**PSU Senior Laboratory High School E – Learning Web - Based Management System with SMS Notification**

A Capstone Project Proposal Presented to the

Faculty of the College of Sciences

Palawan State University

In Partial Fulfillment of the

Requirements in the course Systems Analysis and Design

For the Degree of Bachelor of Science in Information Technology

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# **EXECUTIVE SUMMARY**

Education is one of the main corner-stones for economic development and improvement of human welfare. Online learning can be found as another alternative delivery of knowledge or education. It is a type of teaching practice that upholds the concept of ”anytime, anywhere” kind of learning. With this, online learning is easily accessible to the students and teachers where they exchange note, ideas and research related to the topic discuss or course with each other. E – Learning is a system based on a formalized teaching with the help of electronic resources. While teaching can be based in or out of the classroom, the use of computers and the internet forms the major component of E – Learning. E – Learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same of different times. However, with the rapid progress in technology and advancement in learning systems, it is now embraced by the masses. The introduction of computers was the basis of this revolution and with the passage of time, as we get hooked to smart phone, tablet etc. these device now have an importance place in the classrooms for learning.

**APPROVAL SHEET**

This Project Proposal entitled “**PSU Senior Laboratory High School E – Learning Web - Based Management System with SMS Notification**” prepared and submitted by **Capangpangan, Blessly S., Madarang, David I., Querod, Tania S.,** has been examined and is recommended for approval and acceptance.

MR. ALVIN L. SIBAYAN

Adviser

**PANEL OF EXAMINERS**

APPROVED by the Panel of Examiners with a grade of \_\_\_\_\_\_\_\_\_

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Chairman

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Member Member

ACCEPTED and APPROVED in partial fulfillment of the requirements for the degree Bachelor of Science in Information Technology

**DR. CARMENCITA G. PALANCA**

Dean, College of Sciences

Date of Proposal Defense:

**DEDICATION**

I would like to dedicate this research to all my friends and my families who helped me while doing this study. I thank them for their support and guidance especially for our Adviser Mr. Alvin L. Sibayan and to all staff of Senior Laboratory High School.

* Bless

I dedicate this research to all my family, friends, classmates, and also to my group mates of this study and my adviser Mr. Alvin L. Sibayan and especially to Ms. Wenifreda C.Lumogdang the Principal of Senior Laboratory High School who have been there in times of process of this study, those people are became my great source of determination and inspiration to reach the goal of this study.

* Dave

I dedicate this research to my family and friends, classmates, teachers and to all people who always there to helped me to do this study. To those people became great part of source of inspiration to reach our goal regarding on our study.

* Tanny

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C. B. S.

M. D. I.

Q. T. S.

**ABSTRACT**

**“PSU SENIOR LABORATORY HIGH SCHOOL E – LEARNING WEB - BASED MANAGEMENT SYSTEM WITH SMS NOTIFICATION”.** Capangpangan, Blessly S., Madarang, David I., Querod, Tania S.; Bachelor of Science in Information Technology, Palawan states University, April 2019.

**Adviser: Mr.** **Alvin L. Sibayan**

**Instructor:**

This system improves the manual system of the PSU Senior Laboratory High School. After finding out the difficulties experienced by the organization, especially, the computerized system can manage the data files for the staff and the students. This can replace the manual to ah highly computerized E – Learning Management System with SMS Notification and it will become the will eventually improve their office work. This system also helps the senior high students and also their teachers to become well educate by using our proposed system. With this study it really helps them also to the new generation if ever use it by their reference as their guide on their related study.

# **CHAPTER I**

# **INTRODUCTION**

**PROJECT CONTEXT**

On today’s generation of students are developing in a technological world. Technology creates a big role for students to deal with their studies as well as the teachers for their teaching. With the use of technology, it is now easy for the teachers to disseminate their learning materials and the students can access to get their learning materials easily. Through technology, education develops to a great level and has now become a need for transforming education for better.

Typically, a learning management system provides an instructor with a way to create and deliver content, monitor student participation, and assess student performance, (Rouse, 2013). As many people thought to bring computers into the classroom would remove that human element that some learners need, but as time progressed, technology has developed, and now we embrace smartphones and tablets in the classroom and office, as well as using a wealth of interactive designs that makes distance learning not only engaging for the users but valuable as a lesson delivery medium, (virtual-college, 2012).

The researchers develop the system for the PSU Senior Laboratory High School. This system will help the students in getting the reliable information. It will also help the teachers to monitor the list of their students. Move over, this will serve as an avenue and learning tool for the PSU Senior Laboratory High School.

**PURPOSE AND DESCRIPTION**

Through an interview and observation, this study pursued to answer the following problems:

1. The process for evaluating the records of the students manually.
2. Notifying students about the incoming activities and meetings is often late due to manual processing.
3. The data of the students are often lost because of mishandling of students documents and the lack of security of student’s documents.
4. Generating reports for the staff of Senior Laboratory High School, takes too much time due to manual processing of the documents.

**OBJECTIVES**

The main objective of this study is to develop and design the PSU Senior Laboratory High School E – Learning Web - Based Management System with SMS Notification. The project intended to provide efficient and effective monitoring of teachers for their students list distribution of information and learning materials.

1. To create a system that will make the process for evaluating the records of the students faster and accurate.
2. To develop a system that will send an SMS notification to update the records, their incoming activities and meetings.
3. To develop a system that will send an SMS notification to update the students for to develop a database for the storage of the data of the students in order to avoid data loss.
4. To develop a system that will print the reports for the students profile much faster.

**SIGNIFICANCE**

The aim of this study is to give a solution to the PSU Senior Laboratory High School in their difficulties, such as manual processing of filling records of their students, storing and computing of the data. It will lessen some of the paper works and it will also manageable for them to handle such number and records of their students. This kind of system will very helpful to them to run the program efficiently.

For the students, they will also benefit because the system it can access easily through online and it will be much faster and they will be notified them about their problem and concern to their teacher and to know their status effectively if is good or not.

The researcher will also benefit for this study through enhancing their skills and knowledge in terms of programming, database, and designing a system etc.

To future researchers, it will be their reference to improve and acquire more knowledge for their related study that they will be conducted.

## **SCOPE AND DELIMITATION**

The researcher will propose a system to the Senior Laboratory High School. The purpose of this research was to determine the effect of blended learning model on senior high school students’ achievement. Blended learning is an approach to educational that combines online educational materials and opportunities’ for interaction online with traditional place – based classroom method. It requires the physical presence of both teachers and students, with some elements of students control over time, place, path, or pace. Personnel can access the said proposed system entitled PSU Senior Laboratory High School E – Learning Management System with SMS Notification.

**SCOPE**

This study covers only the PSU Senior Laboratory High School. This system includes the following factors; first, it can manage profile of the students; Second, SMS notification for the announcements and activities of their respective teachers are ease to handle; Third, grade evaluation for students are going to be fast; Fourth, generating and printing reports; lastly, it will have the database for the records of the students.

**DELIMITATION**

This study is limited only to PSU Senior Laboratory High School. It only for the students and the teachers of the said department. Teachers have the authority to manage their classes, subject and upload files; it is only applicable with the use of internet.

**Definition of Terms**

The following terms extensively used in this paper were defined to provide the reader a better understanding of the study.

**BLENDED LEARNING** - is an approach to educational that combines online educational materials and opportunities’ for interaction online with traditional place – based classroom method.

**Database.** Conceptually, the terms refer to a collection of pieces of information that is organized and used on a computer.

**E – Learning**. Is a system based on a formalized teaching with the help of electronic resources.

**Notification**. The action of notifying someone or something.

**Online.** Controlled by or connected to another computer or to a network while so connected or under computer control.

**SMS**. (Short message service) is a text messaging service component of most telephone, internet, and mobile – device system. It uses standardized communication protocols to enable mobile devices to exchange short text message. **SYSTEM** – a set of connected things or parts forming a complex whole, in particular a set of principles or procedures according to which something is done.

**CHAPTER II**

# **RELATED LITERATURE**

### **Foreign**

**“E-Learning and Students’ Motivation: A Research Study on the Effect of E-Learning on Higher Education”**

Overview Web-based learning is used nowadays as another option to face to face education. As a matter of fact, its use increases in a direct proportion with the increase of the number of students. This has made educators exert a lot of effort to help the learners to get interactive content that is full of multimedia as it has been proven that it has a significant effect on the process of learning. The impact of blogs and wikis has also been investigated on learners' collaboration and reflection and it was reported that they both have a positive effect. E-learning has been introduced as a tool in the learning process in the majority of the international universities worldwide. The term “e-learning” is defined by [9] as “any learning that involves using internet or intranet.” A year later [8] made the definition more generalized by indicating that it is “anything delivered, enabled, or mediated by electronic technology for explicit purpose of learning” [17] [18]. According to [7] “e” in e-learning should not stand for electronic; it should be an abbreviation for “evolving, enhanced, everywhere, every time and everybody.” In fact, the quotation of [7] shows most of the advantages of e-learning for learners and instructors. Although the e-learning term and tools do exist for over a decade, the educational research field has not given enough attention to the study of student motivation under the effect of e-learning. E-learning has grown in significance as an educational tool just like technology has developed and progressed over the years. Interestingly, there have attempting to understand the needs and learning styles of individual learners and instructional design. The 21st century has seen rapid progress with such things as the Internet and online learning. Been more efforts at advancing technology than on the increased use of e-learning among educational institutions has led to a change in higher education. According to findings, there has been a rise of about 12-14 percent annually in enrolment for online learning over a five year period: 2004-2009 after secondary education [2]. One of the main reasons for this is it gives students' greater access to education in comparison to traditional methods of teaching as students can undertake their study from anywhere and at any time as well as being given the option to study part-time or full-time [3]. E-learning has transformed the educational sector by enabling students to share information and data in a relatively easy way. B. Motivation Recent studies indicate that university students who have been enrolled on e-learning courses outperform those being taught on traditional courses. An example of this can be found at Carnegie Mellon University (CMU) in America where student exam results have shown improvement as a result of e-learning techniques [6]. It is therefore imperative that an education system is created which is capable of rapid adaption to its technological, social, cultural and political environment [1]. Incorporating technology in the learning process does not necessarily guarantee motivated students. In fact, online instruction has resulted in the student teacher relationship becoming less personal. Teachers are required to turn the classroom into an online environment. The question is what exactly is required of teachers to motivate students in an online environment? [5] It is essential for teachers to understand their students’ motivations. Although students take online courses with the intention of successfully completing them, they tend to fail for a number of reasons. The success or failure of online instruction is perhaps related motivation must be natured in students. 2. Explain to their students how the online environment may be used. 3. Encourage interaction and collaboration among their students. 4. Build study groups to student motivation. To stimulate students, teachers should [13]: 1. Keep in mind that so that students will no longer be studying in isolation. 5. Help students to make friends by meeting fellow students in the online environment. 6. Interact with their students by monitoring the online presence of them and supplying them with continuous feedback. 7. Construct their learning materials and environment to target their students. 8. Facilitate the students’ interaction with the online material by explaining the goal behind designated tasks. 9. be aware of students’ frightened, worries and nervousness because such anxiety may have a negative effect on their accessibility and motivation. All of these approaches could be crucial tools to develop new strategic teaching plans that might assist lecturers to influence learners’ level of motivation.

## **Local**

**“The Effect of Blended Learning Model on Senior High School Students’ Achievement”**

Instructional model is an important component that can affect the effectiveness and efficiency of teaching and learning process. An instructional model serves a good master plan for teaching. Besides, it is also a conceptual framework which describes a systematic procedure in organizing learning experiences to achieve certain learning goals and serves as a guide for the teachers in planning and implementing learning activities [1]. To implement an instructional model, the teachers provide various learning aspects to achieve learning objectives [2, 3]. Furthermore, instructional model encourages students to get involve in teaching and learning process. By doing that, student centered learning can be realized. The rapid development of Information and Communication Technology (ICT) gives different views in the learning process. Conventional or traditional learning is no longer used by the teacher. The teachers are required to use a variety of methods that provide more opportunities to learn by utilizing various sources. The implementation of ICT in learning may change the teacher paradigm of learning from teacher centered learning into student centered learning [4]. The use of technology in education has an important role and it should be applied in the learning system. On the other hand, there is still a learning process which is done by emphasizing the method of lecturing and memorizing. By using this old method, the students have less experience in getting information in the learning activities. Information technology-based learning is one of technology utilization in education and teaching systems. One of the technologies that can be implemented is internet. In this globalization era, it is easy for the teacher and the students to find the internet connection because of spread of computer and the existences of internet connection [5]. Internet technology supports the learning process through online learning (e-learning). E-learning is distant learning environments in which internet and network technologies are used for presenting and receiving the content used [6]. E-learning ensures the flexibility and efficiency which cannot be found in classroom environment. It is allowed the student to learn everywhere and every time. Moreover, learning is not only based on technology but also it is a process of interaction between teachers, students and learning resources. That is not all learning can be done by online environment [7]. Although e-learning has several advantages, there is also several limitation of online learning environment. It cannot replace learning in the classroom. Face to face learning provides the social interaction which is needed for learning. In other words, face-to-face processes are important and it should not be left behind in learning [5, 8, and 9]. The two instructional models, online and traditional (face to face) model have several advantages and disadvantages. It is better to the teacher to combine the two teaching models. The combination of e-learning and traditional face to face learning may integrate in teaching and learning process [10,11]. It is known as blended learning. Blended learning is the combination of traditional (face-to-face) and online learning so that instruction occurs both in the classroom and online [11, 12, and 13]. Blended learning integrates the advantages of online learning with some advantages of face to face learning. Then, it maximizes the efficiency of classroom training and provides better reinforcement in the web-based elements. Through blended learning, the students had prepared for the course in the classroom and it can be more efficient because the students may discuss with their teachers and their friend that they could not do during classroom interaction [5]. Because it combines the two advantages of instructional models, blended learning has positive impact to the learning process. Some researchers stated that blended learning can enhance students’ learning outcomes, improve students’ motivation, and it is effective way for achieving learning objectives [4, 5, 14, and 15]. Blended learning also spends lower cost for training and it may enhance the students’ learning experience [16, 17]. On the other hand, the formula for organizing a well-blended learning course is not easy. The teachers encourage re-thinking and redesign courses that afford students more, and it requires to the teacher to practice how to teach by using blended learning in the classroom to get the good result [18, 19, 20]. In short, applying the blended learning as instructional model will take the teachers’ serious effort in order to get maximum benefit. Recently, the use of blended learning as a learning model has increased especially in colleges. However, this learning model also can be used in high schools. This study tried to determine the effect of blended learning model on senior high school students’ achievement.

**CHAPTER III**

# **TECHNICAL BACKGROUND**

**Software Requirements**

Mainly, the goal of this system is to develop the following functionalities.

|  |  |
| --- | --- |
| HTML | Used for sublime text to edit text. |
| BOOTSTRAP/CSS | Used for the markup languages. |
| Java Script | Used for a scripting language. |
| PHP | Used for a server side scripting language. |
| MySQL | Used for the database. |
| IDE | Used for editing codes HTML; JavaScript and PHP. |

**Table 1. Shows Software Requirements.**

**Hardware Requirements**

|  |  |  |
| --- | --- | --- |
| Hardware | Brand Capacity | Description |
| Desktop/Laptop | 4GB RAM  Core i5 Processor  1TB Hard Drive  1GB Video Card  4GB Internal Memory | This required using desktop or laptop to access the website also internet connection. |

**Table 1. Shows Hardware Requirements.**

**METHODOLOGY**

## **Research and Design**

In order to gather information to know the problems and the current manual processing used by the staff of Senior Laboratory High School in order also to improve our knowledge about our client problem and work.

The researcher used both method to know the insight, underlying reason, opinions of the students, concerning about the things that caused problems including generating attendance of the students and the reports of every students on their respective teachers. Also sending SMS notification to the students about incoming activities or meetings, and to know the problems, how the manual processing works, to examine the relationship between the staff and the students. With this it will help the students to learn how to interact with the use of this study.

**General Overview of “Waterfall** **Model”**

Planning

Analysis

Interface

Design

Implementation

Maintenance

The waterfall model is a graphical representation of the system development life cycle. The researchers used iterative waterfall model to develop step by step their research.

**Planning:** The proponent identified the PSU Senior Laboratory High School as the subject for this study. The proponent gathered information to said school. The proponents determined that in order to meet the needs of the students and their teachers, an PSU Senior Laboratory High School with SMS Notification should be developed.

**Analysis:** In this phase, the proponents used the interview method to gather the important data to determine the problem of the PSU Senior Laboratory High School. with the data gathered, it helped to identify the need of said school.

**Interface Design:** The proponents used various laptop and computers, with the any operating system; sublime text to edit text HTML; BOOTSTRAP for the markup languages; and java script for a scripting language. For the design development, the proponents used CSS in order to make the system clear and easy to access. The proponent used PHP for a server side scripting language and MySQL for the database.

**Implementation:** The system will be implemented online. It was developed to help the teachers and the student of PSU Senior Laboratory High School to disseminate their learning materials online.

**Maintenance:** The system required maintenance every month in order to keep the systems functionalities on dissemination’s of learning materials for the users.

**Research Locale**

The researchers conducted the interview in the PSU Senior Laboratory High School, Located at Tiniguiban Heights, Puerto Princesa City, Palawan.

**End–User Requirements**

End–User satisfaction is the primary goal of process improvement or software developments program.

|  |  |  |
| --- | --- | --- |
| End-User | Brand Capacity | Description |
| Desktop/Laptop | 4GB RAM  Core i5 Processor  1TB Hard Drive  1GB Video Card  4GB Internal Memory | This required using desktop or laptop to access the website also internet connection. |
| Browser | Chrome | Use to navigate world wide web. |

**DESCRIPTION OF THE PROTOTYPE**