**Chapter 1**

**THE PROBLEM AND ITS BACKGROUND**

This chapter discusses the overview of the research problem and its conceptualization. This includes the Introduction, Background of the Study, Theoretical Framework, Conceptual Framework, Statement of the Problem, Scope and Limitations, Significance of the Study, and Definition of Terms.

**1. Introduction**

Technology has a huge impact on the world today. It helps people to accomplish their task easy and efficient. It improves the lives of people in different ways. The applications of technology have achieved various results in the field of education, health and communication.

One of the most outstanding achievements of education in the Philippines is the people are actively seeks to expand access, participating and even more importantly, tries to improve the quality education in the Philippines. Despite the lack of the advancement of technologies in the country, it is great to notice that Filipinos are generally prioritizing higher and advance education. Rising numbers of innovators, researchers and knowledge producers may not be a problem anymore in the near future.

Learning Management System is widely used in higher education and the researchers are trying to adopt it in secondary education to see the influence of it. The Task-Technology Fit is a powerful theory that helps us to explain the dynamics behind the use of information systems and their performance impacts.

**2. Background of the Study**

The Learning Management System (LMS) is software that delivers and manages educational programs, resources and contents that enhances the learning capability of a student. The LMS helps the instructor deliver learning material to students such as assignments, projects and etc. It also tracks the student’s progress and manages the records of each student.

In line with this, the researchers came up with an idea of a system that will help both students and teachers by making learning effortless. The system will provide the teachers to create and deliver content, monitor student participation, and assess student performance. As for the students, they can acquire learning materials, monitor results of their activities, and extend their knowledge with their classmates and teachers.

**3. Theoretical Framework**

**HTML**

HTML (HyperText Markup Language) is the most basic building block of the Web. It describes and defines the *content* of a webpage along with the basic layout of the webpage. Other technologies besides HTML are generally used to describe a web page's appearance/presentation ([CSS](https://developer.mozilla.org/en-US/docs/Web/CSS)) or functionality/ behavior ([JavaScript](https://developer.mozilla.org/en-US/docs/Web/JavaScript)).

HTML will be used by the proponents as the base structure of the proposed system.

**CSS**

Cascading Style Sheets (CSS) is a [style sheet language](https://en.wikipedia.org/wiki/Style_sheet_language) used for describing the [presentation](https://en.wikipedia.org/wiki/Presentation_semantics) of a document written in a [markup language](https://en.wikipedia.org/wiki/Markup_language" \o "Markup language) like [HTML](https://en.wikipedia.org/wiki/HTML). CSS is a cornerstone technology of the [World Wide Web](https://en.wikipedia.org/wiki/World_Wide_Web), alongside HTML and [JavaScript](https://en.wikipedia.org/wiki/JavaScript).

CSS is designed to enable the separation of presentation and content, including [layout](https://en.wikipedia.org/wiki/Page_layout), [colors](https://en.wikipedia.org/wiki/Color" \o "Color), and [fonts](https://en.wikipedia.org/wiki/Typeface).This separation can improve content [accessibility](https://en.wikipedia.org/wiki/Accessibility), provide more flexibility and control in the specification of presentation characteristics, enable multiple [web pages](https://en.wikipedia.org/wiki/Web_page) to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

In this project proposal, the proponents will use CSS to add styles and design to the proposed system.

**JavaScript**

JavaScript is a scripting or programming language that allows you to implement complex things on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, etc.

Alongside [HTML](https://en.wikipedia.org/wiki/HTML) and [CSS](https://en.wikipedia.org/wiki/CSS), JavaScript is one of the three core technologies of the [World Wide Web](https://en.wikipedia.org/wiki/World_Wide_Web).

JavaScript will be used by the proponents as client side scripting.

**Bootstrap**

Bootstrap is a front-end framework for designing websites and web applications. It is used to build responsive web applications to make it user-friendly to all mobile devices.

Bootstrap will be used by the proponents to add styles and to make the proposed system responsive.

**PHP**

PHP is a server side programming language which is responsible of executing code on a server and act as a backbone of your application. When you interact with a website or web application, PHP is responsible for the actions behind the scenes - APIs, serving content, managing users, database transactions, security, payment gateways, 3rd party systems integrations, scalability, storing user sessions, html templating, SEO optimisation and so on.

PHP will be used by the proponents as server-side scripting.

**MySQL**

MySQL is an Oracle-backed open source relational database management system ([RDBMS](https://searchsqlserver.techtarget.com/definition/relational-database-management-system)) based on Structured Query Language ([SQL](https://searchsqlserver.techtarget.com/definition/SQL)). MySQL runs on virtually all platforms, including [Linux](https://searchdatacenter.techtarget.com/definition/Linux-operating-system), [UNIX](https://searchdatacenter.techtarget.com/definition/Unix) and [Windows](https://searchwindowsserver.techtarget.com/definition/Windows).

MySQL is based on a [client-server](https://searchnetworking.techtarget.com/definition/client-server) model. The core of MySQL is MySQL server, which handles all of the database instructions (or commands). MySQL server is available as a separate program for use in a client-server networked environment and as a library that can be embedded (or linked) into separate applications.

In this project proposal, the proponents will use MySQL for database management system.

**Laravel**

Laravel is a web application framework with expressive, elegant syntax. Laravel attempts to take the pain out of development by easing common tasks used in the majority of web projects, such as authentication, routing, sessions, and caching.

Laravel is accessible, yet powerful, providing powerful tools needed for large, robust applications. A superb inversion of control container, expressive migration system, and tightly integrated unit testing support give you the tools you need to build any application with which you are tasked.

The proponents will use laravel framework to make the back-end development simpler, faster and better.

**Operating System**

**Microsoft Windows**

Microsoft Windows is a group of several [graphical](https://en.wikipedia.org/wiki/Graphical_user_interface) [operating system](https://en.wikipedia.org/wiki/Operating_system) families, all of which are developed, marketed, and sold by [Microsoft](https://en.wikipedia.org/wiki/Microsoft). Each family caters to a certain sector of the computing industry. Active Windows families include [Windows NT](https://en.wikipedia.org/wiki/Windows_NT) and [Windows Embedded](https://en.wikipedia.org/wiki/Windows_Embedded); these may encompass subfamilies, e.g. [Windows Embedded Compact](https://en.wikipedia.org/wiki/Windows_Embedded_Compact) (Windows CE) or [Windows Server](https://en.wikipedia.org/wiki/Windows_Server). Defunct Windows families include [Windows 9x](https://en.wikipedia.org/wiki/Windows_9x), [Windows Mobile](https://en.wikipedia.org/wiki/Windows_Mobile) and [Windows Phone](https://en.wikipedia.org/wiki/Windows_Phone).

**Mac OS**

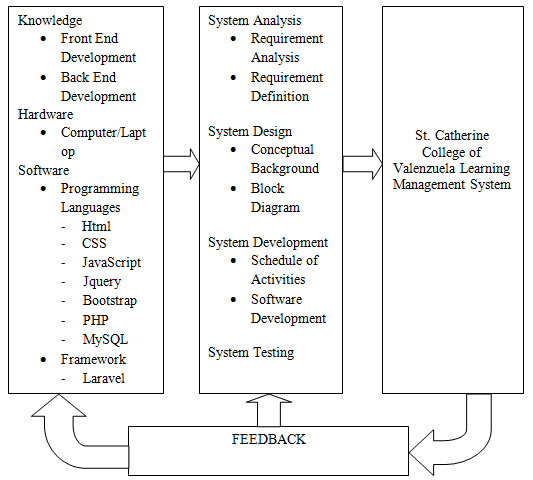
Mac OS is the computer [operating system](https://whatis.techtarget.com/definition/operating-system-OS) for Apple Computer's [Macintosh](https://whatis.techtarget.com/definition/Macintosh) line of personal computers and workstations. A popular feature of its latest version, Mac [OS X](https://whatis.techtarget.com/definition/OS-X) , is a desktop interface with some [3-D](https://whatis.techtarget.com/definition/3-D-three-dimensions-or-three-dimensional) appearance characteristics. OS X has a modular design intended to make it easier to add new features to the operating system in the future. It runs UNIX applications as well as older Mac applications.

Mac OS comes with Apple Computer's [iMac](https://whatis.techtarget.com/definition/iMac) and Power Macintosh line of computers.

**Linux OS**

The [Linux](https://www.webopedia.com/TERM/L/Linux.htm) [open source](https://www.webopedia.com/TERM/O/open_source.html) [operating system](https://www.webopedia.com/TERM/O/operating_system.html), or Linux OS, is a freely distributable, cross-[platform](https://www.webopedia.com/TERM/P/platform.html) operating system based on Unix that can be installed on PCs, laptops, netbooks, mobile and tablet devices, video game consoles, servers, supercomputers and more.

The Linux OS is frequently packaged as a Linux distribution for both desktop and server use, and includes the Linux kernel (the core of the operating system) as well as supporting tools and libraries. Popular Linux OS distributions include [Debian](https://www.webopedia.com/TERM/D/Debian.html), [Ubuntu](https://www.webopedia.com/TERM/U/Ubuntu.html), Fedora, Red Hat and openSUSE.



**4. Conceptual Framework**

*Figure I Research Paradigm of the Project Proposal*

Figure I shows the input, process, and the output of St. Catherine College of Valenzuela Learning Management System. The Input contains the knowledge which includes the front-end and back-end of the system. Hardware includes the laptop/computer. And software includes the programming languages that require constructing the system. The Processes contains the System Analysis which includes the requirement analysis and requirement definition. The System Design which includes the conceptual background and block diagram. The System Development which includes the Schedule of activity and the development of software. And the System testing. And lastly, the Output which is the St. Catherine College of Valenzuela Learning Management System.

**5. Statement of the Problem**

This aims to determine the use of Learning Management System and how it affects the environment students and teacher in St. Catherine College of Valenzuela, in this study sought answers the following questions:

1. What are the effects of Learning Management System to the students from grade 7-12 of St. Catherine College of Valenzuela in terms of:
   1. Academic performance
   2. Motivation to study
2. Is there a difference between the perception of the students and teachers of St. Catherine College of Valenzuela to the Learning Management System in terms of:
   1. Functionality
   2. Usability
   3. Reliability
   4. Performance
   5. Security
3. Is there a significant difference between the perceptions of the students?

**6. Scope and Limitations of the Study**

**Scope**

The Learning Management System will focus on the students and teachers of St. Catherine College of Valenzuela in providing a better and effective way to help students and teachers to get learning materials and information online.

The SCCV-LMS will consist of four modules (Student’s module, Parent’s/Guardian’s module, Teacher’s module, and Admin’s module). The system is able to deliver messages, post lectures, input grades, see/manage class’ record, download files, and take online quiz/exam connecting the student, teachers, and guardians. These tools will create for making knowledge-sharing easier.

**Limitation**

The SCCV-LMS does not cover the use of voice and video calls, the online activities are limited only up to 10 quizzes/exams and assignments for them to still have class activities. Sending files using file extensions that are potentially dangerous such as .exe, .msp, .jar, .bat, .dll, .tmp, and etc. are not allowed. User/Students are not allowed to see other’s record and the given activities on the LMS can only be answered online to avoid cheating.

**7. Significance of the Study**

The study will benefit most the *Grade 7-12 students of St. Catherine College of Valenzuela* in accessing the lectures, submitting, and answering assignments, online quizzes/exams and other activities online.

*Teachers/Professors* will be able to provide online lectures and other activities to their students.

*The Parents/Guardian* will be able to monitor the grades from quizzes and exams and attendance of their children.

*The Department of Education* will be able to use the Learning Management System as a model for the other schools.

*The School* will be able to cope up with the new Learning System.

*The Future Researchers* will be able to use this study for future reference.

**8. Definition of Terms**

**2D graphics.**  Is the computer-based generation of digital images—mostly from two-dimensional models (such as 2D geometric models, text, and digital images)

**3D graphics.**  3D means three-dimensional, i.e. something that has width, height and depth (length). Our physical environment is three-dimensional and we move around in 3D every day.

**APIs.** An application program interface (API) is a system of tools and resources in an operating system, enabling developers to create software applications.

**DBMS.**  A database management system (DBMS) is system software for creating and managing databases. The DBMS provides users and programmers with a systematic way to create, retrieve, update and manage data.

**Fast-paced era.** Moving or developing very quickly of technology in today’s generation.

**Hyper text.**  A software system that links topics on the screen to related information and graphics, which are typically accessed by a point-and-click method.

**Interactive maps.**  Is an image with hotspots. A map can be any image such as a diagram, floor plan, photo, or road map. A hotspot is a location on the map that responds when the mouse moves over it, off of it, or clicks it.

**Java script.**  An object-oriented computer programming language commonly used to create interactive effects within web browsers that will be used by the proponents as client side scripting.

**Linux.** An open-source operating system modeled on UNIX.

**LMS**. A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of educational courses or training programs.

**Macintosh.**  Is a family of personal computers designed, manufactured, and sold by Apple Inc. since January 1984. The original Macintosh was the first mass-market personal computer that featured a graphical user interface, built-in screen and mouse.

**Robust Application.** Robust product can be one that doesn't break easily. Thus, an operating system in which any individual application can fail without disturbing the operating system or other applications can be said to be robust.

**SCCV-LMS**. A software that delivers and manages educational programs, resources and contents that enhances the learning capability of a student of St. Catherine College of Valenzuela.

**SQL.**  Structured Query Language (SQL) is a standard computer language for relational database management and data manipulation. SQL is used to query, insert, update and modify data.

**Student.** A person who is studying at St. Catherine College of Valenzuela.

**Syntax.**  Is the set of rules that defines the combinations of symbols that are considered to be a correctly structured document or fragment in that language.

**Task-technology fit**. A powerful theory that helps us to understand the impact of technology on individual performance.

**Teacher.** A person who is teaching at St. Catherine College of Valenzuela.

**Unix.** A widely used multiuser operating system.

**Web based.** Is any program that is accessed over a network connection using HTTP, rather than existing within a device's memory. Web-basedapplications often run inside a web browser.

**Web page**. A software system that links topics on the screen to related information and graphics, which are typically accessed by a point-and-click method.

**Windows.**  A computer operating system with a graphical user interface.

**WWW.**  World Wide Web is the part of the Internet that contains websites and WebPages. Websites are composed of pages linked by hypertext links.