GENDER-BASED STUDENTS' OFFENSES RECORD MANAGEMENT SYSTEM

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Abstract

Students' discipline has a basic rules and regulation in the university to manage the students' behaviour and to develop student self-discipline. Thus, in order to systematically monitor students' offenses, the researcher created a monitoring and filing system known as "Gender-Based Students' Offenses Record Management System". The system has a record management to manage all students' committed violation as per gender and course, which becomes beneficial to the Office of the Student Affairs under the office of the Committee on Discipline. It generates a statistic to determine the number of offenses committed by the students based on their gender. This system was evaluated based on ISO/IEC 25010:2011 System and Software Quality Requirements and Evaluation (SQuaRE). There were eight (8) quality standard characteristics used by the ten (10) Information Technology Experts and five (5) End Users. The result of the study showed that in terms of functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability and portability, the software was considered very effective based on the IT Expert and End User's evaluation (M= 4.93, SD= 0.08; M=4.81, SD= 0.35). With this result, it is recommended that the University, specifically the Office of Student Affairs and Services, may fully adopt the system at their utmost advantage.

Keywords: Record Management, Student Discipline, Gender based.

Introduction

The Iloilo Science and Technology University (ISAT U) Miagao Campus, just like any other academic institutions, is committed towards promoting a healthy learning environment free of any form of violence. ISAT U believes that violence in schools creates a climate of anxiety and fear, which weakens the core educational purpose which is to provide quality education for all under healthy and safety environment. Security is one of the primary concerns of ISAT U as it is considered as one of the important components of student services. This academic institution has taken steps in promoting a violence-free campus such as formulating a student manual which includes rules and regulations. These rules and regulations defined appropriate students' conduct and prescribe sanctions for misconduct inside the school premises.

Presently, the university has a manual filing of all students' offenses; but, as the university grows big, manual filing can become a very cumbersome practice. In a busy organization such as ISAT U, it is important that one can file, find, and store documents in a quick and effective way especially when it involves sensitive documents such as students' offenses. There are more efficient ways in today's growing technological world that can help keep you organized with a higher productivity level. Today, which we called the information age as much technological advancement has been introduced, the biggest risk that an organization could face is to stay unresponsive to change; thus, the record management system is highly recommended.

Aside from having a record management system of the students' offenses for ISAT U Miagao, it is also advisable that the system should be gender-based. The purpose of this is to harmonize

data collection and to provide a simple system for guidance counselors and committees on discipline to collect, store and analyze data, and to enable the safe and ethical sharing of reported students' offenses incident data. The intention of the gender-based students' offense record management system is to assist service providers in better understanding the gender-based students' offenses being **reported in order to come up with**

Gender-based interventions.

There are already developed systems that are considered beneficial. According to the study of "Discipline Monitoring System: A School Self-Study Project for Montgomery County Public Schools" by Splaine and Richardson, the Discipline Monitoring System is a computer-assisted model developed among individual secondary schools that allows them to assess students' disciplinary actions and the trends or patterns that contribute to it. The model's database management system can be run on schools' administrative microcomputers. It allows users to enter data such as the following: who is suspended, who is referred, who makes referrals, characteristics of these persons, and events (including location) surrounding the disciplinary incident, wherein this data can be demonstrated as source material to generate reports. It is also likely to use the procured information to make year-to-year comparisons and discover new trends. This does not only cover students but also teachers' profiles with an associated inordinate number of suspensions and incidents which can also be analyzed.

This system can also carry out tasks like detailed documentation where disciplinary incidents are easily documented with any amount of detailed information you need to record. Also, it has direct access which allows the viewing and entering of discipline data on mobile device from anywhere on the campus. Moreover, it features automatic tracking of students' penalties which they have served or owed for single incidents or annual penalty totals. The software can also create customized reports containing multiple discipline incidents. This includes statistical analysis of discipline data to track trends and make comparisons. Notifying parents and allowing them to access discipline data privately and securely is also possible, including producing lists, tallies and notes. The latter also applies to documenting disciplinary incidents wherein the user may record information such as students and staff involved in the incident, location and time, teacher remarks, penalties and etcetera.

Another study was conducted by Abe et. al., (2008) entitled, "Student Offense Management System of the Office of the Student Affairs and Discipline". The Student Offense Management System was developed using the Web Engineering methodology, which is a more convenient and efficient way of monitoring and organizing students' activities. The proposed system has features for enhancement and maximizing the storing and filing of data. Features also include calendar of activities and messaging capability. An online feature called UIC database was embedded into the system's design to maximize its storage capacity and allow stockholders to access and maintain regular monitoring for records like students' offenses. Aside from the above-mentioned features, the current system also enables producing detailed reports using enhanced tools for the academic stakeholders in a quick and easy way.

In the same context, Rediker Software Inc. in "Powerful Tools for Tracking and Reporting Student Behavior" suggests Discipline Plus that provides a more convenient way to track students' behavior as well as helping imply discipline and upholding anti-bullying mandates in schools. With this software, educators can document and track disciplinary incidents, maintain related records, notify parents of infractions, and produce reports, notices, forms, and other documents handily.

However, despite these systems' usable features, the researcher found a gap on these current studies in terms of identifying the number of students' violation based on their gender. Thus, the researcher proposed a system for ISAT U Miagao that classifies the number of students' violation based on their gender. The proposed system generates the report based on the most students committed offenses, and determined who has a higher number of violations based on the course and the gender. Also, the proposed system verifies the student's individual offense. It generates statistical report of student's offenses per gender, courses, in weekly, monthly and Yearly.

Objectives of the Study

This study aimed to develop a Gender-Based Students' Offenses Record Management System.

Specifically, it aimed to:

- Develop a system for Students Record Monitoring for the Committee on Discipline

- Compute the total number of violations committed by the students, per gender and per course

- Automatically generate a statistic of offenses committed by the students per course and gender

- View reports per day, week, month, and year

- Be evaluated based on ISO/IEC 25010:2011 System and Sofware Quality Requirements and Evaluation (SQuaRE).

Conceptual Framework

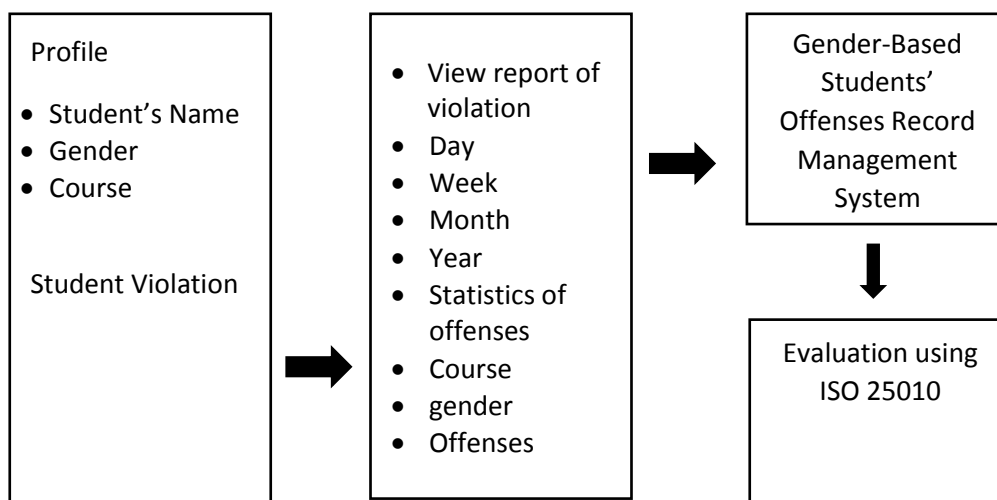| Profile	View report of violation	Gender-Based Students' Offenses Record Management System
• Student's Name	• Day	
• Gender	• Week	
• Course	• Month	
	• Year	Evaluation using ISO 25010
Student Violation	• Statistics of offenses	
	• Course	
	• gender	
	• Offenses	

Figure 1: Conceptual Framework

This study which aimed to develop a system for Students Record Monitoring to help the school's Committee on Discipline compute the total number of violations committed by the students, per gender and per course, automatically generate a statistic of offenses committed by the students per course and gender, view reports per day, week, month, and year and evaluate based on ISO/IEC 25010:2011 System and Sofware Quality Requirements and Evaluation (SQuaRE) is anchored on systems' model which guide the overall framework and analysis of the study.

The schematic diagram consists of three (3) major variables: input, process and output. Consistent with the system's thinking, the inputs are transformed into outputs through conversion processes. The inputs consist of the existing data which contains the Students' profile and students' violations, while the process involves a record management system that stores and analyzes the statistic report to determine the number of offenses committed by the students based on their gender. The system is also design to compute the total number of violations committed by the students, per gender and per course. And lastly it will generate reports per day, week, month, and year. The output variables depend on the nature of inputs and the capacity of the conversion process.

The output variables point to the creation of a gender- based record management system of the students' offenses that will eventually help the Office of the Committee on Discipline of the university.

More importantly, the system is to be evaluated using the ISO 25010 criteria for feedback which constitute the critical output in the challenge to further improve the Gender-Based Students' Offenses Record Management System

Methodology

This study employed Prototyping Model. It is a software development model that could create a base to produce a final system or software. During the process, the model allows one to build, test and rework a prototype until an acceptable version is achieved. It is best used in situations where changes are made often until the project's requirements are met. Both the developer and the client are involved in this iterative, trial-and-error process according to Martin (2021).

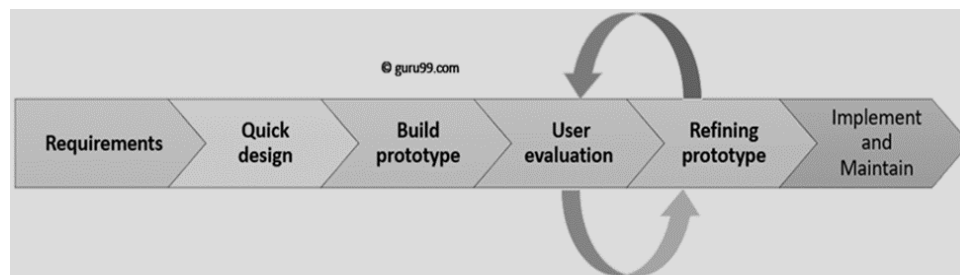**Prototyping Model Phases**

Figure 2: Prototyping Model, Martin (2021).

Figure 2 shows the six SDLC phases of Prototyping Model which are as follows:

Step 1: Requirements Gathering and Analysis

A requirement analysis is the first step in a prototyping model. The system's requirements are defined during this phase. Users of the system are interviewed as part of the process to learn about their expectations for the system.

In this phase, the researcher conducted an interview with the personnel of the Office of the Committee on Discipline to learn how they handle and keep track of student violations by course and gender.

Step 2: Quick Design

In this phase the researcher created an activity diagram and flow chart of the system. However, it just provides a general idea of how to design a system based on the needs of the end user. It is the user's brief concept or idea. This stage aids in the development of the prototype.

Step 3: Build a Prototype

During this stage, the programmer created a prototype which is designed according to need of the office based on the information collected and developed an operational system. It includes the software development, design and testing the algorithm that is being implemented.

In this phase, the researcher examined the record management process and flow, starting with the addition of students, courses, gender, and student offenses. The system calculates and displays the number of students who have committed violations based on their Course and Gender.5

Step 4: Initial User Evaluation

At this stage, the proposed system was submitted to the client for an initial evaluation. It assists in determining the working model's strengths and weaknesses. Customer feedback and suggestions are gathered and forwarded to the developer.

In this phase, the ISO 25010 criteria for software evaluation was adopted to evaluate the system. Ten (10) IT Experts and 5 End Users from the Office of Committee on Discipline were identified to evaluate the system using Likert Scale Rating.

Step 5: Refining Prototype

In this phase, the researcher needs to debug the system prototype according to the user's feedback and suggestions. This phase would not be completed until the user needs have been met. After the user approves the developed prototype, a final system was created based on it.

Step 6: Implement Product and Maintain

The final system was thoroughly tested and deployed to the Office of Committee on Discipline after being developed based on the final prototype.

In this phase, the routine maintenance of the database server was performed. Monthly checking of system was done to prevent errors and bug down.

Result and Discussion

The ISO 25010 criteria for software evaluation was adopted to evaluate the system. Ten (10) IT Experts and Five (5) End Users from the Office of Committee on Discipline were identified to evaluate the system using Likert Scale Rating shown below:

Table 1: Likert Scale Rating

Scale	Description
4.50 – 5.00	Very Effective
3.50 – 4.49	Effective
2.50 – 3.49	Moderately Effective
1.50 – 2.49	In effective
1.0 – 1.49	Very Ineffective

Table 2: Result using ISO/IEC 25010 Evaluated by the Ten (10) IT Expert

Variables	N	Sd	Mean	Description
Functional Suitability	10	0.36	4.83	very effective
Performance Efficiency	10	0.09	4.98	very effective
Compatibility	10	0.31	4.86	very effective
Usability	10	0.1	4.96	very effective
Reliability	10	0.09	4.96	very effective
Security	10	0.27	4.93	very effective
Maintainability	10	0.11	4.94	very effective
Portability	10	0.14	4.93	very effective
Over All Result	10	0.09	4.9	very effective

Table 2 shows the result of the evaluation of the system by Ten (10) IT experts. The results revealed that the system is "very effective" as shown in the over- all result (M= 5.9, SD= 0.09) and in terms of Functional Suitability (M=4.83, SD= 0.36), Performance Efficiency (M= 4.98, SD= 0.09), Compatibility (M= 4.86, SD= 0.31), Usability (M= 4.96, SD= 0.1), Reliability (M= 4.96, SD= 0.09), Security (M= 4.93, SD= 0.27), Maintainability (M= 4.94,SD= 0.11), and Portability (M=4.93, SD= 0.14) . This meant that the system requires less effort for the modification of its service and would not be affected by any change during the maintenance period. Also, it conforms to the standard and could easily adapt to changes within a specified environment without affecting its operation.

The SD further implies that the system could meet the software quality characteristics set by **ISO/IEC 25010** standards. This implies that the software is of good quality and could provide quality service to its clientele.

Table 3: Result of Evaluation for Five (5) End User for Committee on Discipline

Variables	N	Sd	Mean	Description
Functional Suitability	5	0.45	4.80	very effective
Performance Efficiency	5	0.45	4.80	very effective
Compatibility	5	0.22	4.90	very effective
Usability	5	0.22	4.90	very effective
Reliability	5	0.45	4.80	very effective
Security	5	0.45	4.80	very effective
Maintainability	5	0.37	4.83	very effective
Portability	5	0.47	4.67	very effective
Over All Result	5	0.35	4.81	very effective

Table 3 shows the result of the evaluation of the system by five (5) End Users under the Office of the Committee on Discipline. As revealed in the data, the over- all result signifies that the system is "very effective" (M= 4.81, SD= 0.35). The same result is shown as to the system's Functional Suitability (M= 4.80, SD= 0.45), Performance Efficiency (M=4.80, SD= 0.45),

Compatibility (M= 4.90, SD=0.22), Usability (M= 4.90, SD= 0.22), Reliability (M= 4.80, SD= 0.45), Security (M= 4.80, SD= 0.45), Maintainability (M= 4.83, SD= 0.37), and Portability (M= 4.67, SD= 0.47).

These foregoing results imply that the system is crafted with utmost effectiveness that it can easily be operated and used. Furthermore, with its features, it could provide quality service to the Office of the Committee on Discipline.

Conclusions

Based on the results presented, the following conclusions were drafted:

1. The system meets the specified requirements in developing the students record monitoring for the committee on discipline.

2. The system can compute and generate the total violation committed by the students based on their gender, and course, and can be viewed per day, week, months and year.

3. Based on the evaluation of the IT Expert and end users, the overall mean has a rating of 4.87 and with a standard deviation of 0.43 which indicates that the system is very effective and the rating of both IT Expert and end user did not deviate .

4. Based on the perception of respondents from the potential end users and Information and Communication Technology experts, the system is very effective in all the qualities it requires.

Recommendations

Based on the preceding findings and conclusions, the following series of actions are recommended:

- The system must be fully implemented by the ISAT U Miagao Campus Office of the Student Affairs under the Committee on Discipline.

- It is recommended for future researchers to make further enhancement on the system specifically to insert the action taken by Guidance Counselor regarding the sanction of the student violation through a Web- based or online application in order to address work from home scheme in this time of COVID 19 – Pandemic.

- The system must be evaluated on the area of Gender and Development validation questionnaire to verify that the system is aligned with the policies of GAD.

- The future researcher may consider to conduct a similar study and also to expand the scope of the system to cope with the COVID 19 Pandemic.

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