

**Asia Pacific College**

**School of Computing and Information Technology**

**Magallanes, Makati City**

**Public School Ranking System**

**In Partial Fulfillment of the Requirements for the subject Project Management**

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# INTRODUCTION

## **Project Overview**

Elementary education is the first part of the educational system, and it includes the first six years of compulsory education from grade 1 to 6, with an optional 7th grade offered by some schools. Major subjects include Mathematics, Science, English, Filipino and Araling Panlipunan. Optional subjects include Music, Arts, Physical Education, and Health.

As of School Year 2017-2018, there are 22.9 Million students that are enrolled in public schools in the Philippines and the country’s Department of Education has been doing their job in providing quality education both for private and public sectors. However, there are still room of improvement to advance the education system in the country.

The team believes that a student’s performance can be enhanced and strengthen with the help of analytics. Through a systematic analysis of data and statistics, the team, together with the client, Department of Education, may focus on students’ performance by viewing how the students perform in their major subjects. This tool will not be used for comparison of students, but will focus more on the strengths and weaknesses of a pupil. By acknowledging and knowing these factors, the teachers, together with their respective schools can keep track of their students’ performance and help them grow in their academics. Also, through this tool, the school may know how well they perform in educating their students.

## **Purpose**

To build a dashboard website wherein the team shall issue data reports of Quarterly Assessment examination results to the Region and Division Offices which will then be able to identify the strength and weaknesses of each school through the cloud.

## **Scope**

The Institutional and Student Performance Profile shall be posted in the Dashboard website and can be viewed by individual schools, divisions, and regions. The site has restricted access because it contains information that may be accessed only by authorized users. The Bureau of Education Assessment shall provide usernames and passwords to authorized personnel in regions, division, districts or schools so they can access the data viewable in the website. This project covers all public schools in Makati City who takes the Quarterly Assessment Exam. Also, this project should not be used to compare and rank schools and divisions based on the Quarterly exam results but to merely gather insights from the analysis.

## **Objectives**

To build a dashboard website wherein the team shall issue data reports of Quarterly Assessment examination results to the Region and Division Offices which will then be able to identify the strength and weaknesses of each school through the cloud.

• To avoid leakage of Quarterly Exams in Makati District 3

• To improve the tracking of student’s Quarterly Exam Results

• To eliminate the inaccuracy of Quarterly Exam Data

## **Company Profile**

* + **Brief Background**

The Department of Education (DepEd) in the Philippines is responsible for providing and maintaining quality education in the country. They are given the authority and privilege to regulate schools by implementing policies, plans, programs, and projects of formal and non-formal basic education. DepEd is responsible for overseeing all elementary and secondary education, as well as alternative learning systems whether it is public or private, and integrate system of basic education which is relevant to the goals of national development.

* + **Mission**

To protect and promote the right of every Filipino to quality, equitable, culture-based, and complete basic education where:

*Students* learn in a child-friendly, gender-sensitive, safe, and motivating environment.

*Teachers* facilitate learning and constantly nurture every learner.

*Administrators and staff,* as stewards of the institution, ensure an enabling and supportive environment for effective learning to happen.

*Family, community, and other stakeholders* are actively engaged and share responsibility for developing life-long learners.

* + **Vision**

We dream of Filipinos who passionately love their country and whose values and competencies enable them to realize their full potential and contribute meaningfully to building the nation. As a learner-centered public institution, the Department of Education continuously improves itself to better serve its stakeholders.

## **Problem Statement**

*When schools distribute Quarterly Exams to their students, there are three major issues that needs attention, and these are:*

* *Leakage of Quarterly Exam*
* *Inefficient tracking of Quarterly Exam Results*
* *Inaccuracy of Data*

*Through the help of analytics, the team aims to aid these current difficulties that schools face and hinder the growth of their students and the school’s competency in achieving academic excellence.*

**Ishikawa Diagram (Fishbone Diagram)**

**A screenshot of a cell phone screen with text

Description generated with high confidence**

**Five Why’s**

* 1. **Ranking System**
     1. Why are we doing the ranking system for the public schools?
        + because they stopped ranking the schools this year
     2. Why have they stopped ranking?
        + they don’t want comparison among schools
     3. Why don’t they want comparison among schools?
        + they feel that they are incomponent whenever they are ranked lowly.
     4. Why do they feel incompetent?
        + because being in the low-ranking position may suggest that their teaching methods are lacking.
     5. Why are there different teaching methods?
        + because teachers have their different beliefs on how students should learn.
  2. **Moodle**
     1. Why are we doing the moodle system for the public schools?
        + to provide a solution for the leakage of exams.
     2. Why is there a leakage of exams?
        + because it is not paperless meaning it’s easy to steal.
     3. Why is not paperless?
        + because it is not paperless meaning it’s easy to steal.
     4. Why is there insufficient facilities and equipment?
        + no budget.
     5. Why is there no budget?
        + there is but the huge amount was not allocated to address backlogs and shortages, but to fund privatization of education through the voucher system.

## **Goals and Objectives of the System**

|  |  |  |
| --- | --- | --- |
| **GOALS** | **DESCRIPTION** | **OBJECTIVE** |
| **Identify Users** | * Identify which functionalities a user may do in the system * Identify which grade levels are included in the sample data | To know the level of authority of users |
| **Administer Quarterly Exams** | * Identify the subjects that will be covered * Create questions for each examination * Provide answer keys for each examination | Centralize the Quarterly Exams in District 3, Makati City |
| **Manage Data** | * Extraction of Results * Application of analytics to the Quarterly Examination Results | To show the relevance of analytics to students’ and schools’ performance |

## **Assumptions, Constraints, Risk**

|  |  |  |  |
| --- | --- | --- | --- |
| **ASSUMPTIONS** | | | |
|  | **Technology** | **People** | **Process** |
| **Assumption 1** | “Name of the system” must have an internet access of at least 8.5mbps for them to access the system and use it efficiently | The users must be a computer literate in using the system | The system’s processes must be consistent with the department |
| **Assumption 2** | “Name of the system” must be equipped with the required hardware requirements | The people who are going to use the system must be authorized personnel in the Department. |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **CONSTRAINTS** | | | |
|  | **Technology** | **People** | **Process** |
| **Constraints 1** | The system will no longer be accessible without internet connection | Storing, Retrieving and Updating records will only be managed by authorized staff of the Department. |  |
| **Constraints 2** | The hardware shall meet the minimum requirements to run the system | The major stakeholders of the system should undergo a proper training to cope with to the system’s functionalities |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **RISK** | | | |
|  | **Technology** | **People** | **Process** |
| **Risk 1** | The internet bandwidth should be upgraded to cover larger volume of users | There should be a skilled personnel to maintain and support the system | The system records must be updated to match the department’s analytic procedures. |

# STAKEHOLDERS MANAGEMENT STRATEGY

## **Purpose**

The Stakeholder Management Strategy will serve as a stepping stone for the project success. Through this, the team may identify the significance of each role and for the team to know what to display in the dashboard of each authorized personnel to avoid comparison and ranking of schools and as well as to implement data privacy.

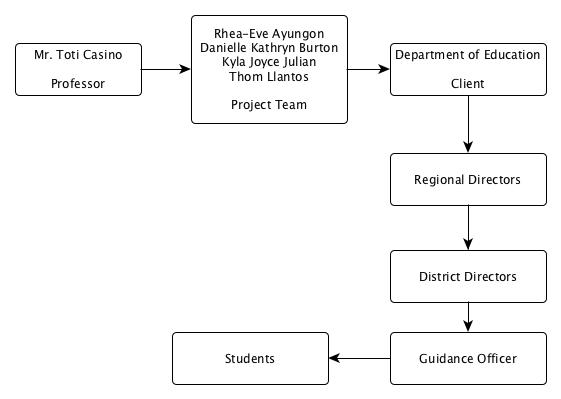
## **Stakeholder Analysis**

The team identified the following who will be involved in the project regardless of its state of significance. The team created a table to identify their position and project role. The team analyzed the list of stakeholders based on the Power/Interest Grid wherein:

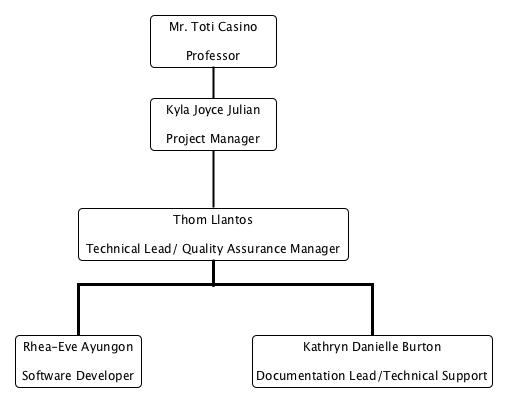
* High Power/Low Interest – the team should be able to meet their needs;
* High Power/High Interest – the team considers them as the key players;
* Low Power/Low Interest – the team considers them as least important because they are affected in minor ways; and
* Low Power/High Interest – the team should be able to show consideration to them by keeping them informed about the project.

# PROJECT ORGANIZATION

## **External Structure**



## **Internal Structure**

****

## **Roles and Responsibilities**

|  |  |  |
| --- | --- | --- |
| NAME | ROLES | RESPONSIBILITIES |
| Kyla Joyce Julian | Project Manager | * Responsible for managing and leading the team * Monitor project progress and performance * Manage coordination with the team and client to ensure if the organization’s requirements are being fulfilled * Detailed project planning |
| Rhea-Eve Ayungon | Developer, Quality Assurance and Control Analyst, Integration Manager | * Analyze client requirements * Works with lead developer to ensure system compatibility and meet organization’s requirements * Responsible in ensuring the quality of the end product and its process * Responsible in system integration |
| Kathrine Danielle Burton | Database Analyst, Documentation Lead | * Researching and examining current system and consulting users * Responsible in training the users and perform adequate support * Ensuring the security of databases and perform maintenance to guarantee the system’s performance * Responsible in documenting different phases of the project |
| Joneil Thom Llantos | Lead Developer, Database Coordinator, Quality Assurance and Control Coordinator | * Programs software and writing of operating manuals * Works with system developer to ensure the system compatibility and meet organization’s requirements * Modifying and testing comprehensively the system to ensure the reliability of it * Undertake on system processes and analysis * Apply feasible solutions to possible problems |

# MANEGERIAL PROCESS PLAN

## **Start Up Plan**

### Estimates

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **WBS** | **Phase** | **Time Estimation (Days)** | **Participants** | **Estimated Cost** |
| 1 | Project Initiation | 11 | * Project Manager * Web Designer and Developer with PHP skills * Documentation Specialist * Quality Assurance Analyst | ₱37,166.64 |
| 2 | Planning | 10 | * Project Manager * Web Designer and Developer with PHP skills * Documentation Specialist * Quality Assurance Analyst | ₱51,104.13 |
| 3 | Execution | 53 | * Project Manager * Web Designer and Developer with PHP skills * Documentation Specialist * Quality Assurance Analyst | ₱171,895.71 |
| 5 | Project Closing | 12 | * Project Manager * Web Designer and Developer with PHP skills * Documentation Specialist * Quality Assurance Analyst | ₱27,874.98 |
| **Estimated Total** | | **₱593,404.00** | | |

### Staffing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ROLE** | **REQUIRED SKILLS** | **NO. OF STAFF** | **START DATE** | **DURATION** |
| **Project Manager** | * Good Decision Maker * Strong communication (verbal and written) skills * Strong leadership skills * Critical Thinker * Control Risk and Minimize Uncertainty | 1 |  | 86 |
| **Technical Lead** | * Good communication skills * Logical and analytical approaches in problem solving * Strong problem solving skills * Has knowledge in Code Igniter (Web) Framework * Committed to understand new technology associated with the software | 1 |  | 44 |
| **Documentation Specialist** | * Strong vocabulary powers * Detail oriented * Basic proficiency in MS Office Tools | 1 |  | 18 |
| **Quality Assurance Analyst** | * High critical thinking skills * Good numerical skills and understanding of statistics * Detail oriented and points out the problem clearly | 1 |  | 18 |

### Procurement Plan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ITEMS/SERVICES** | **JUSTIFICATION** | **NEEDED BY** | **ACQUISITION METHOD** | **CONSTRAINTS** | **COST** |
| **HUMAN RESOURCES** | | | | | |
| **Project Manager** | A project manager is necessary as he will act as the director of the team and main communicator to the client. Also, the Project Manager is the one responsible in controlling risks and minimizing uncertainty. | Project Team | HR Hiring | Availability, Required Skills | ₱ 76, 682.00 |
| **Technical Lead** | A technical lead that has a deep understanding with Code Igniter is necessary as he will be the one capable of satisfying the requirements for the system. | Project Team | HR Hiring | Availability, Required Skills | ₱ 25,673.00 |
| **Documentation Specialist** | A documentation specialist is necessary as he will be the one to document everything so it will be easier for the project manager to keep track of the progress of the team. | Project Team | HR Hiring | Availability, Required Skills | ₱ 23,250.00 |
| **Quality Assurance Analyst** | A quality assurance analyst is necessary as he will be the one to monitor the software process and methods used to ensure quality. | Project Team | HR Hiring | Internet Speed, Cost, Hardware Availability | ₱ 21,600 |
| **DOCUMENTATION** | | | | | |
| **Office 365 Business** | A package of software that is relevant for the project documentation, as well as the collaboration services among the team and client. | Project Team | License Purchasing | Internet Speed, Cost, Hardware Availability | ₱ 1,875.00 |
| **LucidChart** | This software will be used to illustrate different diagrams for the system and the documentation for easier and unified comprehension. | Documentation Specialist | Open Source Online | Hardware Availability | - |
| **GitHub Desktop** | This platform keeps the revisions straight, storing the modifications in a central repository. This allows the team to easily collaborate, as they can download a new version of the software, make changes, and upload the newest revision. | Project Team | Open Source Download | Internet Speed, Hardware Availability | - |
| **Excel** | A software that was used by the project m in creating the WBS, Gantt Chart, and other Project Management Related tasks. | Project Manager | Open Source Download | Hardware Availability | - |
| **SOFTWARE DEVELOPMENT** | | | | | |
| **XAMPP** | This software acts as the HTTP Server and MariaDB Database. This is used to mimic a client-server environment via localhost. | Project Developer; System Designer | Open Source Download | Hardware Availability | - |
| **Sublime Text** | 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; System Designer | License Purchasing | Cost, Hardware Availability | ₱ 4,180.00 |
| **Google Chrome** | This browser will be used as the medium to deploy the system as it is a web application | Project Team | Open Source Download | Hardware Availability | - |
| **GitHub Desktop** | This tool will help the team in connecting and performing various operations (commit, pull, push, merge, etc.) with the GitHub Repository. | Project Team | Open Source Download | Internet Speed, Hardware Availability | - |
| **HARDWARE** | | | | | |
| **Acer Aspire E5-475G** |  | Project Team |  |  | ₱ 33,000.00 |

### Project Staffing Training

This section of this project defines the necessary things needed to successfully deploy and implemented the project.

|  |  |  |
| --- | --- | --- |
| **PROPOSED TRAINING** | **TRAINER** | **SCHEDULE** |
| The staff were assigned by the Department of Education to assist and guide the clients when using and inputting exams and grades. They should learn how the application works to use its functionalities well. | Project Manager |  |

## **Work Plan**

### Work Breakdown Structure (WBS)

|  |  |  |
| --- | --- | --- |
| **LEVEL 1** | **LEVEL 2** | **LEVEL 3** |
| **A+ Ranking**  **System** | 1. Initiation | * 1. Input quarterly assessment Results into the machine   2. Business Case   3. Determine Authorized Personnel   4. Stakeholder Management Strategy   5. Conduct interview with DepEd representative |
| 1. Planning | * 1. Identify Project Scope   2. Create Project Scope Management Plan   3. Conduct Meeting with DepEd Representative to finalize details   4. Create Quality Management Plan   5. Identify which medium to display quarterly assessment results |

A screenshot of a social media post

Description generated with very high confidence

### Resource Allocation

|  |  |  |  |
| --- | --- | --- | --- |
| **ROLE** | **START** | **FINISH** | **DURATION** |
| **Project Manager** | January 2018 |  |  |
| **Documentation Specialist** | January 2018 |  |  |
| **Quality Assurance Analyst** | January 2018 |  |  |
| **Technical Lead with PHP skills** | January 2018 |  |  |

## **Project Tracking Plan**

### Requirements Management

|  |  |  |
| --- | --- | --- |
| **FOCUS** | **OBJECTIVE** | **REQUIREMENT** |
| **Scope** | The scope must be discussed between the client and the team. The scope must be attainable in the given time and if there are changes to be made, it must be identified and deliberated in order to update the scope and avoid any miscommunication. | * Project Team Meeting * Requirement Change |
| **Time** | The schedule must be followed in order to guarantee that the project is on track to prevent any delays. | * Gantt Chart |
| **Cost** | Cost must be controlled so that the project can be completed within the approved budget | * Budget Control Plan |
| **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. | * Test Plan |

### Schedule Control

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Description generated with very high confidence

### Budget Control

### Quality Control

### Communication Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TYPE OF COMMUNICATION** | **COMMUNICATION SCHEDULE** | **TYPICAL COMMUNICATION MECHANISM** | **INITIATOR** | **RECIPIENT** |
| **Team Meeting** | Every Tuesday and Friday | Meeting | Project Manager | Project Team |
| **Project Review** | Once a week | Meeting | Project Manager | Project Team |
| **Requirement Change** | When needed | Email/Meeting | Adviser | Project Team |
| **Project Consultation** | When needed | Meeting | Adviser | Project Team |
| **Documentation Review/Update** | When needed | Email/Meeting | Project Manager | Project Team |

### Project Metrics

## **Risk Management Plan**

This section identifies, prioritize, and analyzes all the risk factors that can affect concerning the project. It also specifies plans for assessing initial risk factors and for the ongoing identification, assessment, and mitigation of risk factors throughout the life cycle of the project.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RISK** | **DESCRIPTION** | **TRIGGER** | **MITIGATION** | **RISK OWNER** | **RISK PROBABILITY** |
| Overbudget | Spent more than the allotted given budget | Overspending |  | DepEd | 15% |
| Client Availability | The availability of the client for meetings didn’t match with the team | Schedule conflict | Make the client be committed in this project and find a second person as if he is the first person in charge if the schedules still didn’t match. | DepEd | 5% |
| Behind the schedule | Deliverables were not submitted on time | Delayed outputs |  |  | 10% |

## **Project Closeout Plan**

The following are the processes needed to be accomplished for the project closeout plan:

* The system and the documentation will be handled to Leonor Briones of Department of Education.
* The project must schedule for a meeting to discuss some points about the system with the client and the team.

# TECHNICAL PROCESS PLAN

## **Process Model**

## **Methods, Tools and Techniques**

|  |  |
| --- | --- |
| **SYSTEM DEVELOPMENT** | |
| **TOOL** | **TOOL PURPOSE** |
| Sublime Text Editor | developing, debugging and testing program codes |
| phpMyAdmin | handle administration of system's database (MySQL) with the use of a web browser |
| Github | repository for version control system |
| Google Chrome | served as a platform to display system's output |
| XAMPP Application | platform used to process and send request from the user specifically in system's implementation within the environment |
| Code Igniter PHP Framework | for building and deploying system |

|  |  |
| --- | --- |
| **DOCUMENTATION** | |
| **TOOL** | **TOOL PURPOSE** |
| Microsoft Word 2016 | for documentation purposes |
| Microsoft PowerPoint 2016 | for presentation purposes |
| Microsoft Excel 2016 | for creating Gantt Chart |
| Microsoft OneDrive | for strong documents |
| MySQL Workbench | creating Entity-Relationship Diagram (ERD) design to facilitate the system's database |
| LucidChart: Online Diagram Software and Visual Solution | used in making quick and effective diagrams high quality diagrams |

## **Product Acceptance**

To ensure that the customers will accept the product of the project. First will be tested by the developers (alpha test) after bugs are determined and fixed for three iterations. The product of the project will be opened for beta testing. Here are other ways to ensure product acceptance:

* There will be demonstrations for the users to understand and learned the mechanics of the product.
* User manuals will be given to users, which will serve as a guide on how to use the product.
* The deliverables and product was properly reviewed, tested or audited by the team.

# SUPPORTING PROCESS PLAN

## **Configuration Management**

The Configuration Management Plan covers all the progress and changes in each documentation made by each member of the group and system made by the software development group. The Project Manager of the group is responsible for checking baseline plans and execution of the Configuration Management Plan made by all members of the group.

## **Documentation**

The project team will provide a complete list of the documentation details of all the things that they find important, schedules, tasks, events, progress, status, etc.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **DOCUMENT** | **TEMPLATE** | **CREATED BY** | **REVIEWED BY** | **TARGET DATE** | **DISTRIBUTION** |
| Project Proposal | Microsoft Word | Project Team | Project Manager |  | Project Team |
| Statement of Work | Microsoft Word | Project Team | Project Manager |  | Project Manager |
| Test Plan | Microsoft Word | Project Team | Project Team |  | Project Team |
| Risk Management Plan | Microsoft Word | Project Team | Project Manager |  | Project Team |
| Cost Management Plan | Microsoft Word | Project Team | Project Team |  | Project Team |
| Budget Allocation | Microsoft Word | Project Team | Project Manager |  | Project Team |
| Quality Assurance Plan | Microsoft Word | Project Team | Project Manager |  | Project Team |
| Work Breakdown Structure | Microsoft Word | Project Team | Project Team |  | Project Manager |

## **Process Improvement**

# COST MANAGEMENT PLAN

## **Cost Breakdown**

|  |  |
| --- | --- |
| CATEGORY | TOTAL COST (Php) |
| Project Development | 442,608.00 |
| Hardware | 142,796.00 |
| Software | 0.00 |
| Miscellaneous | 8,000.00 |
| TOTAL | **PHP 593,404.00** |

## **Cost Reference**

According to payscale.com, A Project Manager, Information Technology (IT) earns an average salary of PHP 926,656 per year. So if given the instance that this project is workable in 3 months. The total pay for the project manager alone would be PHP 231,664. Then the team is composed of three developers. The average pay for a Project Developer is PHP 252,919 per year. The total pay for the three project developers would be PHP 189,689. The team have to work with desktop computers or laptops. As for us, a laptop will be more convenient since we can carry it around. The price of a laptop posted in Lazada.com is PHP 35, 699.00. The model is Asus X540UP-DM020T. With the specs of:

|  |  |
| --- | --- |
| **OS** | Genuine Windows 10 Home Single Language (Recovery OS Intact) |
| **Processor** | Intel Kaby Lake Core i7-7500U Ultrabook Processor (2.7-3.5GHz) |
| **Dedicated Graphics** | 2GB Dedicated AMD Radeon R5 M420 |
| **Integrated Graphics** | 2GB Total Intel HD Graphics 620 |
| **Memory** | 4GB DDR4 Memory 2400MHz |
| **Hard Disk** | 1,000GB HDD (5400 RPM) |

The total cost for the laptop is 142,796.00. The technologies that are being used are all open-source. The budget for miscellaneous would go around PHP 8,000.

## **Budget Summary**

The project will be completed on roughly four (4) months from defining the needs of the client up until to the implementation and installation of the new system. The project team will be working comprehensively eight (8) hours a week to finish the weekly task assigned to them.

|  |  |
| --- | --- |
| CATEGORY | TOTAL COST (Php) |
| Project Development | 363,685.37 |
| Hardware | 145,470.00 |
| Software | 0.00 |
| Miscellaneous | 7,449.00 |
| TOTAL | **Php516,604.37** |