted documentation is accurate and complete.</li> <li>• Review site policies, operating procedures, work instructions and forms for format consistency. (PayScale.com, 2018)</li> </ul>
<b>Quality Assurance Analyst</b>	<ul style="list-style-type: none"> <li>• Design, prioritize, and implement test plans, scenarios, scripts, or procedures.</li> <li>• Participate in process reviews to inform development of products and resolution of defects.</li> <li>• Analyze, interpret, and communicate qualitative and quantitative findings from tests.</li> </ul>

ROLE	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>Monitor bug resolution efforts and track results and known defects. (PayScale.com, 2018)</li> </ul>

## D. Stakeholder Analysis

The project team analyzed and determined the degree of importance of the several stakeholders using a stakeholder power/interest analysis, included also is the engagement of the stakeholders which is defined using the Stakeholder Engagement criteria by PMBOK. The criteria of this type of analysis is as follows:

**High Power/High Interest** – These stakeholders are the most influential due to their high interest in the project as the high power and authority in the project.

**High Power/Low Interest** – These stakeholders have the authority in the project, but may not really be of great interest. It is important to meet the needs of these type of stakeholders since they still have high power over the project.

**Low Power/High Interest** - These stake holders have little to no power over the project, but their high interest should be considered and due to that, they should still be updated and informed about the progress of the project.

**Low Power/Low Interest** - These stakeholders are the least prioritized since they have little power over the project, as well as not much interest in the project.

STAKEHOLDER	POWER/ INTEREST	ENGAGEMENT LEVEL	INTERNAL/ EXTERNAL	PROJECT ROLE
Chairperson, NDRRMC	High/High	Supportive	External	Project Benefactor and Informant

STAKEHOLDER	POWER/ INTEREST	ENGAGEMENT LEVEL	INTERNAL/ EXTERNAL	PROJECT ROLE
<b>Vice Chairperson for Response (DSWD)</b>	High/Medium	Neutral	External	Project Benefactor
<b>Department of Education</b>	Medium/ Medium	Neutral	External	Project Benefactor
<b>Department of Health</b>	Medium/ Medium	Neutral	External	Project Benefactor
<b>Department of the Interior and Local Government</b>	Medium/ Medium	Neutral	External	Project Benefactor
<b>Department of National Defense</b>	Medium/ Medium	Neutral	External	Project Benefactor
<b>Department of Social Welfare and Development</b>	Medium/ Medium	Neutral	External	Project Benefactor
<b>Office of Civil Defense</b>	High/High	Leading	External	Project Benefactor, Project Sponsor, and Informant

### III. Managerial Process Plan

#### A. Start-up Plan

##### 1. Estimates

The following are the estimated costs for each major phase of the project:

WBS	TASK	HOURS	PARTICIPANTS	ESTIMATED COST
1	INITIATION	32	<ul style="list-style-type: none"> <li>IT Project Manager</li> <li>Web Designer and Developer with PHP skills</li> <li>Documentation Specialist</li> <li>Quality Assurance Analyst</li> </ul>	₱ 18,225.28
2	PLANNING	108	<ul style="list-style-type: none"> <li>IT Project Manager</li> <li>Web Designer and Developer with PHP skills</li> <li>Documentation Specialist</li> <li>Quality Assurance Analyst</li> </ul>	₱ 75,920.12
3	EXECUTION	344	<ul style="list-style-type: none"> <li>IT Project Manager</li> <li>Web Designer and Developer with PHP skills</li> <li>Documentation Specialist</li> <li>Quality Assurance Analyst</li> </ul>	₱ 141,566.96
4	CLOSING	32	<ul style="list-style-type: none"> <li>IT Project Manager</li> <li>Web Designer and Developer with PHP skills</li> <li>Documentation Specialist</li> <li>Quality Assurance Analyst</li> </ul>	₱ 10,577.60
ESTIMATED TOTAL				₱ 246,289.96

## 2. Staffing

Listed below are the specific roles needed for the project, along with the required skills they need in order to be deemed fit for the job. Also, listed is the number of staff needed, the date they are needed, and the duration of their position. Working days are only limited from Monday to Friday, with each day composed of 8 hours.

ROLE	REQUIRED SKILLS	NO. OF STAFF	START DATE	END DATE
IT Project Manager	<ul style="list-style-type: none"> <li>Strong communication (verbal and written) skills</li> </ul>	1	January 25, 2018	April 24, 2018

ROLE	REQUIRED SKILLS	NO. OF STAFF	START DATE	END DATE
	<ul style="list-style-type: none"> <li>• Strong leadership skills</li> <li>• Basic Managerial skills</li> <li>• Problem Solving</li> <li>• Time Management</li> </ul>			
<b>Web Designer and Developer with PHP skills</b>	<ul style="list-style-type: none"> <li>• Good communication skills</li> <li>• Logical and analytical approaches (for problem solving)</li> <li>• Strong problem-solving skills</li> <li>• Has knowledge in Yii2 (Web) Framework</li> <li>• Good communication skills</li> <li>• Committed to understand new technology and upgrading skills</li> </ul>	1	January 25, 2018	April 20, 2018
<b>Documentation Specialist</b>	<ul style="list-style-type: none"> <li>• Strong vocabulary prowess</li> <li>• Detail oriented</li> <li>• Basic proficiency in MS Office Tools</li> </ul>	1	January 25, 2018	April 20, 2018
<b>Quality Assurance Analyst</b>	<ul style="list-style-type: none"> <li>• High critical thinking skills</li> <li>• Good numerical skills and understanding of statistics</li> <li>• Detail oriented and points out the problem clearly</li> </ul>	1	January 25, 2018	April 20, 2018

### 3. Procurement Plan

The procurement will list all the items/services needed by the team, the justification on why it is needed, needed by who and when, its method of acquisition, constraints on its acquisition, and its cost

(if necessary), and are sorted based on its type (Human Resource, Documentation, Software Development, and Hardware)

ITEMS/SERVICES	JUSTIFICATION	NEEDED BY	ACQUISITION METHOD	CONSTRAINT	COST
<b>HUMAN RESOURCES</b>					
<b>IT Project Manager</b>	It is necessary for this project as the project manager will act as the main coordinator of the team to the client. Also, the Project Manager is the one responsible in keeping track the progress of the team.	NDRRMC- Logistics Cluster	HR Hiring	Availability, Required Skills	₱ 145,305.92
<b>Web Designer and Developer with PHP skills</b>	It is necessary for this project as this project requires software development, and the system designer will identify and satisfy the requirements that the client gave.	NDRRMC- Logistics Cluster	HR Hiring	Availability, Required Skills	₱ 48,689.40
<b>Documentation Specialist</b>	The Documentation Specialist is the one that will compile all written materials that is essential for the project, also as it will be handed over to the project sponsor.	NDRRMC- Logistics Cluster	HR Hiring	Availability, Required Skills	₱ 16,256.00



ITEMS/SERVICES	JUSTIFICATION	NEEDED BY	ACQUISITION METHOD	CONSTRAINT	COST
<b>Quality Assurance Analyst</b>	Just like any client-based project, outputs have to undergo quality control making this position vital for the project.	NDRRMC-Logistics Cluster	HR Hiring	Availability, Required Skills	₱ 36,038.64
<b>DOCUMENTATION</b>					
<b>Office 365 Business</b>	This is a package of software that is relevant for the project documentation, as well as the communication among the team, and the client.	Project Team; January 25, 2018	License Purchasing	Internet Speed, Cost, Hardware Availability	₱ 1,875.00
<b>yEd Graph Editor</b>	This software will be used to illustrate different diagrams for the system and the documentation for easier and unified comprehension.	Documentation Specialist; January 25, 2018	Open Source Download	Hardware Availability	---
<b>MySQL Workbench</b>	This tool is for the visualization of the database, as well as the production of its SQL script for easier implementation	System Designer and Project Developer; February 19, 2018	Open Source	Hardware Availability	---
<b>MS Project</b>	This is a project manager software that will aid the project manager in creating the	Project Manager; January 25, 2018	Open Source Download	Hardware Availability	---

ITEMS/SERVICES	JUSTIFICATION	NEEDED BY	ACQUISITION METHOD	CONSTRAINT	COST
	Gantt Chart, and other Project Management Related tasks.				
SOFTWARE DEVELOPMENT					
<b>XAMPP</b>	This software acts as the HTTP Server and MariaDB Database. This is used to mimic a client-server environment via localhost.	Project Developer and System Designer; February 19	Open Source Download	Hardware Availability	---
<b>MobaXterm</b>	This tool will be used as the SSH terminal connecting to the EC2 instance and will be used to configure and run commands in the said instance.	Project Developer and System Designer; February 19, 2018	Subscription	Cost, Hardware Availability	₱ 3,605.00
<b>PuTTYgen</b>	This tool is used to convert private keys and add more security options to connect to the EC2 instance.	Project Developer and System Designer; February 19, 2018	Open Source Download	Hardware Availability	---
<b>Sublime Text</b>	This tool will help the project developer to easily navigate through the project folder (repository) and edit the source code of the system.	Project Developer and System Designer; February 19, 2018	License Purchasing	Cost, Hardware Availability	₱ 4,180.00

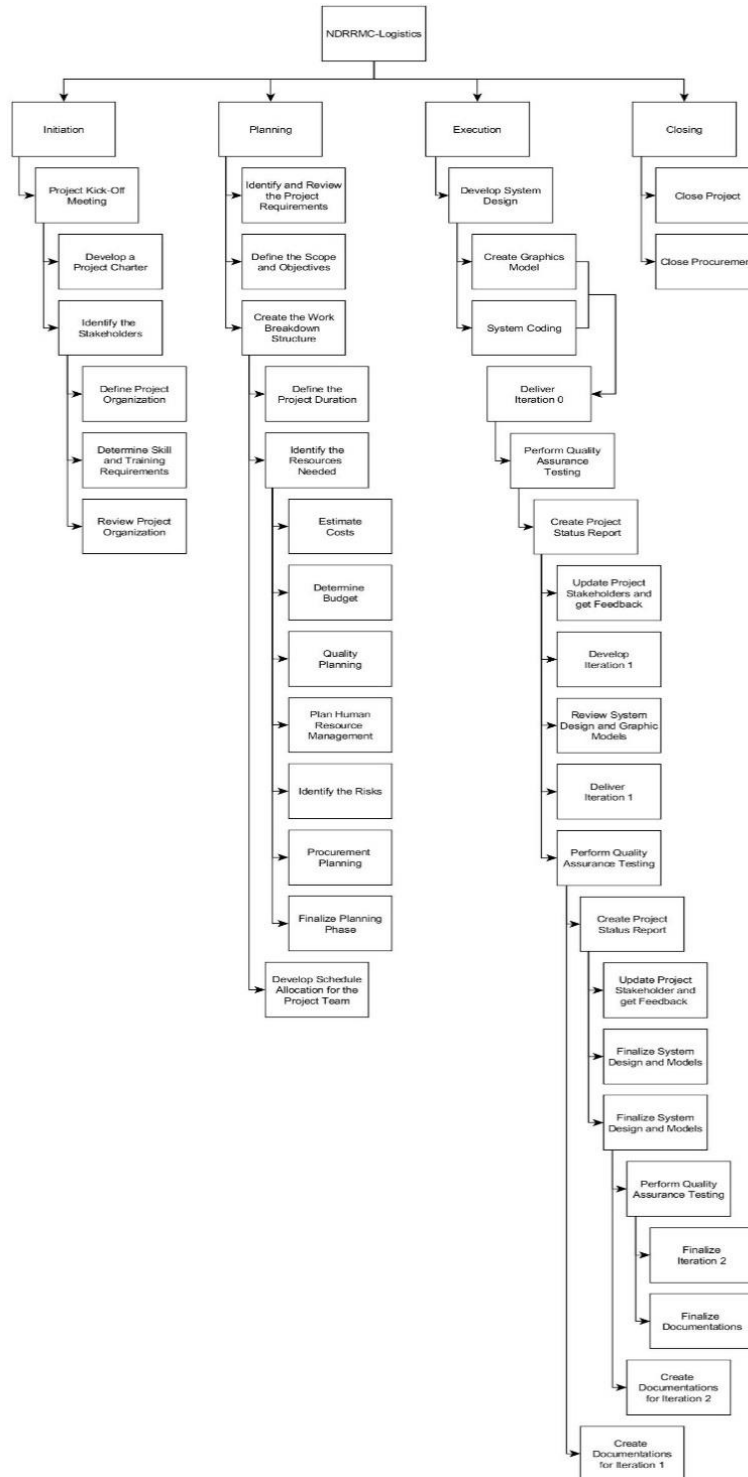
ITEMS/SERVICES	JUSTIFICATION	NEEDED BY	ACQUISITION METHOD	CONSTRAINT	COST
<b>Firefox Quantum</b>	This browser will be used as the medium to deploy the system as it is a web application	Project Team; January 25, 2018	Open Source Download	Hardware Availability	---
<b>GitHub Desktop</b>	This tool will help the team in connecting and performing various operations (commit, pull, push, merge, etc.) with the GitHub Repository.	Project Team; January 25, 2018	Open Source Down load	Internet Speed, Hardware Availability	---
<b>Amazon Web Service</b>	Under this service is the Amazon Elastic Compute Cloud, or EC2, which will be used to host the system via cloud. This includes a <i>t2.micro</i> instance and a 1TB General Purpose SSD storage.	Project Developer and System Designer; February 19, 2018	Subscription	Internet Speed, Cost, Hardware Availability	₱ 6,500.00
<b>HARDWARE</b>					
<b>Lenovo IdeaPad 510s</b>	A laptop is preferred by the team as compared to a personal computer due to its portability.	Project Team; January 25, 2018	Store Purchase	Cost, Device Availability	₱ 64,995.00

#### 4. Project Staff Training

TRAINING	TAKING THE TRAINING	DESCRIPTION	AVAILABLE AT	SUBTOTAL COST
<b>PHP Training</b>	Web Designer and Developer with PHP skills	Training to improve skills in Web development, specifically with the server-side language, PHP.	Inventivemedia.com/ph	₱ 10,000.00
<b>Amazon Training Course</b>	Web Designer and Developer with PHP skills	Training to improve skills in Cloud Administration with the use of Amazon Web Services	Netcomlearning.com	₱ 30,928.10

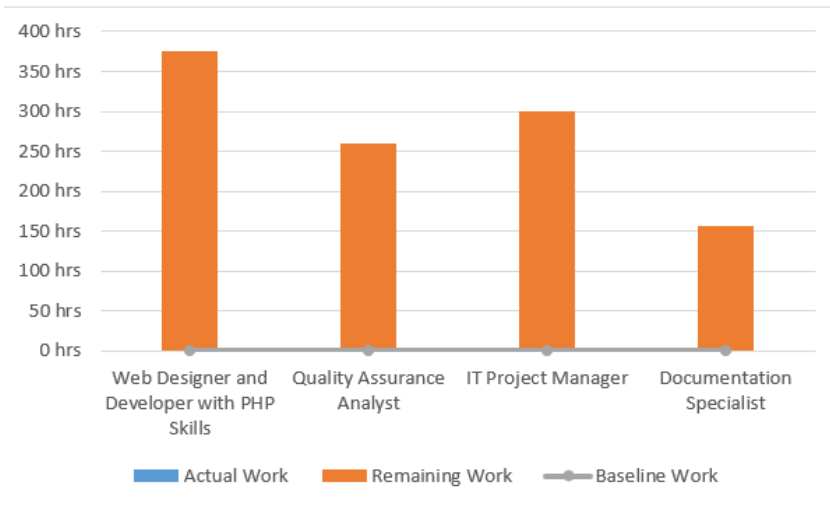
## B. Work Plan

### 1. Work Breakdown Structure



## 2. Resource Allocation

The Resource Allocation summarizes the number of working days the Project Team needs based on the Schedule Control (Gantt Chart). As seen in the chart below, the Web Designer and Developer with PHP Skills garnered the most number of working days, as the said position is vital in developing the product (NDRRMC-Logistics Web Application).



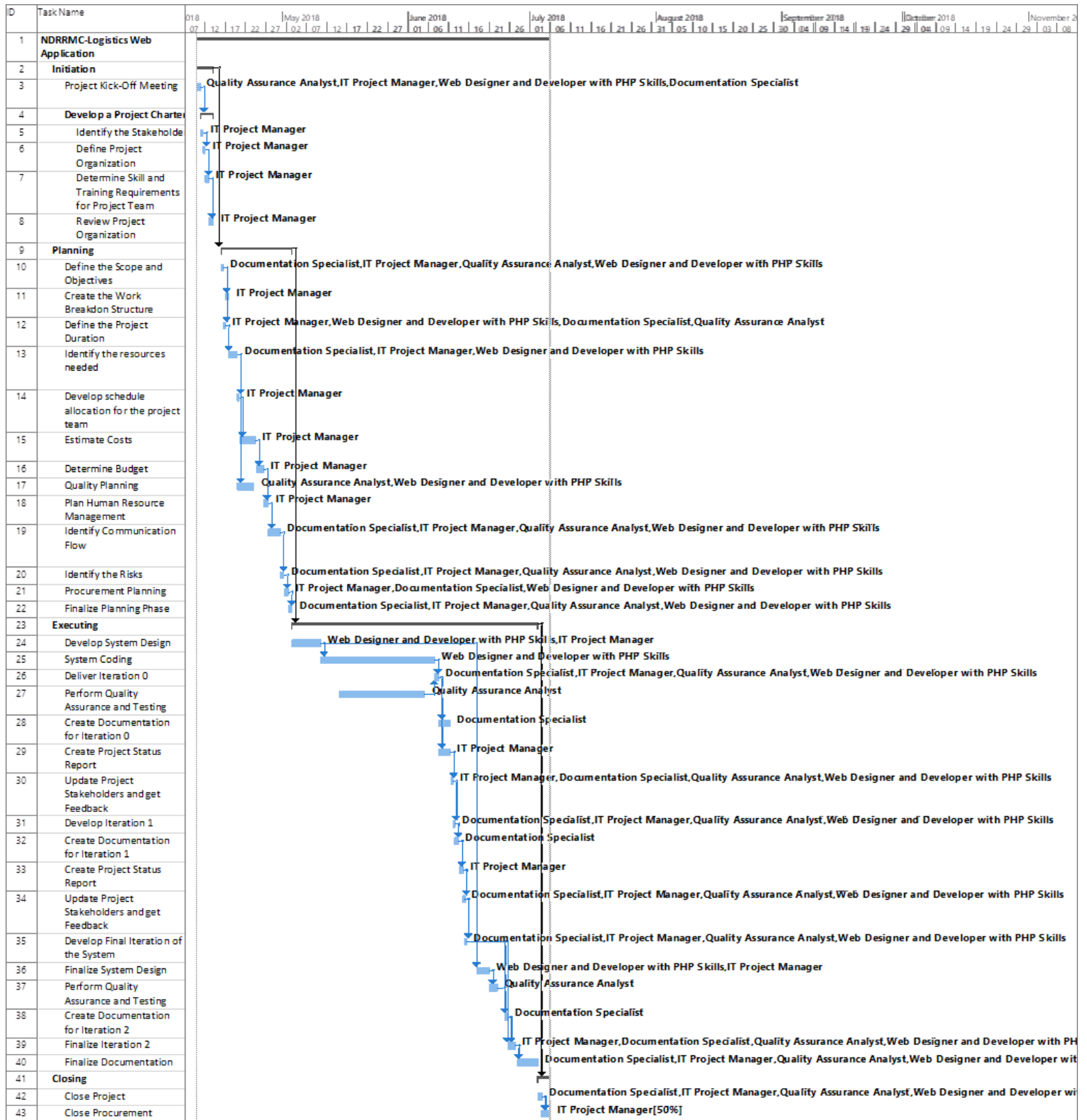
ROLE	START	FINISH	TOTAL WORK DURATION
IT Project Manager	January 25, 2018	April 24, 2018	300 hours
Web Designer and Developer with PHP Skills	January 25, 2018	April 20, 2018	376 hours
Documentation Specialist	January 25, 2018	April 20, 2018	156 hours
Quality Assurance Analyst	January 25, 2018	April 20, 2018	260 hours

## C. Project Tracking Plan

### 1. Requirements Management

FOCUS	OBJECTIVE	REQUIREMENT
Scope	The scope must be discussed within the client and the team. If there are change requests, it must be identified and deliberated in order to update the scope and to avoid any conflicts.	<ul style="list-style-type: none"><li>• Project team meeting</li><li>• Requirement change</li></ul>
Time	The schedule must be followed in order to guarantee that the project is on track to prevent any delays on the project.	<ul style="list-style-type: none"><li>• Gantt Chart</li></ul>
Cost	Cost must be controlled so that the project can be completed within the approved budget,	<ul style="list-style-type: none"><li>• Budget Control Plan</li></ul>
Quality	Quality of the project must be observed in order to achieve qualitative goal within an effective cost and time frame, that will result a quality project.	<ul style="list-style-type: none"><li>• Test Plan</li></ul>

## 2. Schedule Control (Gantt Chart)





### 3. Budget Plan

All Human Resource costs came from PayScale.com, an American website providing up-to-date industry salaries, benefits, and compensations.

HUMAN RESOURCE COST			
ROLE	HOURLY SALARY	NO. OF HOURS	TOTAL (HOURLY SALARY * NO. OF HOURS)
IT Project Manager	₱ 477.98	300 hours	₱ 145,305.92
Web Designer and Developer with PHP Skills	₱ 128.13	376 hours	₱ 48,689.40
Documentation Specialist	₱ 101.60	156 hours	₱ 16,256.00
Quality Assurance Analyst	₱ 136.51	260 hours	₱ 36,038.64
HUMAN RESOURCE TOTAL			₱ 246,289.96

STAFF TRAINING COST		
TRAINING	TRAINING FEE	TOTAL
PHP Training	₱ 10,000.00	₱ 10,000.00
Amazon Training Course	₱ 36,241.12	₱ 30,928.10
STAFF TRAINING TOTAL		₱ 40,928.10

DOCUMENTATION COST			
TOOL	MONTHLY FEE	NO. OF MONTHS	TOTAL
Office 365 Business	₱ 517.77	3	₱ 1,553.31
DOCUMENTATION TOTAL			₱ 1,553.31

SOFTWARE DEVELOPMENT COST		
TOOL	SOFTWARE PRICE	TOTAL
MobaXterm	₱ 3,609.08	₱ 3,609.08
Sublime Text	₱ 4,166.67	₱ 4,166.67
Amazon Web Services	₱ 6,500.00	₱ 6,500.00
SOFTWARE DEVELOPMENT TOTAL		₱ 14,275.75

HARDWARE COST			
TOOL	UNIT PRICE	QUANTITY	TOTAL (UNIT PRICE * QUANTITY)
Lenovo IdeaPad 510s	₱ 64,995.00	2	₱ 129,990.00
HARDWARE TOTAL			₱ 129,990.00

SUMMARY OF COSTS	
COST TYPE	COST
Human Resource	₱ 246,289.96
Staff Training	₱ 40,928.10
Documentation	₱ 1,553.31
Software Development	₱ 14,275.75
Hardware	₱ 129,990.00
<b>TOTAL COST:</b>	<b>₱ 433,037.12</b>

#### 4. Contingency Plan

The project team proposes to add 15% to the overall budget of the project to be used during unpredictable and unexpected events that may affect the project.

OVER ALL COST	EMERGENCY FUND PERCENTAGE	CONTINGENCY FUND (OVER ALL COST * 0.15)
₱ 433,037.12	15%	₱ 64,955.57

TOTAL COST	CONTINGENCY FUND	OVERALL BUDGET (TOTAL COST + CONTINGENCY FUND)
₱ 433,037.12	₱ 64,955.57	₱ 497,992.69

## 5. Communications Plan

TYPE OF COMMUNICATION	COMMUNICATION SCHEDULE	TYPICAL COMMUNICATION MECHANISM	INITIATOR	RECEPIENT
Team Meeting	Every week	Meeting	IT Project Manager	Project Team
Project Review	Every Week	Meeting	IT Project Manager	Project Team
Requirement Change	When needed	Email/Meeting	Adviser	Project Team
Project Consultation	Every Week	Meeting	Adviser	Project Team
Documentation Review/Update	When needed	Email/Meeting	IT Project Manager	Project Team

## 6. Project Metrics

FOCUS	COLLECTION METHOD	DESCRIPTION
Scope	<ul style="list-style-type: none"> <li>System Requirement</li> <li>Meetings</li> </ul>	The scope is the set of project requirements that needs to be done in order to deliver to the client.
Time	<ul style="list-style-type: none"> <li>Gantt Chart</li> <li>Scheduling</li> </ul>	The scheduling of project's milestone and deliverables.
Cost	<ul style="list-style-type: none"> <li>Budget Reports</li> </ul>	The process of managing/financing and controlling of budget that is allotted for the project.
Quality	<ul style="list-style-type: none"> <li>Testing</li> <li>Quality Assurance</li> </ul>	Ensuring the processes and activities meets its specification to achieve a quality project.

## D. Risk Management Plan



### 1. Risk Identification Process

The following methods will be used to assist in identifying the risks associated with the NDRRMC-Logistics Web Application Project.

METHOD	JUSTIFICATION
<b>SWOT Analysis</b>	Determining the Strengths, Weaknesses, Opportunities, and Threats of the Project will expose the possible risks that the project may face.
<b>Risk Assessment Meetings</b>	Arranging a meeting dedicated for assessing the risks of a project will aid the team in identifying how to address the different risks identified through the SWOT Analysis.

### 2. Risk Evaluation and Prioritization

The Risk Impact is the severity or magnitude of a certain risk, while the Risk Probability is the likelihood of the risk happening. Both will then be used in the Probabilistic Risk Assessment (PRA) to identify the overall effect of the risk to the project. The Risk Impact and Risk Probability for each risk will be identified through the following criteria.

RISK IMPACT		
DESCRIPTION	COLOR CODE	DEFINITION
<b>HIGH IMPACT</b>		Risk that greatly impacts the project cost, schedule, or performance
<b>MEDIUM IMPACT</b>		Risk that slightly impacts the project cost, schedule, or performance

RISK IMPACT		
DESCRIPTION	COLOR CODE	DEFINITION
LOW IMPACT		Risk that has relatively little impact on the project cost, schedule, or performance

RISK PROBABILITY		
DESCRIPTION	COLOR CODE	DEFINITION
HIGH PROBABILITY		Probability of occurrence ranges from 80% up to 100%
MEDIUM PROBABILITY		Probability of occurrence ranges from 30% up to 79%
LOW PROBABILITY		Probability of occurrence goes below 30%

		RISK IMPACT		
		LOW IMPACT	MEDIUM IMPACT	HIGH IMPACT
RISK PROBABILITY	LOW PROBABILITY	LOW	LOW	MEDIUM
	MEDIUM PROBABILITY	LOW	MEDIUM	HIGH
	HIGH PROBABILITY	MEDIUM	HIGH	HIGH

RISK	DESCRIPTION	IMPACT	PROBABILITY	OVERALL
<b>Client Unavailability</b>	Client is not available to meet with the team	<b>HIGH</b>	<b>MEDIUM</b>	<b>HIGH</b>
<b>Delayed Project Schedule due to Unexpected Suspensions</b>	The Philippine Government suddenly announces non-regular work suspensions, such as the ASEAN Summit, Pope Visitation, etc.	<b>MEDIUM</b>	<b>LOW</b>	<b>LOW</b>
<b>Unexpected changes in requirement</b>	The client demanded a certain change in the system	<b>MEDIUM</b>	<b>MEDIUM</b>	<b>MEDIUM</b>
<b>Unexpected emergency leave of an employee</b>	The employee has an emergency and needs to be absent	<b>LOW</b>	<b>MEDIUM</b>	<b>LOW</b>
<b>Inflation rate increases</b>	Increase in general price level of goods and services in the economy that may affect the budget computation	<b>HIGH</b>	<b>LOW</b>	<b>MEDIUM</b>

### 3. Risk Mitigation Options

The following are the risks along with the actions to prevent it from happening.

RISK	MITIGATING ACTION
Client Unavailability	Schedule meetings ahead of time
Delayed Project Schedule due to Unexpected Suspensions	Dedicate additional time for each task
Unexpected changes in requirement	Constantly update the client about the progress of the system

### 4. Risk Maintenance

RISK	RISK OWNER	TRIGGER	POTENTIAL RESPONSES
Client Unavailability	Office of Civil Defense	• Conflict of schedule	• Reschedule meeting
Delayed Project Schedule due to Unexpected Suspensions	Project Manager	• Unexpected suspensions are declared.	• Encourage working overtime. • Adjust the deadlines.
Unexpected changes in requirement	Project Team	• The client is not satisfied with the system	• Communicate with the client with regards to his dissatisfaction towards the system.
Unexpected emergency leave of an employee	Project Manager	• Employee experiences unexpected emergencies (ex. Sickness)	• Employee needs to work overtime • Assign other employee to do his tasks • Avoid assigning a task to only one employee
Inflation rate increases	Project Team	• Demand of goods or services increases.	• Use the allocated contingency fund.



## **E. Project Closeout Plan**

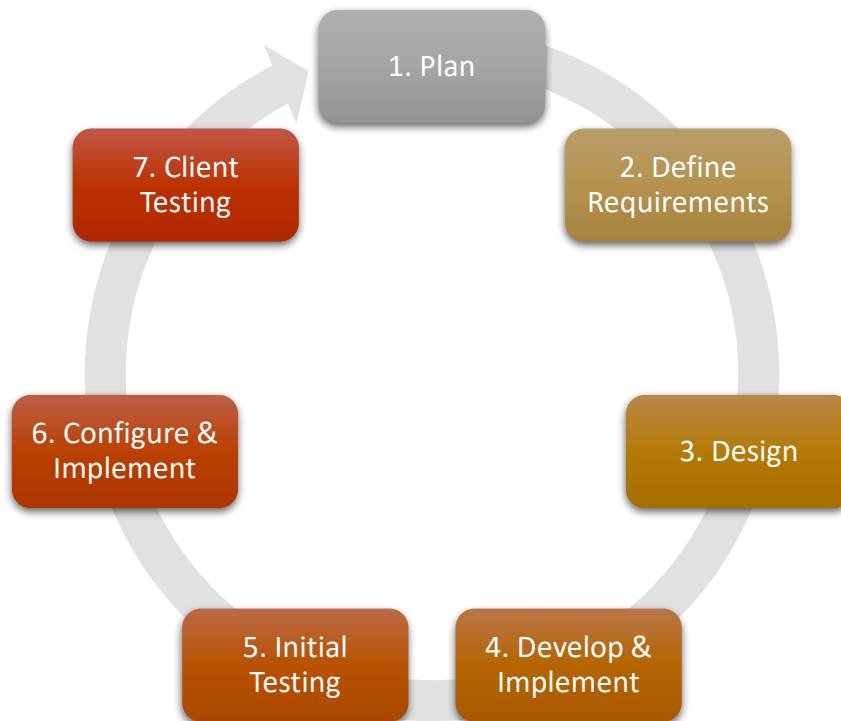
The following are the conditions that must be accomplished to have a successful project closeout plan:

- All processes and activities included in the system are fully functional.
- All specified requirement and goals are met.
- All risks are identified and mitigated.
- The project costs have been accurately budgeted.
- The project must be discussed in a meeting with the client.
- The product (NDRRMC-Logistics Web Application) satisfies the client's expectations.

## IV. Technical Process Plans

### A. Process Model

The figure below visualizes the Scrum methodology to be used during the Executing Phase, where most of the Software Development tasks are located.



### B. Methods, Tools, and Techniques

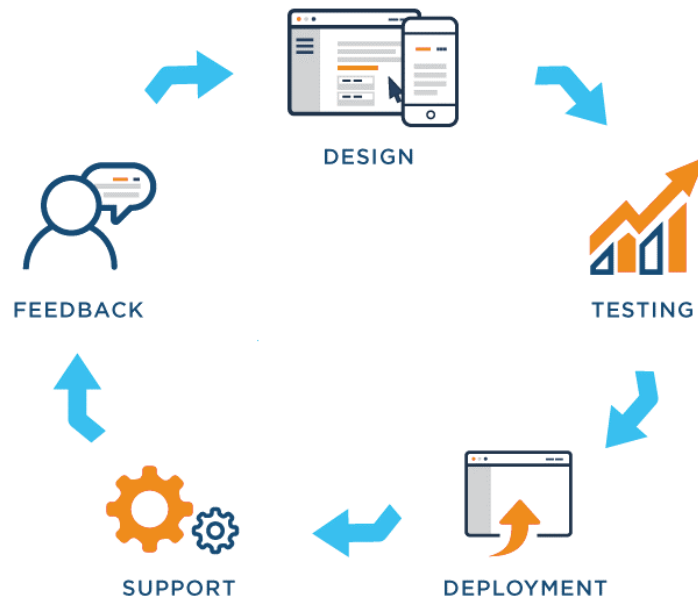
Listed are the tools needed for each method, along with its purpose.

METHOD	TOOL	TOOL PURPOSE
Documentation	Microsoft Excel 2016	For easier computation of costs and mirroring a database table
	Microsoft Word 2016	For documentation purposes
	Microsoft PowerPoint 2016	For presentation purposes for the client and the project team

METHOD	TOOL	TOOL PURPOSE
	yEd Graph Editor	For easier visualization of concepts
	Adobe Acrobat	For viewing downloadable online resources
	MS Project	For creating project management related plans
	Microsoft OneDrive	For storing documents and easier access
	MySQL Workbench	For creating an entity relationship diagram
<b>System Development</b>	Sublime Text	For easier framework navigation and development
	Yii2 PHP Framework	Used as the main framework for the prototype
	phpMyAdmin	Easier database administration
	GitHub	Online version control repository

## C. Quality Assurance Plan

The figure below indicates the process on how the NDRRMC – Logistics System project team will assess the quality of the system and continuously progress to attain the desired outcome and ensure that the application meets the expectation of the client.



TASK	QUALITY ASSURANCE	PERSONNEL RESPONSIBLE
<b>System Design</b>	Checks if the modules and data satisfy the specified requirements.	IT Project Manager/Web Designer and Developer with PHP Skills
<b>System Functionalities</b>	Provides all needed functionalities of the system	Web Designer and Developer with PHP Skills
<b>Overall Testing</b>	Solves technical issues in the software and assess overall system performance	Quality Assurance Analyst
<b>Test Result Reviewing</b>	Assesses the errors and update the system	Quality Assurance Analyst/Web Designer and Developer with PHP Skills
<b>Application Technicality</b>	Troubleshoots application difficulties	Web Designer and Developer with PHP Skills

TASK	QUALITY ASSURANCE	PERSONNEL RESPONSIBLE
<b>System Security</b>	Identifying if the system is strong or weak in terms of security	Web Designer and Developer with PHP Skills

## D. Product Acceptance

The product acceptance is the turnover of the implemented project to the client when project deliverables are complete and the following features are done and tested.

REQUIREMENT	DESCRIPTION	TESTING MECHANISM
<b>Project Management Plan</b>	<ul style="list-style-type: none"> <li>If the requirements of the project are complete</li> </ul>	Static Testing – to be done by Quality Assurance Team
<b>User Management Module</b>	<ul style="list-style-type: none"> <li>If the dashboard is filtered based on the type of user (Regional Admin, Provincial Admin, City Mayor/Municipal, External user) logged in</li> </ul>	Dynamic Testing – to be done by Quality Assurance Team
<b>Procurement Module</b>	<ul style="list-style-type: none"> <li>If the determination of supplies is correct based on its category.</li> <li>If the requests of the users show on the list of reports</li> <li>If the deployment status of the requests (In transit, delivered, etc.) updates.</li> </ul>	Dynamic Testing – to be done by Quality Assurance Team
<b>Transportation Module</b>	<ul style="list-style-type: none"> <li>If the source of the route to the destination came from the Google Maps API</li> </ul>	Dynamic Testing – to be done by Quality Assurance Team

## V. Supporting Process Plans

### A. Configuration Management

Configuration Management ensures that the descriptions of the project's products are correct and complete. The roles and tasks are as follows:

ROLE	TASK	TOOL/METHOD
<b>Project Manager</b>	Coordinates with the project team and the client to discuss the changes and the configurations	Meetings, Emails
<b>Software Developer</b>	Proceeds with the changes to the system based on the requirements of the client.	Yii2
<b>Quality Assurance Tester</b>	Ensures changes are updated, bugs are identified, and stores in repository for version control	Github

### B. Documentation Plan

DOCUMENTATION	TEMPLATE	CREATED BY	REVIEWED BY	TARGET DATE	DISTRIBUTION
<b>Project Proposal</b>	MS Word	Project Team	Project Manager	January 23, 2018	Project Team, Office of Civil Defense
<b>Statement of Work</b>	MS Word	Project Team	Project Manager	February 05, 2018	Project Team
<b>Resource Allocation</b>	MS Word	Project Team	Project Manager	February 13, 2018	Project Team
<b>Work Breakdown Structure</b>	yEd Graph Editor	Project Team	Project Manager	March 9, 2018	Project Team

DOCUMENTATION	TEMPLATE	CREATED BY	REVIEWED BY	TARGET DATE	DISTRIBUTION
Project Tracking Plan	MS Word	Project Team	Project Manager	March 15, 2018	Project Team
Gantt Chart	MS Project	Project Manager	Project Professor	March 15, 2018	Project Team
Cost Management Plan	MS Word	Project Team	Project Manager	March 15, 2018	Project Team
Quality Assurance Plan	MS Word	Project Team	Project Manager	April 6, 2018	Project Team
Technical Process Plan	MS Word	Project Team	Project Manager	April 6, 2018	Project Team
Final Documentation	MS Word	Project Team	Project Manager	April 22, 2018	Project Team, Office of Civil Defense

## C. Process Improvement

The project team have made the system functional and is ready to be used, yet there are still ways to improve it. Examples of few modifications that the project team suggests are:

- A *Reportico* module wherein the system can instantly produce an inventory reports using the data coming from the database
- Expansion of the system to the other platform (i.e, mobile application)
- A map routing algorithm that has a higher reliability rate during disaster
- Customization of the user's profile
- Integration of stand-alone NDRRMC cluster systems.

## VI. Appendices

### A. References

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