



DETAILED RESEARCH & DEVELOPMENT PROJECT PROPOSAL



(To be accomplished by the participants)

(1) Title/Leader/Gender/Agency/Address/Telephone/Fax/Email	
Program Title:	Development of MCC Health Services Unit
Project Title:	Web-Based System
Leader/Gender:	Web-Based Mabalacat City College Health Services Appointment and Inventory with Report Generation System Dennis L. Tacadena, DIT Ernie Lee E. Pineda, MIT
Agency/Address:	Institute of Business and Computing Education
Telephone/Fax/Email	N/A
(2) Cooperating Agencies	(3) MCC - Internalization Office
(4) Site of Implementation/Municipality/District/Province/Region Mabalacat City College Health Services Unit	
(5) Classification	(6) Mode of Implementation
Research:	Development:
<input type="checkbox"/> Biotechnology	<input type="checkbox"/> Single Agency
<input type="checkbox"/> Alternative Energy	<input type="checkbox"/> Multi Agency
<input type="checkbox"/> ICT	
<input type="checkbox"/> Environment	
<input type="checkbox"/> Health Products/Pharmaceutical	
<input type="checkbox"/> Basic Research	
(7) Sector/Commodity	

**Mabalacat City College
Mabalacat City, Pampanga**

BASIC INFORMATION

- I. Project Title: **Web-Based Mabalacat City College Health Services Appointment and Inventory with Report Generation System**
- II. Project Leaders: **Dennis L. Tacadena, DIT and Ernie Lee E. Pineda, MIT
IBCE Program Head and Faculty**
- III. IMPLEMENTING AGENCY:
- Mabalacat City College
Mabalacat City, Pampanga
- IV. FUNDING AGENCY:
- C/O: OVPGROW**
- V. Duration: **5 Year Project**
- VI. TOTAL BUDGET COST: **Unknown**

(2) Table of contents

Cover Page.....	1
Basic Information.....	2
Introduction.....	3
Program/Project Title.....	4

Program/Project Leader.....	4
Implementing Agency.....	4
Cooperating Agency.....	4
Significance of the Proposal.....	4
Study Area.....	5
Objectives.....	7
Expected Output.....	8
End-users/target beneficiaries.....	8
Program/Project Duration.....	8
Methodology.....	9
Plans for data processing and analysis.....	10
Estimated budgetary requirements.....	11

(3) Introduction

Over the years, a wide range of literature has revealed the roles that Information Systems (IS) play in healthcare services. Information systems are defined using two terms: information and strategy. Information is analyzed data in the development of the concept, whereas a system is a

collection of finite elements linked together to achieve goals. Most information systems are composed of smaller systems known as subsystems, which all work together to ensure the efficacy of the larger systems [1].

Significant improvements in clinical workflow, administration, and revenue enhancement are some of the benefits that outweigh the challenges of information systems in healthcare industries. Another critical factor to consider is clinical information access; digital access to medical records allows clinic staff to save time and a tremendous amount of resources. Therefore, IS provides comprehensive, trustworthy, and understandable information on timely and efficient patient medical record management [2].

Finally, the need for effective information systems (IS) in healthcare services is regarded as critical because it depicts organizational performance, which aids in predicting the future of potential challenges and providing appropriate solutions that information systems can build with streamlined operations toward the enhancement of proper administration and control over unexpected threats. MCCHSU: The Mabalacat City College Health Services Unit Appointment and Inventory with Report Generation System was developed to improve the services and workflow of all HSU activity. Using this system, the HSU's inventory, report generation, and transaction recording will be improved and well-structured. In every school, a clinic operates through the complete primary education curriculum. The school clinic provides services to anyone on campus who requires immediate medical attention in order to recover faster [4]. Technology has become the new way of life; it is almost a requirement that people put technology in everything they do to become much more manageable. With HSU, automating all the records would be much simpler, and less work would be done, targeting the idea of "time convenience." The probability of the system's success is high, as it aims to be the foundation of the whole school clinic itself. Mabalacat City College Health Service Unit System, as a replacement for the manual paper-based records processing can store confidential files of every person in Mabalacat City College.

(4) Program/Project Title:

Web-Based Mabalacat City College Health Services Appointment and Inventory with Report Generation System

(5) Program/project leaders

Project Leaders

Name:	Dennis L. Tacadena, DIT
Field of Specialization:	BSIT
Designation/Position:	Instructor III
Contact Address:	MCC, Mabalacat City, Pampanga

Name:	Ernie Lee E. Pineda, MIT
Field of Specialization:	BSIT Program Head
Designation/Position:	BSIT Program Head
Contact Address:	MCC, Mabalacat City, Pampanga

Percentage Time for Research: 20%

(6) Implementing agency

Mabalacat City College, Mabalacat City, Pampanga

(7) Cooperating agency

(8) Significance of the proposal

The Sustainable Development Goals (SDGs) establish a global framework for achieving a sustainable future for all people and the planet. The SDGs are important because they provide a framework for addressing some of the most pressing issues confronting the world today, such as poverty, hunger, inequality, and climate change. The SDGs are interlinked, and achieving one goal frequently entails resolving issues that are inextricably linked to other goals. The SDGs are significant because they provide a roadmap for progress while also setting a common objective for a better future. To accomplish the SDGs, governments, businesses, civil society organizations, and individuals from across the world must collaborate and take action. In this study, the researcher found various SDGs. In line with this, the following specific Sustainable Development Goals are the focus of this research:

This research proposal targets to address one SDG goal; SDG 9: Industry, Innovation, and Infrastructure. SDG 9.5 Enhance scientific research; upgrade the technological capabilities of sectors in all countries. SDG 9.b Support domestic technology development, research, and innovation in developing countries.

This research aimed to create a Health Services Unit and Medical Records Management System using a Student/s Records System. The system would also be beneficial to the school's medical staff. It would be helpful in terms of record keeping, reporting, appointment scheduling, and medication inventory. Supplies and medicines record redundancy is minimized. The significance of this study is anchored on the following contexts:

Global Context

Web-based systems make it easier to streamline your business processes, allowing you to accomplish more in less time. They can also improve accuracy, making the entire process faster and more convenient. In the long run, the study will improve business interactions and transactions while saving time.

Economic Context

In economics, the study will help sustain web base development by serving as a model for other web designers to improve their systems. Web-based applications used to be extremely limited in terms of functionality. However, technological, security, and internet speed advancements have greatly expanded the potential scope of web-based systems. We now have web-based business accounting systems, CRM systems, a web-based Microsoft Office, and other tools. Web-based applications have several advantages over native, client-based software.

Environmental Context

Concerning the surroundings, researchers have already implemented the system via the domain of z.com in Mabalacat City College Health Services Unit of Dolores, Mabalacat City, Pampanga, where the system can indirectly help with all daily activities due to its widespread use in other devices and systems. Environmental factors, such as the appointment system, outpatient department features, and patient no-show rates, impact performance measurements.

Societal Context

Web-based systems simplify students' and employees' appointment and booking processes at HSU, allowing users to accomplish more in less time. It can also increase precision, making the entire process faster and more convenient. The study will, in the long run, improve business interactions and transactions while saving time. Using the MCCHSU web-based system will improve the HSU's inventory, report generation, and transaction recording and well-structured; confidential files of all Mabalacat City College students can be stored as a replacement for manual paper-based records processing.

(9)

Study Area – Background of the Study

The web-based application's goal is to manage HSU personnel's workload. Due to the modern world, we all know that people nowadays take advantage of technology. Utilizing technology work can be facilitated and sped up. Information Systems (IS) are defined using two terms: information and strategy. Most information systems are composed of smaller systems known as subsystems, which all work together to ensure the efficacy of larger systems. All people, businesses, and industries use technology in today's world. Many advantages benefits-based application include giving health service unit solutions to issues like file management, report generation, and monitoring medicines and supplies inventory.

The target users of the web-based system are the employees and students at Mabalacat City College (MCC). MCC is a public higher education institution in Pampanga. It was established through the Municipal Ordinance No. 2 in 2007. In 2016, MCC opened a satellite campus at Barangay Dapdap with the aim of providing the underprivileged residents of the area more access to education. Currently, all the processes of the school Health Services Unit headed by Mrs. Florient G. Non are

done manually. Significant problems arise, such as data retrieval, record keeping, data redundancy, and medicine inventory. According to Ms. Ayn Bernadette C. Galang (Nurse I), human error is the most common problem with a manual system. The current system is very prone to data redundancy in a scenario where the team enters the data. The other staff unknowingly enter the same data. As of now, data retrieval is essential to the clinic staff; they consume two to three weeks to retrieve data manually, and most of the time, some of the data need to be included because they need a structured way of making backup files.

CMS (Content Management System) is a system that connects patient information systems that collect and store demographic, financial, and medical data from ancillary services such as registration, billing, lab, radiology, pathology, pharmacy, and transcription. These systems, databases, interfaces, physician order entry, electronic communication systems, and clinical workstations are all linked by the CMS network. The Mabalacat City College Health Services Unit System, which is a replacement for manual paper-based records processing, can store confidential files for all Mabalacat City College students and employees.

(10) Objectives

Objectives of the Study

The goal was to develop a web-based application for the Mabalacat City College Health Service Unit. By this, the researchers were able to accomplish the following specific goals:

Gathered information from the MCCHSU personnel to identify the need for automating the manual processes.

Identified the hardware, software, and programming languages like PHP, SQL, HTML, and JavaScript, as well as scripting tools like interviews and surveys, that would be required to develop the system.

- VTOCS, ERD, Website Map, Use Case Diagram, and analysis tools were used to design the web-based system and database system.
- Developed the web-based System with the following subsystems:
- Student and employee appointments.
- Student and employee monthly results and reports.
- Supplies and medicine inventory and generation reports.
- News and events banner.
- Admin dashboard.
- Admin Accept Appointment
- Admin inventory stock, issue medicine and supply

Researchers would test the system based on the developed features. The researcher would use the ISO25010 software quality standard as the basis of the survey questionnaire to craft a series of questions and group them in terms of their sub-criteria. The system would undergo an alpha and beta test using the created survey form. The collected data would be validated using a statistical tool. During the validation process, the researchers received much feedback from IT experts and respondents. They went through the feedback to classify the need to improve and add many system components to give users an easy registration process.

(11) Expected Output (s): 6 Ps metrics

Publications	● Locale publication / Unpublished research
Products	● The Web System output
People Services	● Health Services Unit Personnel
Places and Partnerships	● LGUs and allied organizations
Socio-economic importance	● See significance of the study above

(12) End-users/target beneficiaries

The MCC community – students, MCC Health Services unit staff, and personnel.

(13) Program/project duration

This project will be conducted for a period of 5 years.

(14)

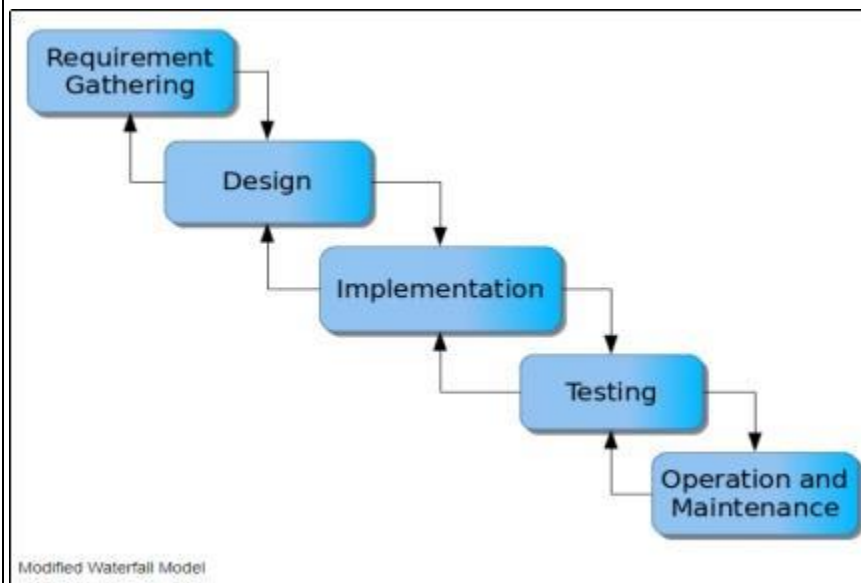
Methodology

This section presents the outline of the methodology.

Study Area

A system development methodology is a tool used to organize the developing systems in a systematic and most effective way. It includes frameworks for describing the activities involved in defining, building, and implementing a system. The framework that the researchers used and the execution in every phase will be discussed.

Researchers used the Waterfall methodology as an internal process, placing little emphasis on the end user or client involved in a project. Its primary goal has always been to assist internal teams in moving more efficiently through project phases, which can benefit the software world.



(https://www.researchgate.net/figure/Modified-Waterfall-Model_fig1_332095882)

The waterfall model, also known as the Linear-Sequential Life Cycle Model, is another name for the waterfall model. This refers to the entire software being structured in a systematic manner, and it is also known as the Strict Waterfall Model because the model is strictly followed like a waterfall in the valley.

(16) Research utilization
(17) Estimated budgetary requirements Please see attached sheet

Line Item Budget (LIB)
Estimated budgetary requirements
Funding Requirement

Particulars	Source of Fund (PhP)	
	(Unknown)	MCC
I. Honoraria		
Project Leader		
Project Staff		
Laboratory Aide		
Sub-Total		
II. Maintenance and Other Operating Expenses		
Supplies and Materials (Office and Lab supplies)		
Travelling, Transportation/Gasoline Expenses		
Representation/Training Expenses		
Communication Expenses		
Printing and binding expenses for draft book and report		
Other Professional Expenses & Services (Statistician, Consult Methodologist, Photography services, Taxonomist, etc.		
Rental expenses (Lab services)		
Sub-Total		
PS + MOOE		
III. Administrative Cost (7.5%PS + MOOE)		
TOTAL		

References