ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 9, September 2023

A Web-Based Student Registration and Information System of Ilocos Sur Polytechnic State College with Decision Support Capability

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Abstract*— Information systems are a collection of interconnected elements that work together to gather, analyze, store, and distribute data in order to assist organizational decision-making, management, control, analysis, and visualization. The main objective of the study is to develop an effective and efficient Web-based Students Registration System of ISPSC with Decision Support Capability. Specifically, it addressed to achieve the following objectives: to assess the existing procedures of students-related activities in terms of registration, billing, grading, scholarship, and retention; to develop and enhance the existing procedures of student-related activities; and to evaluate the level of usability of the proposed system using CSUQ. Rapid Application Development Model was used on designing and developing the system for the purpose of accelerating the process of developing the system and reduced the time of development. With the existing process of ISPSC Tagudin Campus, the respondents encounter problems that always make the process slow and inefficient. Therefore, there is a need to develop the proposed system. The result of the interview was used to determine the features of the developed System of ISPSC with Decision Support Capabilities. Therefore, all features were integrated into the developed system. Lastly the result of CSUQ questionnaire was very highly usable.

***Index Terms*—csuq questionnaire, information system, rad model, web-based student registration.**

I. INTRODUCTION

Nowadays in the modern and new technology doing impossible things is now become possible like the people now can buy online. Every single thing in this world can be done so fast with the help of science and technology to us. Most of us now is using technology or devices to transact fastest and easiest way of living. Technology seems to have played an important role in today's generation. Most importantly in school or institution, today the use of technology has been an effective tool on improving such as information system to organize the data.

According to Sheila Roble n.d, in the past, large school districts and universities in particular have developed their own unique student data systems. The Repository of Student Information (ROSI) system at the University of Toronto is one such inst [1]ance. The majority of businesses today prefer to purchase customizable software, and an increasing number are purchasing software as a service due to the complexity of the educational institutions' commercial operations. The majority of student information systems currently in use are server-based, with the application running on a main computer server and being accessed by client apps in various locations both inside and outside the school.

A student information system (SIS), student management system, school administration software or student administration system is a management information system for education sector establishments used to manage student data. It integrates students, parents, teachers and the administration. (Wikiwand)

Cambridge Student Information System Richard (2012) emphasized that information about students is vital, but time-consuming to manage and it is essential that the most effective tools be used to aid both staff and students go about their work and studies. The Cambridge Student Information System (CAMSIS) replaced various student records system used by the colleges, departments and universities. CAMSIS provides comprehensive and accurate information about student body and also improves data quality, reduce the administrative burden dramatically and provides better services to both academic staff and students.

According to Agarwal et. al (2021) The main idea behind developing a web based software (Student Information System) to store and maintain student and academic records is to develop a cost effective system and to create an environment friendly way. Also, the modern world demands less paper work and more digital work in order to make operations easy and safe. This software also eliminates the chances of data theft and data loss. Hence, in short the software is better in all aspects.

Moreover, The Student Information Management System (SIMS) offers an easy-to-use user experience for updating student data. It can be used by colleges or educational institutions to easily maintain student records. In both universities and colleges, it is crucial to create and manage accurate, current information about a student's academic career. All types of student information, academic reports, college information, course information, curriculum, batch information, placement information, and other resource

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

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information are all dealt with by the student information system. (Bharamagoudar et. al 2013)

Furthermore, STI College Laoag's student has been steadily rising, the work of the registrar at the school, in particular, found it tiresome to release grades and other student data, and there was a mismatch between the students' and parents'/guardians' reports, notably in regards to tuition costs and grades. With this, the STI College Loaog developed a Web-Based Student Information System to solve the issues that the school administra tion, the kids, and their parents/guardians were facing. (Acoba, 2019)

In Benguet, State University they developed an Online Student Information System (OSIS) to improved their traditional transaction processing system. And most universities switch to the online-based system because of its effectivity to acquire, process, store and retrieve information from the Internet. Moreover, the OSIS-BSU would be a new way of record management and transaction processing that would achieve efficiency on processing student information. It would be a great help to the administrative personnel, academic personnel, grantors or stakeholders, parents and students in updating, retrieving and generating student data.

In addition, a Student Information System, or SIS, is a web-based platform that enables educational institutions to upload student data for improved management and visibility. Teachers, parents, students, and administrators can all access school-wide data that is collected online via the SIS system. This contains private student data such as names, grades, test results, attendance, performance reviews, and many other things [1]. (Edwards, 2022).

This study analyzed the adoption of student information system (SIS) to enhance the existing system of Ilocos Sur Polytechnic State College that will provide a more convenient way to cater the needs of the employees that is involved in the existing system. The scope of existing system can assess and enrolled the students and generate reports also can view the time schedule of the students and last it is a Lan Based, the limitation of existing enrollment are the following: the grades of the students are not supported, the cashier is not included in the system, and the records of the students is not well organized and centralized also they have encountered trouble to retrieve the grades of the students.

Lastly, from the above scenario, the grades of the students are not included in the existing system at Ilocos Sur Polytechnic State College Tagudin Campus, that's why some students from distant place is having a trouble, instead of going to school just search with their grades using the enhanced web based student information system. By this enhanced system, identification and modification of student's data become more reliable, efficient and fast. It also contributes in transactions of the students because of its capability to calculate and store student accounts. And the enhanced system may generate report for immediate information needed by the students and school personnel. The enhanced system can also lead to the development of the school towards its mandate to provide quality education for every student, and also for the students to develop, enhanced, and acquire more knowledge. And with the use of decision support capability (Retention Policy) the Program head, Dean or Registrar can easily track the record for the evaluation of the students. To relate all of these the researcher wants to help the institution to enhance their existing system by developing A Web-Based Student Registration and Information System of Ilocos Sur Polytechnic State College with Decision Support Capability.

Statement of Objectives

The study aims to develop a quality A Web-based Student Registration and Information System of Ilocos Sur Polytechnic State College with Decision Support Capability.

Specifically, it seeks in achieving the following:

1. To assess the existing procedures of student-related activities at Ilocos Sur Polytechnic College in terms of:
    a. Registration,
    b. Billing,
    c. Grading,
    d. Scholarship and,
    e. Retention
2. To develop and enhance the existing procedures of student-related activities at Ilocos Sur Polytechnic College using the RAD model; and
3. To evaluate the level of usability of the proposed system by using the Computer System Usability Questionnaire.

Time and Place of the study

The said study is located at College of Information Technology, Don Mariano Marcos Memorial State University - Mid La Union Campus. The study started on June 2019 up to May 2023.

Definition of Terms

A Web-based Student Registration and Information System of Ilocos Sur Polytechnic State College with Decision Support Capability refers to the enhanced Enrollment System at Ilocos Sur Polytechnic State College.

Web Based Student Registration will used to easily enroll and stored the student's information and generate reports.

RAD Model refer to the process that will follow to guide the study step by step.

Decision Support Capability will be used to assess the organizational improvement in Ilocos Sur Polytechnic State College.

Registration allow the student to be a member of the institution and to be enroll on your respective programmed of study.

Billing allows posting and tracking of all financial activity of the students.

Grading allow the students to view and the instructor to input their grades.

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Scholarship is an award to the students for their financial aid to support their education.

Retention allow the students to repeat their academic year of school

Computer System Usability Questionnaire (CSUQ) questionnaire used to evaluate the Usability of the system.

II. METHODOLOGY

Research Design

This study made used of the descriptive and developmental methods of research.

Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer *what*, *when*, *where*, *when* and *how* questions, but not *why* questions. To determine cause and effect, experimental research is required. Descriptive research is an appropriate choice when the research aim is to identify characteristics, frequencies, trends, correlations, and categories. (McCombes, 2019)

In addition to descriptive research the researcher conducted interview and observation to assess the problem and to analyze it. And also to give a quality solution to the specific problem.

Developmental research is a systemic study of designing, developing and evaluating instructional programs, processes, and product that must meet the criteria of internal consistency and effectiveness. In addition, developmental research is an interactive, cyclic process of development and research in which theoretical ideas of the designer feed the development of products that are tested in classroom testing's', eventually leading to theoretically and empirically founded products, learning process of the developer and (local) instruction theory. (Abdullahi, 2016)

Moreover, the researcher used all the gathered data in designing and in developing the system. The researcher also included the feedbacks of the client wants and needs.

Materials and Procedures

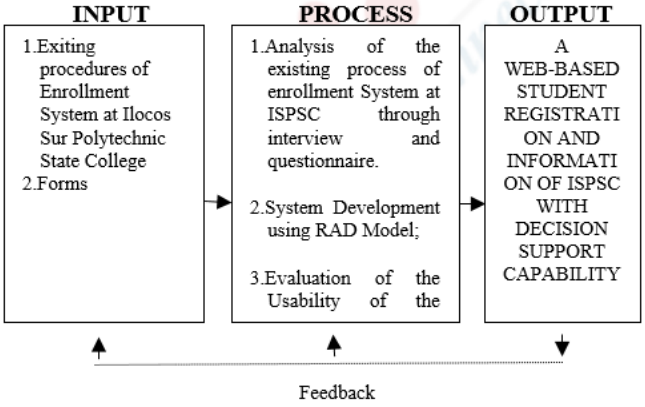

Fig.1. Conceptual Framework

Interview, CSUQ questionnaire, documentary analysis and published research in the internet were used in searching data required in this research. In addition the researcher used the descriptive and developmental research design method to design and to develop the system. Gillaco (2014), discussed that the descriptive method seeks the facts to a current situation. Furthermore, the primarily work on the description, comparison, analysis, and interpretation of existing data. The researcher used the software HTML, CSS, JAVASCRIPT, JQUERY for front end and PHP, MySQL for Back end, in the Hardware would be using Processor 2ghz or higher, Hard disk 40gb free hard disk space, Memory 1gb or higher, video card 16mb, and printer (any).

For objective 2, the researcher used the RAD model to develop and enhanced an existing enrollment system. In RAD model the components or functions are developed in parallel as if they were mini projects. The developments are time boxed, delivered and then assembled into a working prototype. This can quickly give the customer something to see and use and to provide feedback regarding the delivery and their requirements.

Software Model

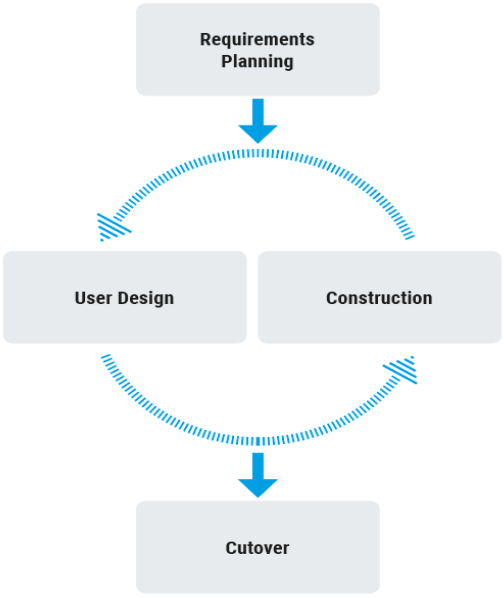

Fig. 2. RAD Model

The RAD Model

Rapid Development Model (RAD) refers to a software development life cycle designed to give much faster development and higher quality results. Also Rapid Development Model (RAD) is an agile project management strategy that is popular in software development. RAD allows project managers and stakeholders to accurately measure progress and communicate in real time on evolving issues or changes. This results in greater efficiency, faster development, and effective communication. (Lucid Chart, 2018).

Using the RAD Model, the study will go through the following phases of development:

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International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

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Requirements planning stage

This phase is equivalent to a project scoping meeting. During this stage, developers, clients (software users), and team members communicate to determine the goals and expectations for the project as well as current and potential issues that would need to be addressed during the build. (Lucid Chart, 2018).

The researcher worked with the registrar and some faculty through observation and, interview. The current system is basis in the enhancing the system. Also in this phase the researcher analyzed the existing status of the enrollment system. In addition, the researcher also browsed the Internet and sample capstone project manuscript, as basis in writing the manuscript.

User Design Stage

This method gives developers the opportunity to tweak the model as they go until they reach a satisfactory design. During this phase, clients work hand in hand with developers to ensure their needs are being met at every step in the design process. It's almost like customizable software development where the users can test each prototype of the product, at each stage, to ensure it meets their expectations. (Lucid Chart, 2018)

In this phase, the researcher determined the different software to be used in the development of the system. All the gathered data in the client, adviser and panelists has been analyzed and put it all together to develop the system. HTML, CSS, JAVASCRIPT, JQUERY, for the front end and for the back end the researcher used PHP and MySql Database, and the Host is the software used in the system. In addition the feedback of the client and panelists in the pre final defense is applied in the system.

Construction Stage

The software development team of programmers, coders, testers, and developers work together during this stage to make sure everything is working smoothly and that the end result satisfies the client's expectations and objectives. This third phase is important because the client still gets to give input throughout the process. They can suggest alterations, changes, or even new ideas that can solve problems as they arise. (Lucid Chart, 2018)

The researcher used the output of the requirement planning stage, user design stage and the feedback of the client and the panelists to develop a program. All identified features were integrated in the system.

Cutover stage

This is the implementation phase where the finished product goes to launch. It includes data conversion, testing, and changeover to the new system, as well as user training. (Lucid Chart, 2018)

The researcher tested the program by letting the registrar and staff use the system. Any changes based on the evaluation and feedback of the users were modified. Since the users have evaluated the system during implementation stage, the final testing using the Computer System Usability questionnaire was done in this stage.

The researcher conducted interview and observation to obtain reliable and accurate information regarding the enhancement of the existing enrollment system. It was essential for the study because the researcher gathered direct answers and explanation from the respondents. The respondents are the registrar, cashier, and the students, important data gathered by the researcher are the following: process of enrollment, requirements of new, old and transferee students enrolled, number of students enrolled, number of students per section, name of the students.

Table 1. Distribution of Respondents in Determining the Existing system of ISPSC.

Respondents	No. of Respondents
Registrar	1
Deans	3
Faculty	50
Staff Staff	1
Students	50
Total	**85**

There were 5 identified respondents comprising of the school registrar 1, 3 Deans, 30 Faculty, 1 staff, and 50 students with a total of 85 respondents. The researcher will use stratified sampling method wherein the population is divided into groups, based on some characteristic. Then, within each group, a probability sample (often a simple random sample) is selected. In stratified sampling, the groups are called strata (StatTrek, 2019).

The researcher will use sample size calculator to determine the total enumeration to identify the number of respondents.

For objective 3, the researcher were used the Computer System Usability Questionnaire to evaluate the finished product of the developed system of Ilocos Sur Polytechnic State College Tagudin Campus. The Computer System Usability Questionnaire (CSUQ; Lewis, 1995) was developed to measure user satisfaction with computer system usability. In addition the context of scenario-based usability studies, practitioners of usability can utilize these questionnaires to evaluate users' satisfaction with the usability of computer systems.

Data Analysis

In assessing the existing system of enrollment at ISPSC, the researcher conducted interview and observation. Based on the feedback of the respondents, the researcher conceptualized and analyzed the existing system how to enhance the existing system for them to take advantage of it. As a method of data collection, observation has limitations

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

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but produces accurate results as participants are unaware of being closely inspected and behave naturally. In addition Interviewing is another great technique of data collection and it involves asking questions to get direct answers. (Olivia, 2011)

Mean and Frequency count were used to assess the level of usability of the system.

The following scale was adopted to assess the Level of Usability of the developed system of ISPSC Tagudin Campus, Tagudin Ilocos Sur using the Computer System Usability Questionnaire. In terms of the categorization of data along the assessment of the level of usability, data gathered are categorized from Very High Usability to Totally Not Usable.

Point Value	Mean Range	Descriptive Equivalent	Descriptive Interpretation
7	6.16 - 7.00	Very Strongly Agree	Very Highly Usable
6	5.30 - 6.15	Strongly Agree	Highly Usable
5	4.44 - 5.29	Moderately Agree	Moderately Usable
4	3.58 - 4.43	Neutral	Usable
3	2.72 - 3.57	Moderately Disagree	Slightly Usable
2	1.86 - 2.71	Strongly Disagree	Not Usable
1	1.00 -1.85	Very Strongly Disagree	Totally Not Usable
N/A		Not Applicable	Not Applicable

III. RESULTS AND DISCUSSION

The researcher aimed to design and developed A Web-Based Student Information System of ISPSC with Decision Support Capability. The study was design to enhance the existing system for enrollment in ISPSC Tagudin Campus.

As indicated in Table 2 shows that Indicators 7, 12, 13, 17 and 19 which have the highest percentage, indicating that the respondents agreed that the system can be used on its own with only few committed mistakes. The system helped them to easily input the grades, save money and time because it can be access online, and to organize the record of the students.

As stated in the study of Cosidon (2016), the developed Student Informtion System provided greater satisfaction to the users compared with the existing system for an efficient querying of student information records, keeping the students in a more secured manner, and it gives more reliable information records of students in Kalinga State University Rizal campus. Another benefits of student's information system is that they can easily view their grade and easily manage the record of the students for other academic purposes. According to Gurkuk and Nat (2017), Student Information System is one of the key systems for facilitating the management and development of Higher Education Institutions. Its use for academic decision-making purposes as well as other academic tasks.

Furthermore, it indicates that the respondents satisfied using the developed system because it was easy to learn and it helped them to finish their work on time. That is the reason why the respondents want to use the system. As proven in the study of Cabrera et al. student information are proven to reduce time spent on administrative task so you concentrate on raising student achievement.

Level of Usability

Table 2. Level of Usability of the Web-Based Student Registration and Information System of ISPSC with Decision Support Capability

	Indicators	Mean	DER
1	Overall, I am satisfied with how easy it is to use this system	6.87	Very Highly Usable
2	It was simple to use this system	6.69	Very Highly Usable
3	I can effectively complete my work using this system	6.74	Very Highly Usable
4	I am able to complete my work quickly using this system	6.76	Very Highly Usable
5	I am able to efficiently complete my work using this system	6.94	Very Highly Usable
6	I feel comfortable using this system	6.97	Very Highly Usable
7	It was easy to learn to use this system	7.00	Very Highly Usable
8	I believe I became productive quickly using this system	6.87	Very Highly Usable
9	The system gives error messages that clearly tell me how to fix problems	5.77	Highly Usable
10	Whenever I make a mistake using the system, I recover easily and quickly	6.37	Very Highly Usable
11	The information (such as online help, on-screen messages, and other documentation) provided with this system is clear	6.05	Highly Usable

ISSN (Online) 2394-2320

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	Indicators	Mean	DER
12	It is easy to find the information I needed	6.76	Very Highly Usable
13	The information provided for the system is easy to understand	6.75	Very Highly Usable
14	The information is effective in helping me complete the tasks and scenarios	6.68	Very Highly Usable
15	The organization of information on the system screens is clear	6.70	Very Highly Usable
16	The interface of this system is pleasant	6.72	Very Highly Usable
17	I like using the interface of this system	7.00	Very Highly Usable
18	This system has all the functions and capabilities I expect it to have	6.83	Very Highly Usable
19	Overall, I am satisfied with this system	7.00 [1]	Very Highly Usable
	Grand Mean	**6.71**	**Very Highly Usable**

Table 2 shows the level of usability of the Web-based Student and Registration System of the Ilocos Sur Polytechnic State College with Decision Support Capability. It can be gleaned from the table that three (3) indicators got the highest mean rating of 7.00 from the respondents. The following are indicator 7 "It was easy to learn the system, indicator 17 "I like using the interface of the system" and indicator 19 "Overall, I am satisfied with this system". This indicates that the developed system is easy to use and easy to learn. It also implies that the respondents are very highly satisfied with the developed system.

The table also shows that indicator 9 which states that "The system gives error messages that clearly tell me how to fix problems" got the lowest mean rating of 5.77 which is described as Highly Usable. This implies that the system still is highly usable but there is a need to enhance the way it provides solutions to fix certain problems while using it.

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The main objective of the study is to develop an effective and efficient Web-based Students Registration System of Ilocos Polytechnic State College with Decision Support Capability. Specifically, it addressed to achieve the following objectives: to assess the existing procedures of students-related activities in terms of registration, billing, grading, scholarship and, retention; to develop and enhance the existing procedures of student-related activities; and to evaluate the level of usability of the proposed system.

Rapid Application Development Model was used on designing and developing the Web-based Students Registration System of Ilocos Polytechnic State College with Decision Support Capability for the purpose of speeding up the process of developing the system and reduced the time of development of the system through user involvement in the analysis and design stages.

Interview and observations were used to gather essential information used in the development of the system and CSUQ questionnaire was used to test the level of usability of the developed system.

Conclusion

Based on the findings, the conclusions were stated as follows:

1. With the existing process of Ilocos Sur Polytechnic State College Tagudin Campus, registrar, staff, deans, faculty and students encounter problems that always make the process slow and inefficient. Therefore, there is a need to develop the Web-based Student Registration System of Ilocos Sur Polytechnic State College with Decision Support Capabilities.
2. The result of the interview was used to determine the features of the developed Web-based Student Registration System of Ilocos Sur Polytechnic State College with Decision Support Capabilities. Therefore, all features were integrated into the developed system.
3. The developed Web-based Student Registration System of Ilocos Sur Polytechnic State College with Decision Support Capabilities gets a grand mean usable rating of 6.71, which is understood as "Very Highly Usable." This implies that the developed system is indeed Very Highly Usable to improve the existing process of student-related activies in terms of registration, billing, grading, scholarship and, retention.

Recommendations

Based on the findings and conclusions drawn, the researcher, therefore, recommend the following:

1. The developed system for Ilocos Sur Polytechnic State College should be implemented and utilized.
2. The institution should consider availing better web hosting plan to maintain running the developed system.
3. The developed system should be maintained continuously and re-evaluated since information like tuition fees are changing.

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

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REFERENCES

[1] R. Pacio, "Online Student Information System of Benguet State University," International Journal of Innovative Interdisciplinary Research, vol. 4, pp. 39-47, 2013.
[2] G. R. S. S.R.Bharamagoudar, "Web Based Student Information Management System," International Journal of Advanced Research in Computer and Communication Engineering, vol. 2, no. 6, pp. 2342-2348, 2013.
[3] M. N. Cannur Gurkut, "Important Factors Affecting Student Information System Quality and Satisfaction," EURASIA Journal of Mathemathics, Science and Technology Education, vol. 14, no. 3, pp. 923-932, 2018.
[4] A. J. B. N. P. Agarwal, "Research Paper on Student Information System," International Journal of Engineering and Advanced Technology (IJEAT), vol. 10, no. 4, pp. 158-161, 2021.
[5] A. Richard, "Cambridge Student Information System," 2004.
[6] "Student Information System," [Online]. Available: https://www.wikiwand.com/en/Student_information_system#See_also.
[7] R. P. Acoba, "iSercan: A Web-Based Student Information System," in Proceedings of International Conference on Technological Challenges for Better World 2019, Laoag City, Ilocos Norte, Philippines, 2019.
[8] L. Edwards, "Tech & Learning," 29 3 2022. [Online]. Available: https://www.techlearning.com/news/student-information-systems.
[9] S. Roble, "Academia," [Online]. Available: https://www.academia.edu/31861188/CHAPTER_2_REVIEW_OF_RELATED_LITERATURE_AND_STUDIES.
[10] M. S., 2019. [Online]. Available: https://www.scribbr.com/methodology/descriptive-researchS.R./.
[11] A. A. Ibrahim, "Developmental Research: An Analytical Review," Asian Research Journal of Arst & Social Sciences, vol. 1, no. 6, pp. 1-6, 2016.
[12] "Lucid," Lucid, 2018. [Online]. Available: https://www.lucidchart.com/blog/rapid application-development-methodology.
[13] Olivia, "Difference Between," 29 4 2011. [Online]. Available:https://www.differencebetween.com/difference-between-observation-and-vs-interviewing-as-methods-of-data-collection/#:~:text=As%20a%20method%20of%20data,closely%20inspected%20and%20behave%20naturally.&text=Interviewing%20is%20another%20great%20technique,qu.
[14] "Stat Trek," 2019. [Online]. Available: https://stattrek.com/survey- research/sampling-methods.aspx.
[15] E. Bayangan-Cosidon, "Student Information System for Kalinga State University-Rizal Campus," International Jouranl of Management and Commerse Innovation, vol. 4, no. 2, pp. 330-335, 2016.
[16] Gillaco, "Internet Public Library," 2014. [Online]. Available:https://www.ipl.org/essay/Descriptive-Developmental-Methodology-PKJQXCSK6C486.
[17] J. R. L. Jeff Sauro, "Usability Questionnaire ScienceDirect," 2016. [Online]. Available: https://www.sciencedirect.com/topics/computer-science/usability-questionnaire.
[18] M. J. M. R. Cabrera N.L., "Missing the (Students Achievement) Forest for All the (Political) Trees: Empiricism and the Mexican American Studies Controversy in Tucson," American Educational Research Journal, vol. 51, no. 6, 2014.
[20] learntek, "LEARNTEK SDLC MODELS," 11 5 2019. [Online]. Available: https://www.learntek.org/blog/sdlc-models -software-development-life-cycle-models/.

AUTHORS PROFILE

Jonaline Z. Eustaquio is a Master in Information Technology student at Don Mariano Marcos Memorial State University Mid-La Union, Philippines. The researcher finished her bachelor's degree in Ilocos Sur Polytechnic State College – Tagudin Campus, Philippines year 2012- 2016, also finished her High School in Juban Institute in the province of Bicol, Philippines year 2008- 2012, and lastly she finished her Elementary school in Kapt. Eddie T. Reyes Memorial Elementary School (KERMES), Taguig City Metro Manila, Philippines in year 2002- 2008.
In addition, the researcher awarded Best in Descriptive and Developmental Research entitled Kiddie mathematics Educational Game for Grade1 pupils of Tagudin Central School upon graduation and got employed as a Part-time Instructor in the same Institution. Subjects handle Human Computer Interaction, Data Communication and Networking 1, and Web system and Technologies 1. The researcher is pursuing to finish her Master Degree for the betterment.

Zhella Anne Nisperos is an Associate Professor II at the Don Mariano Marcos Memorial State University in La Union, Philippines. She is the research facilitator of the College of Information Technology. She served as the Chairperson of Bachelor of Science in Information Technology program before pursuing her Doctor in Information Technology at the Technological Institute of the Philippines, Quezon City. She is currently on her dissertation writing and has presented her research outputs at international conferences, which were published and indexed in Scopus and WOS.
She finished her Master in Information Technology degree at the University of the Cordilleras, Baguio City. Among the subjects she teaches are Data Structures, Software Engineering, Systems Thinking and Information Security in the undergraduate and graduate programs of the College.