



## Online Individual Inventory and Counseling Information System of Cagayan State University Lasam Campus

Andrei Marlowee L. Balmores, Remalyn M. Cardona, Ann Murray M. Sian and Faith Ann R. Espana  
*Cagayan State University – Lasam Campus, Centro 2, Lasam, Cagayan, Philippines*

**Corresponding Author:** Andrei Marlowee L. Balmores ✉ [dreilandmores04@gmail.com](mailto:dreilandmores04@gmail.com)

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### ABSTRACT

This study was conducted at the Guidance Office of Cagayan State University Lasam Campus with the aim of providing online counseling services to students, managing student information, and generating reports for guidance counselors. Interviews, interview guides, and observation techniques were used to gather relevant data and information, which formed the basis for developing the web application. A combination of languages such as PHP, Bootstrap Framework, and JavaScript, and MySQL as the Database Management System were used in the development of the web app. The features of the developed system are accessible from any device with an internet connection, providing students with the flexibility to fill out forms online anytime and anywhere as long as they have an internet connection. The result of this study is a significant help in making the work of guidance counselors easier, especially in managing individual records of students. Some benefits of the study include reduced paperwork and storage needs, improved efficiency in data collection and storage, enhanced data security and privacy, and easier access to counseling services for students. Generally, the system is of great help to the guidance counselor in maintaining and managing student information, making it easier for students to retrieve and update records whenever needed.

**Keywords:** *Online Individual Inventory System, Database Management System, Web Application*



## INTRODUCTION

In today's generation, we use a lot of computerized technology to improve individual lifestyle. A web-based application known as a computer program uses the internet and web technology to perform tasks. Likewise, any software that is accessed via a network connection using HTTP rather than being stored in a device's memory is referred to as a web-based application. Web-based applications can also be client-based, where a small portion of the program is downloaded to a user's desktop but processing is done over the internet on an external server (techopedia.com, 2022). Web applications employ a combination of clientside scripts such as JavaScript and HTML to present information to users and server-side scripts such as PHP and ASP to manage the saved data and retrieval of the information (Sharma, 2022).

Meanwhile, the word "guidance" is occasionally used in a broad sense to describe giving advice or supporting someone with any form of academic, professional, or personal issue. It can also be seen of as a service offered by a specific school to assist young people in making wise decisions and changes in order to maximize their potential as individuals and valuable contributors to society. Even though this stage of human development happens naturally as we get older, everyone can benefit from guidance as they go through it. In addition, counseling relationships will differ based on need, but they may be addressed developmental issues, dealing with and resolving specific problems, making decisions, developing personal insights and knowledge, working through feelings of inner conflict or enhancing relationships with others (Abisoye, Alabi, Ganiyu, Abisoye, & Omokore, 2015).

An online guidance counseling system is a web-based system that helps provide online counseling to students, keeps track of the student information, and generates reports for guidance counselor. It can be accessed from any computer with an internet connection (inettutor.com, 2022). The importance of incorporating guidance and counseling into the school system was to eliminate

overwhelming ignorance of many young people on their choices of career prospects and personality maladjustment among students. The role of webbased application in guidance and counseling can be describe in different ways such as a tool, and as an alternative (Isip & Picones, 2008).

One of the most important offices of a school organization is the guidance and counseling office. It offers guidance and support to every student, guiding them to the right path in their education, future professional ambitions, and even in their personal lives. The role of the guidance counselor is to provide students the self-assurance to choose the best course of action for adjustments in all aspect of life and to support their development. Learning about each student individually, assisting them to discover themselves, and making changes in both their surroundings and themselves that would promote maximum growth and development are all components of guidance (Banal, n.d).

Currently, the office of the Guidance Counselor of Cagayan State University LasamCampus is using the manual process in keeping and maintaining of guidance information. There are many processes to do, a lot of time is spent searching for student information, papers are needed, and tangible resources such as shelves and filing cabinets are needed to store them. The researchers noticed the need to develop an Online Individual Inventory and Counseling Information System of CSU-Lasam to minimize problems and difficulties. The system will store student information and support counseling efforts by offering a simple, effective, and time-saving method of storing student information.

The proposed system is capable of protecting student data and information. Every institution needs a web-based individual inventory and counseling information system which enhances data collection, storage, and privacy. Individual Inventory Services consists all of the data gathered about each individual student. The necessary information regarding the home and family, and psychological testing is also provided. Instead of

using a spreadsheet, the method greatly aids the guidance counselor in keeping, securing, and maintaining records. It makes it easier for the user to retrieve and update the record whenever needed.

## MATERIALS AND METHODS

### Initial Weight

In this study, the researchers used waterfall model for the proposed system to have an abstract representation of the system-building process, meet the study's objectives, and create a system that would help the guidance counselor. The waterfall model is a classical model used in system development life cycle to create a system with a linear and sequential approach. It is very simple to understand and use. Moreover, there is no overlap between the phases, and each step must be finished before the next phase begins. It assisted the researchers in creating a project strategy for a system, the fact that it establishes the overall list of procedures and procedures needed for system development (Preston, 2023).

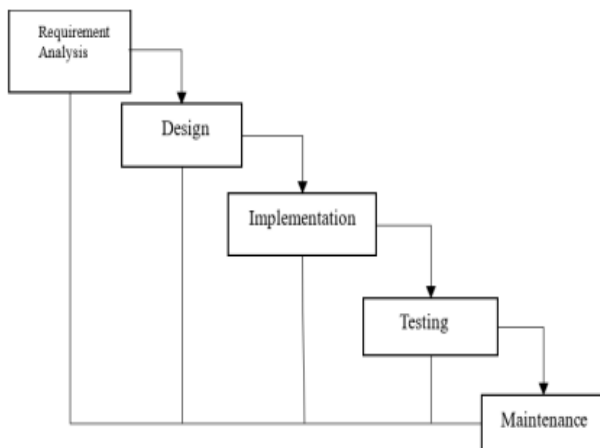


Figure 1. Waterfall Model.

The researchers followed the five phases to the development of the system such as Requirement Analysis, System Design, Implementation, System Testing and System Maintenance.

The first phase is the Requirement Analysis which determines user expectations for an application that is being built or upgraded. It consists of all the actions taken to ascertain the demands of diverse stakeholders.

Moreover, Requirements Analysis is the process of evaluating, documenting, validating, and managing software or system requirements (Olsson & Joelsson, 2019). In order to create the features that users want and need from the new system, the researchers worked together to analyze the data and sample forms they gathered during the requirement analysis stage.

According to (Madukaj, 2020), as the system design is being developed, the first phase's needs specifications are being examined. This system design helps in figuring out the hardware and system requirements as well as the overall system architecture. It is the overall system design and assists in establishing the software and hardware requirements for product design.

In this phase, the researchers designed the user interface, including the Data Flow Diagram, Context Level Diagram, and Wireframes as basis in developing the system.

The next phase is Implementation, where program designs are translated into codes using the programming languages that have been selected in advance. A direct study of any built-in programs is included in each unit (Martin, 2023). During this phase the, researchers wrote codes in accordance with the requirements and the design laid forth in earlier stages. This stage involved building the system and creating the codes for the procedures that had been identified by the researchers. The languages to be use in this phase will be the PHP, BOOTSRAP and JavaScript.

A software check is continuously conducted in the testing environment to look for any design or coding problems. Testing is done to preserve the software's reliability and viability so that users do not experience any problems or errors during its development. During this stage, the entire system is thoroughly examined for flaws and defects that might arise after implementation (Yasar, 1999). The researchers performed all functional and non-functional testing to ensure that the system met the requirements.

The waterfall model's final stage, known as the Maintenance Phase, involves monitoring, updating, and fixing the system after it has been made available to users. Activities like bug fixes, performance enhancements, security upgrades, feature additions, and user feedback integration can all fall within the maintenance phase (Laoyan, 2022). Once the system is ready to use, the researchers may later require to update the code as per users' request.

### Initial Weight

The participant of the study is the guidance counselor of Cagayan State University Lasam Campus. The guidance counselor answered question through an interview regarding the practices in using a manual process. Moreover, the respondent also provided the data needed in this study. The researchers choose the guidance counselor as participant since the guidance counselor is the main user and who knows the overall processes.

### Locale of the Study

The researchers conducted the study at the Guidance Office of CSU-Lasam during the second semester of the academic year 2022-2023 and first semester of academic year 2023- 2024.

### Research Instruments and Data Gathering Procedures

The researchers distributed a letter of approval stating that the conduct of a study and develop an Online Individual Inventory and Counseling Information system of CSU-Lasam Campus. The College Dean directly approached by the researchers for consent to allow them to conduct the study. After giving his permission, the researchers used interview guide to collect the necessary data and asked the respondent about the problems in using manual process and the requirements needed to create the system. After gathering the necessary data, the researchers analyzed the data which served as basis in developing the proposed system.

## RESULTS AND DISCUSSION

### The System Provides Features for the Students to Update their Own Record

The system helps students to update their own record in the easiest way possible. In the study of Ali (n.d.), a student record system features a centralized database that enables students to manage all school-related data as well as update and manage their own records. By keeping track of each student's progress, the guidance counselor may get to know them all on a more personal basis. This makes it easier for the guidance counselor to monitor the student's development and will also lessen time in updating student's record and eventually giving the guidance counselor in personally meeting the students.

Figure 2. Form for Personal Data of Students.

Figure 2 shows the form for personal data of the students wherein students can possibly update their personal information. In updating, time spent will be lessen and full access on form through online is possible. The system provides students with the flexibility to fill up the form through online, anytime and anywhere as long as they have an internet connection.

Figure 3. Form for Family Data of Students.

As shown in figure 3, the system allows the students to also update their family data. In the study of Kaufman

(n.d.), connecting with students' families can help teachers to identify the best ways to differentiate or personalize instruction for students who learn and think differently. Additionally, families can provide insight about supports that have worked well at home and in prior years at school and those that have not. Similarly, the system will also help the guidance counselor to know the family background of the students, and it will be easier for her to better understand the student's family situation also their academic and mental health.

**Figure 4.** Form for Educational Data of Student.

As shown in figure 4 the students can also update their educational data. In the study of Garner (2023), it regarded educational data as a machine that receives and uses inputs to help run the educational process, producing outputs that include things like progress, success, and achievement of the students. The system is a big help for the to monitor the educational data of the students and also easier for the guidance counselor to monitor the progress, success and different academic achievement of the students in using the system.

**Figure 5.** Form for Health Data of Student.

As shown in figure 5, the students can update their health data using the system. Once the students update their health data, it is now easier for the guidance counselor to monitor students' health record. And also, the guidance counselor will be able to know the health status of students using the system.

**Figure 6.** Form for IP and PWD Checklist of Student.

As shown in Figure 6, the system allows the students to update their form for IP and PWD checklist. After updating student's IP and PWD checklist, it is now easier for the guidance counselor to monitor students who belong in Indigenous People and PWD group.

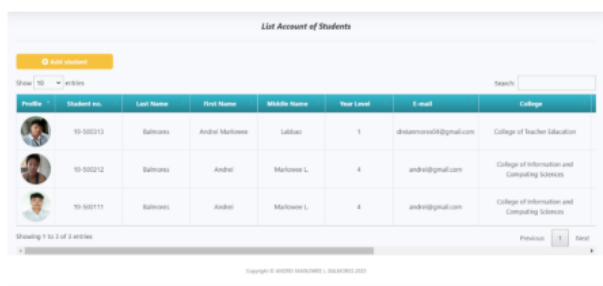
**Figure 7.** Form for Initial Interview Form of Student.

As shown in Figure 7, the system allows the students to update their initial interview form for changes if there is. Guidance counselor generally collects personal

information that the students voluntarily provide to the guidance counselor using the system. Similarly, the students can update their initial interview using the system. After the students update their initial interview, it is easier for the guidance counselor to gather all the information's that students inputted in the interview. As shown in Figures 3, 4, 5, 6, 7, and 8, these are the forms where students can input their personal information. Students can update their individual record, aiding the guidance counselor to monitor the problems and achievements that all students encounter. The system is a big help to the guidance counselor to know the background and information of the students for counseling purposes.

### ***The System Lessens the Time in Searching Student Information***

As shown in Figure 8, the system allows the guidance counselor to search students' information. According to Cosidon (2016), she emphasized that managing student information is important yet time-consuming, and it was important to employ the most efficient methods to help staff and students carry out their jobs and academic achievements. Similarly, it is easier for the guidance counselor to search student's records using the system. Generally, the system lessens time in searching student information.



| Profile | Student ID | Last Name | First Name | Middle Name | Year Level | E-mail                | College                                       |
|---------|------------|-----------|------------|-------------|------------|-----------------------|-----------------------------------------------|
|         | 10-00010   | Salmones  | Andrei     | Marlowe     | 1          | dsalmones01@gmail.com | College of Teacher Education                  |
|         | 10-00012   | Salmones  | Andrei     | Marlowe L.  | 4          | andrei@gmail.com      | College of Information and Computing Sciences |
|         | 10-00011   | Salmones  | Andrei     | Marlowe L.  | 4          | andrei@gmail.com      | College of Information and Computing Sciences |

**Figure 8.** Form for Searching Student Information.

### ***The System Generates Statistical Reports on Student and Counseling Information***

The system provides a practical and accurate way of producing information such as individual inventory report (Figure 9), career guidance report (Figure 10), and

counseling service report (Figure 11). In the study of Miller (2023), their system enables administrators to create reports regarding students, courses, and matriculation that are fully customizable. This can increase operational efficiency and assist administrators in making decisions based on current information. Similarly, it is easier for the guidance counselor to gather the reports needed by using the system.



**Figure 9.** Individual Inventory Report.



**Figure 10.** Career Guidance Report.



**Figure 11.** Counseling Service Report.

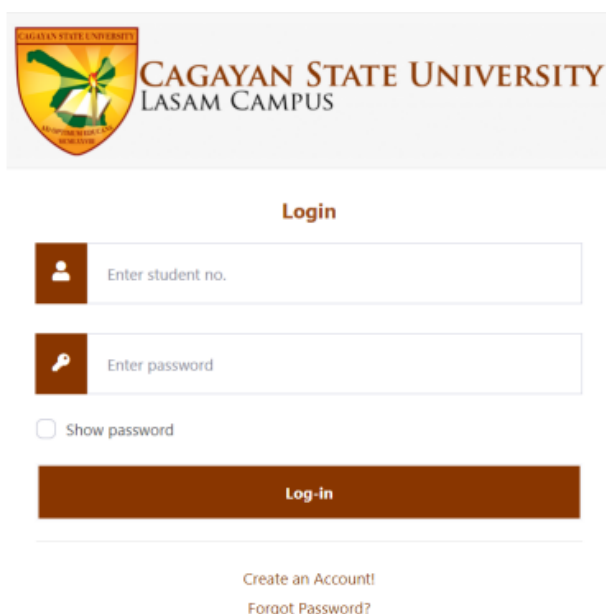
### ***The System Provides Security of Records***

The system provides feature in securing the records of the students (Figure 12 and 13). In the study of Project (2015), record management strategies, certified shredding, and off-site storage are aimed at keeping sensitive information secure and help avoid fraud. Only the registered username and password of the students and the guidance counsellor are allowed to be used to login. The system is capable of protecting student data and information. It also helps the guidance counselor and students in keeping and securing records.



The image shows the Admin login interface for Cagayan State University Lasam Campus. At the top is the university's logo and name. Below it, the word "Admin" is centered. There are two input fields: "Enter username" and "Enter password", each with a corresponding icon (a person and a key respectively). A "Show password" checkbox is located below the password field. A large brown "Log-in" button is positioned below the fields. At the bottom, there is a link that says "Create an Account!".

Figure 12. Login Form for Admin.



The image shows the Student login interface for Cagayan State University Lasam Campus. At the top is the university's logo and name. Below it, the word "Login" is centered. There are two input fields: "Enter student no." and "Enter password", each with a corresponding icon (a person and a key respectively). A "Show password" checkbox is located below the password field. A large brown "Log-in" button is positioned below the fields. At the bottom, there are two links: "Create an Account!" and "Forgot Password?".

Figure 13. Login Form for Students.

## CONCLUSION

Based on the result, the developed system can improve and help the guidance counselor to become more productive. In using the system, it can make the conduct of interview more efficient. In addition, retrieval of student records would be easier as the system provides features for easy retrieval. The Online Individual Inventory and Counseling Information System is more effective compared to the manual processing interview

because it helps maintain data with accuracy and efficiency. Generally, the developed system can be of great help to the guidance counselor in maintaining and managing students.

## RECOMMENDATION

The system is helpful in managing the records, and monitoring student's information; hence, the researchers highly recommend that the system may be implemented or adopted by the guidance office of CSU-Lasam and other CSU Campuses. The researchers recommend that a usability study may be conducted for the improvement of the system. Likewise, future researchers may upgrade the system by adding features needed by the guidance Counselor.

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