

Student's Entry Requirement System: An Initiative to Ease Enrollment Process

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Abstract:- Today's generation is considered as computer age. A lot of automated systems were developed to make one's life easier and more comfortable to live with. As digital natives wanted to develop a software which could somehow help the Tario-Lim National Memorial High School of Tibiao, Antique, so does the students.

This study developed a Student's Entry Requirement System of the Tario-Lim National Memorial High School of Tibiao, Antique which aimed to make the manual based entrance application into an automated one.

This study was composed of five chapters. Chapter 1 deals with the Introduction with a sub-topics, Background of the study, statement of the problem, assumptions, paradigm of the study, conceptual framework of the study, significance of the study, definition of terms and the scope and delimitation of the study. Chapter 2 was the Review of Literature and Related Studies. Chapter 3 defines the Methodology which deals with the Research Design, the Development of the study which is composed of seven (7) stages, the sample and the instrument used to evaluate the study. Chapter 4 was the Presentation, Analysis and Interpretation of Data which is presented in tabular form, analyzed and interpreted based on the appropriate statistical tools. It was in Chapter 5 were the summary, findings, conclusions and recommendations were done and performed.

This study could be used by next generation's IT Researchers.

Keywords:- Student's Entry Requirement, Enrolment, Enrolment Process.

I. INTRODUCTION

Twentieth century was considered as the "computer age". People are getting aware of the newest inventions and suddenly adapting it. Computerization affects every aspect of our lives. A lot of automated systems were introduced on the business world also, on different institutions to polish things faster and easier. Those systems were used by most companies in business transactions so does by educational institutions. Fast, global computer communications are in demand.

The concept of offering college admission to every high school graduate desiring it has had a long history in various parts of the United States. Many state universities in the Midwest have, for a number of years, been required by their state legislatures to admit all in-state high school graduates who applied. However, this practice did not accomplish anything approaching universal higher education in those states. Many institutions flunked close to half of each year's freshman class, thus actually doing their selection during a student's first year of college rather than during his last year of high school. In addition, since most of these institutions required some fees or other payments, admission remained severely restricted. In California, for more than a decade, every high school graduate has been ensured admission to some type of higher educational institution - either a community college, a state college, or a state university, depending on his academic standing. Since the community colleges are not only free but also within commuting distance of virtually every student's home, they opened up far more realistic opportunities to students from low-income families. In recent years pressure for open admission—particularly for disadvantaged nonwhite urban youths—has been increasing. Two years ago the giant City University of New York, a public university with 20 campuses, announced that it would adopt an open admission policy, and in September 1970 it accepted all June New York City high school graduates who applied, regardless of their academic standing. Of the total freshman class of 35,000, the largest in the university's history, 9,000 fell into the category of admitted with qualifications (and would have previously been denied entry). Attempts were made to give these 9,000 extensive remedial instructions, and many may take five years or more to complete the normal four-year course. An additional 1,000 faculty members were hired; space was rented in otherwise commercial buildings; and even trailers were used to accommodate the influx of students. In its second year, the City University experiment continued to grow. In fall 1971 the total freshman class of the institution was more than 40,000, of whom 12,000 came under the admitted with qualifications category. The first, and by no means conclusive, reports on the open admission policy were released this year and were encouraging. Only about 12 percent of the 1970 open admission students had given up as a result of academic difficulties or personal problems, compared with about 6 percent of the students who entered City University with the traditional requirement of a high school average above 82 percent. One of the by-products of open admission was the discovery, as a result of diagnostic tests which for the first time were administered to

most incoming students, that a number of students who met the traditional admission requirements needed some remedial work (Microsoft ® Encarta ® 2009. © 1993-2008 Microsoft Corporation. All rights reserved).

The decision to go to college is one of the most important decisions a person can make. The college admission process should not start at the end of a student’s high school career. Preparing for college entails a lot of planning for the future and making very important decisions early on. University of Antique as the first ever University in the Province of Antique with its own qualifications and requirements imposed to accept qualified students, now, offers you an automated access to those requirements, for the Student’s Entry Requirement System will automate the manual based system of the Tario-Lim National Memorial High School of Tibiao, Antique. So, if you are a parent looking for a very good University that will serve as a training ground for your child though you were somewhere else.

Student’s Entry Requirement System is not an easy system to be developed for it requires a thorough research, efforts and time just to come up with a very accurate and efficient result. A developer or a researcher must have a very good background in programming and researching, respectively.

II. OBJECTIVES OF THE STUDY

➤ *General Objective*

The main objective of the study was to develop a Student’s Entry Requirement System: An Initiative to Ease Enrollment Process for the Tario-Lim National Memorial High School of Tibiao, Antique.

➤ *Specific Objectives*

Specifically, this study sought to:

- Integrate an Enrolment module to ease the enrolment of students in higher education institutions;
- Eliminate backlogs especially during enrolment, and
- Test the quality of the characteristics of the developed system using ISO 25010 standards.

➤ *Conceptual Framework*

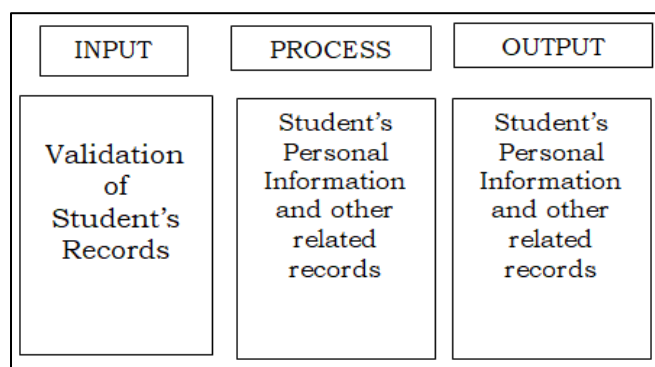


Fig 1 The Diagrammatic Presentation of the Conceptual Framework

III. METHODOLOGY

➤ *Research Design*

The researcher adopted the developmental type of research to achieve the purpose of the study. This method is a fact-finding study that encompasses sufficient and precise interpretation of data and their findings. This approach is appropriate wherever the object of a class varies among themselves and one is interested in knowing the extent which different conditions obtain among objects. The data from a descriptive survey was used as basis for influence that may aid in solving practical complications.

➤ *Participants of the Study*

This study was conducted at the Tario-Lim National Memorial High School in Tibiao, Antique with thirty evaluators.

➤ *Data Gathering instruments and Techniques*

The major instrument that was used in gathering the data was the evaluation form. This was the main instrument used in soliciting responses from the subject of this study. The questionnaire checklist is based on the characteristics of ISO 25010. The researcher also conducted an interview with the Human Resource on how the system works. The purposes of the survey and interview to determine if the system has the quality based on ISO 25010.

➤ *Preparation of Instruments*

Data gathering is the most important part in conducting the study. The researchers prepared the checklist that is based on the ISO 25010 characteristics, that the participants checked which corresponds to their evaluation in the system.

➤ *Data Gathering Procedure*

In gathering the data, the researcher distributed personally the standardized questionnaire to the respondents. First, the researcher sent a request letter to the principal of the school asking permission to conduct the study. Second, the questionnaire had been distributed to the respondents. Lastly, the researcher retrieved the questionnaire from the respondents, and started the interpretation of the data being collected. Through these procedures, they would be able to get one hundred percent retrieval of the instrument.

➤ *Statistical Tools*

The questionnaires were retrieved and tables were prepared in accordance to the characteristics of the system based on ISO 25010 characteristics analyzed using weighted mean and sorted by ranking.

➤ *Weighted Mean*

The weighted mean for each item was obtained by multiplying the scale value of responses by the total number of responses indicating it to get the total weighted point and dividing them by the total number or responses. The mean is the measure of central tendency. It points to where the majority of the participants answer to a question cluster.

Table 1 Likert Scale with Verbal Interpretation

Interpretation	Value	Range
Strongly Disagree	1	1.00-1.80
Disagree	2	1.81-2.60
Neither/Nor Agree	3	2.61-3.40
Agree	4	3.41-4.20
Strongly Agree	5	4.21-5.00

Table 1 shows the Likert Scale of the weighted mean. The weighted mean is categorized in five weighted points with verbal interpretation.

➤ *Likert Scale*

In the interpretation of the weighted Mean (WM), Likert’s Scale method was used by the researchers using the following intervals and verbal interpretations. This 5-point scale was used in order to determine the rank or the adjectival description of the weighted mean of the responses for the proposed Prediction Model. The fields represent the rating, range, and the adjectival description for each rating. These ratings are:

➤ *Ranking*

This was used to get the rank average for each answers choice and determine whichever is the highest and lowest rank based on the results.

➤ *Software Model*

The system’s development used in this approach is effective because the system’s planning is incremental and is also flexible to the changing requirements over time. It also refrains giving excessive work to the developers of the said system since the method is adaptive to change. And since this method is a client-centric one, the changes due to the client demands could be manageable compared to other existing approach. FDD is also architecture-centric which makes it more ideal since it defines discrete parts of the system and the interfaces among the various parts of the system. What is good and separates FDD from other agile methods is its management of projects which is very helpful in tracking down the progress made in the project.

➤ *Rapid Application Development Model*

Rapid application Development (RAD) is a team-based technique that speeds up information systems development

and produces a functioning information system. Like Joint Application Development (JAD), RAD uses a group approach, but goes much further. While the end product of JAD is a requirements model, the end product of RAD is the new information system. RAD is a complete methodology, with four-phases. Companies use RAD to reduce cost and development time, and increase the probability of success Listed below are the four phases for RAD model.

➤ *Requirements Planning.*

The requirements planning phases combines elements of the systems planning and systems analysis phases of the SDLC. This phase requires intense involvement from Users, managers, and IT staff members to discuss and agree on business needs, projects scope, constraints, and system requirements. The requirement planning phase focus always remains on reaching the goals and end when the team agrees on the key issues and obtains management authorization to continue.

➤ *User Design*

During the user design phase, users interact with systems analysts and develop models and prototypes that represent all system process, outputs, and inputs. The RAD group or subgroups typically use a combination of JAD techniques and CASE tools to translate user need into working models. User design phase is a continuous, interactive process that allows users to understand, modify, and eventually approve a working model of the system that meets their needs.

➤ *Construction*

The construction phase focuses on program and application development tasks similar to the SDLC. In RAD, however, users continue to participate and still can suggest changes or improvements as actual screens or reports are developed.

➤ *Cutover*

The cutover phase resembles the final task in the SDLC implementation phase, including data conversion, testing, changeover to the new system, and user training. Compared with traditional methods, the entire process is compressed. As a result, the new system is built in precise manner, delivered, and placed in operation much sooner.

IV. RESULTS AND DISCUSSION

Table 2 Mean Distribution of the Functional Suitability of the System

Functional Suitability	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Completeness	11 16 2 1 0	4.23	0.71	Strongly Agree
Correctness	13 13 3 1 0	4.26	0.77	Strongly Agree
Appropriateness	13 13 3 1 0	4.26	0.77	Strongly Agree

Table 2 shows the mean scores and standard deviation of the Functional Suitability of the system. Results showed that both Correctness and Appropriateness have the highest mean scores of 4.26 and Standard Deviations of 0.77, and interpreted as strongly agree.

This simply states that the system is functional with regards to the different indicators as supported by the computed standard deviation.

Table 3 Mean Distribution of the Reliability of the System

Reliability	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Maturity	12 15 3 0 0	4.30	0.64	Strongly Agree
Availability	15 11 2 2 0	4.30	0.86	Strongly Agree
Fault Tolerance	14 13 3 0 0	4.37	0.65	Strongly Agree
Recoverability	13 10 6 1 0	4.17	0.86	Agree

Reflected in Table 3 are the mean scores and the standard deviation of the reliability of the system. Results showed that Fault Tolerance has the highest mean score of 4.37 with a standard deviation of 0.65 which is described as strongly agree. Recoverability has the lowest mean score of 4.17 and standard deviation of 0.86.

This connotes that the system is reliable with regards to the different indicators as sustained by the computed standard deviation.

Table 4 Mean Distribution of Portability of the System

Portability	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Adaptability	10 17 2 1 0	4.20	0.92	Agree
Durability	15 12 3 0 0	4.40	0.66	Strongly Agree
Installability	15 13 1 1 0	4.40	0.71	Strongly Agree
Replaceability	12 15 2 1 0	4.27	0.72	Strongly Agree
Affordability	16 12 2 0 0	4.47	0.62	Strongly Agree

Table 4 shows the mean scores and the standard deviation of the portability of the system. Results showed that the Affordability has the highest mean score of 4.47 with a standard deviation of 0.62 which described as strongly agree. Adaptability has the lowest mean score of 4.20 and standard deviation of 0.92, and described as agree.

The computed results proved that the system is portable with regards to the different indicators as reinforced by the computed standard deviation.

Table 5 Mean Distribution of the Usability of the System

Usability	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Appropriateness Recognizeability	15 11 4 0 0	4.37	0.71	Strongly Agree
Learnability	20 7 2 1 0	4.53	0.76	Strongly Agree
Operability	18 7 4 1 0	4.40	0.84	Strongly Agree
User Error Protection	14 13 3 0 0	4.37	0.65	Strongly Agree
User Interaction Aesthetics	15 13 2 0 0	4.43	0.61	Strongly Agree
Accessibility	15 13 2 0 0	4.43	0.61	Strongly Agree

The data in Table 5 show the mean scores and the standard deviation of the usability of the system. Results showed that the Learnability has the highest mean score of 4.53 with a standard deviation of 0.76 which described as strongly agree. Both Appropriateness and User Interaction Aesthetics have the lowest mean scores of 4.37 and standard deviations of 0.71 and 0.65 respectively, and Interpreted as strongly agree.

The above-findings simply state that the system is usable with regards to the different indicators as sustained by the computed standard deviation.

Table 6 Mean Distribution of the Performance Efficiency of the System

Performance Efficiency	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Time-Behaviour	20 7 3 0 0	4.57	0.66	Strongly Agree
Resource Utilization	16 12 1 1 0	4.43	0.71	Strongly Agree
Capacity	17 9 4 0 0	4.43	0.71	Strongly Agree

Table 6 presents the mean scores and the standard deviation of the performance efficiency of the system. Results showed that Time Behaviour has the highest mean score of 4.57 with a standard deviation of 0.66 which is interpreted as strongly agree. Resource Utilization and Capacity have the lowest mean scores of 4.43 and standard deviations of 0.71, and described as strongly agree.

The computed values state that the system is efficient with regards to the different indicators as proven by the computed standard deviation.

Table 7 Mean Distribution of the Compatibility of the System

Compatibility	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Co-Existence	16 12 2 0 0	4.47	0.62	Strongly Agree
Interoperability	16 12 1 1 0	4.43	0.71	Strongly Agree

The data in Table 7 show the mean scores and standard deviation of the compatibility of the system. Results showed that Co-Existences has the highest mean score of 4.47 with a standard deviation of 0.62 which is interpreted as strongly agree. Interoperability has the lowest mean score of 4.43 and standard deviation of 0.71, and construed as strongly agree.

The above results illustrate that the system is compatible with regards to the different indicators as verified by the computed standard deviation.

Table 8 Mean Distribution of the Maintainability of the System

Maintainability	Rating	Mean	SD	Interpretation
	5 4 3 2 1			
Modularity	17 11 2 0 0	4.50	0.62	Strongly Agree
Reusability	18 8 4 0 0	4.47	0.71	Strongly Agree
Analyzability	11 18 1 0 0	4.33	0.54	Strongly Agree
Modifiability	18 9 2 1 0	4.47	0.76	Strongly Agree
Testability	16 12 1 1 0	4.43	0.71	Strongly Agree

Table 8 shows the mean scores and standard deviation of the maintainability of the system. Results showed that Modularity has the highest mean score of 4.50 with a standard deviation of 0.62 which is inferred as strongly agree. Analyzability has the lowest mean score of 4.33 and standard deviation of 0.54 and interpreted as strongly agree.

The computed results show that the system is maintainable with regards to the different indicators as reinforced by the computed standard deviation.

V. CONCLUSION

After the thorough analysis and evaluation of the data gathered from the participants through the final testing and evaluation, the researcher came up with the following conclusions:

“Student’s Entry Requirement System: An Initiative To Ease Enrollment Process ”is an essential web tool. It was also supported and proven to be essential through the use of different formulas to further test the viability and its effectiveness.

Weighted mean, Standard Deviation, and Likert Scale with verbal interpretation were used to analyze the results of the study.

The respondents strongly agreed in all aspects of the developed system based on ISO 25010 characteristics which

are functional suitability, reliability, portability, usability, performance efficiency, compatibility, and maintainability.

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