

Online Support Management System for University of Antique

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Abstract: This paper discussed the development of an Online Support Management System to have a centralized system to support the information technology needs of every department of the University of Antique, in effect, to support the needs of the students. The system was developed using the modified Software Development Life Cycle Waterfall Model using six phases – Conceptualization, Technical Feasibility, Development, Pilot Testing, Creation of User’s manual, and Evaluation of Online Support Management System. Each phase must be completed before the next phase can begin and there is no overlapping in the phases.

The researcher anchors the study on Research and Development (R&D) which aims to create a new body of knowledge about existing products or processes, or the creation of an entirely new product. Unstructured interviews, document analysis, and modified survey-questionnaire adapted from ISO/IEC 25010: 2011 Systems and Software Quality Requirements and Evaluation (SQuaRE) - System and software quality models had been conducted for data collection.

The findings showed that three groups of the respondents were satisfied with the features and capabilities of the Online Support Management System and complied with the requirements or specifications based on ISO/IEC 25010: 2011 standards.

Though the respondents are satisfied with their evaluation of the developed Online Support Management System, the result revealed that there was a significant difference noted in the evaluations of the respondents. This result implies that the evaluation made by the three groups of respondents significantly differs from one another in terms of functional suitability, performance efficiency, compatibility, usability, reliability, security, and maintainability.

Keywords: helpdesk, support system, online support management system

1. Introduction

The digital society challenges the educational system. In recent years, the communication of knowledge has created a new foundation for cooperation and teamwork, both locally and internationally.

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The increasing role played by information technology in the development of digital society calls for an active reaction to the challenges of the information society.

Online Support Management Systems is one of the core parts for good service and operation. Essentially, it is a central point where problems or issues are reported and subsequently managed or coordinated [1]. From a wider perspective, it is the main part of the service function which collects multiple resources to solve a problem and allows an organization to track the problems that users have.

In a large educational institution such as the University of Antique (UA), support for business-related requests by any department is of prime consideration, especially since these requests concern immediate disposal of duties to serve students. When these services to the students are hampered by non-working units or any IT-related problems, the quality of service of the university will decline. Since the school provides services to thousands of students, it is fitting to have a centralized system to support the information technology needs of every department, in effect, support the needs of the students.

Currently, logging of incident request is unstructured but because of this system it helps resolve the IT-related issues of every department in the University of Antique, automatically schedule that requests through a web-based ticketing process, assign a technician by sending a request directly to a designated technician accounts, record the transaction that goes between the requesting department and the Management Information System (MIS) to guaranty a smooth processing of transactions. Thus, information gathered as a result of monitoring the processes and transactions of the system can help in planning the future of the department and the IT Infrastructure of the University of Antique as a whole. Reports provided by the proposed system can help the decision making in establishing the starting point of change, may it be on the personnel or the IT backbone.

The major concept of this study focuses on the development and evaluation of the Online Support Management System in solving IT related issues at the University of Antique.

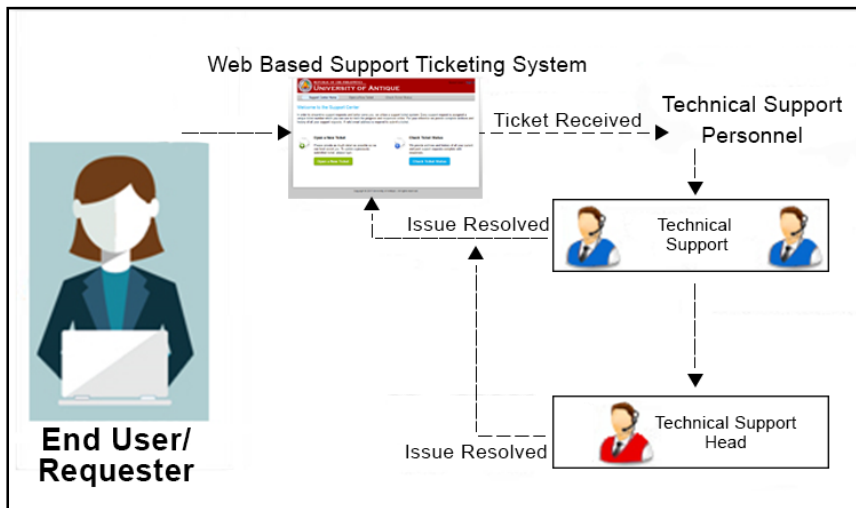


Figure 1. Conceptual Diagram

Figure 1 shows the conceptual diagram of how the Online Support Management System works. The diagram shows the requester will create a ticket via a system. An IT Technical Support Personnel receives a requester ticket created then verifies that the problem is real, and not just perceived. The IT Technical Support Personnel will also ensure that enough information about the problem is obtained from the requester. This information generally includes the environment of the requester, how and when

the issue occurs, and all other relevant circumstances [2]. The IT Technical Support Personnel creates the issue in the system, entering all relevant data, as provided by the requester.

As work is done on that issue, the system is updated with new data by the IT Technical Support Personnel. Any attempt at fixing the problem should be noted in the system. The ticket status most likely will be changed from open to pending. After the issue has been fully addressed, it is marked as resolved in the system.

Escalation of the request is done if in case an IT Technical Support Personnel cannot – for whatever reason – handle the service request, in this case, the head of the technical support team will resolve the issues.

1.1 Research Paradigm

Figure 2 shows the workflow of the system. The first frame is the input which includes the IT request types such as hardware support, software support, and network support, and the evaluation of the respondents of Online Support Management System in terms of Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, Security, and Maintainability.

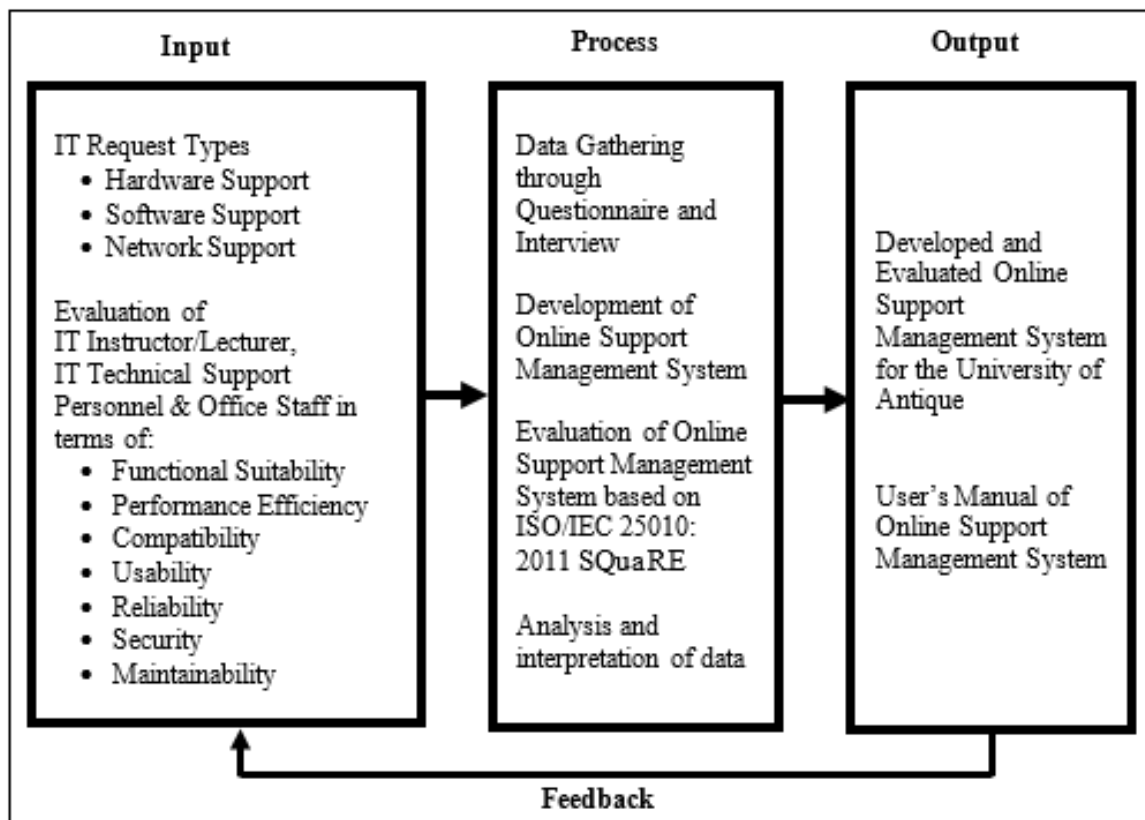


Figure 2. Paradigm of the Study

The second frame is the process which includes the data gathering through questionnaire and interview, the development and evaluation of Online Support Management System on the level of acceptability based on ISO/IEC 25010:2011 Systems and Software Quality Requirements and Evaluation (SQuaRE) and analyzing and interpretation of data.

The third frame is the output which is the developed and evaluated Online Support Management System and the developed user's manual.

The arrows pointing to the process with feedback indicate that if the process is not successful after getting the feedback, then another process will be implemented until reached the desired result.

1.2 Purpose of the Study and Research Questions

This study aims to develop an Online Support Management System for the University of Antique. Specifically, it seeks to answer the following questions:

1. What are the steps undertaken in the development of the Online Support Management System?
2. What is the difference in the evaluation of the IT Instructor/Lecturer, IT Technical Support Personnel & Office Staff on the Online Support Management System based on ISO/IEC 25010:2011 in terms of the following: functional suitability, performance efficiency, compatibility, usability, reliability, security, and maintainability?
3. What is the difference in the evaluation of the developed Online Support Management System among the three groups of respondents?
4. What are the problems encountered by the respondents in the Online Support Management System during system testing from the perspective of IT Instructor/Lecturer, IT Technical Support Personnel, and Office Staff?
5. What user's manual can be developed in the use of an Online Support Management System?

2. Methods and Materials

2.1 Participants

The study was conducted at the University of Antique during the first semester of the school year 2019-2020. A total of 65 respondents were included in the study, divided into three groups who are chosen purposively: they are composed of 20 IT Instructor/Lecturer, 38 Office Staff, and 6 IT Technical Support Personnel.

2.2 Instrument and Measures

The researcher anchors the study on Research and Development which aims to create a new body of knowledge about existing products or processes, or the creation of an entirely new product. Systematic creative work and the resulting new knowledge is then used to formulate new materials or entirely new products as well as to alter and improve existing ones.

The researcher also used the descriptive type of research on the conduct of the study. This method of research involves either identifying the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena.

The research instruments that were used in this study are unstructured interview, document analysis, and the main tool that were used is a modified survey-questionnaire adapted from ISO/IEC 25010: 2011 Systems and Software Quality Requirements and Evaluation (SQuaRE) - System and software quality models [3] and provides the leading models for assessing software product [4] which defines: a product quality model composed of eight characteristics (which are further subdivided into subcharacteristics) that relate to static properties of software. The model is applicable to both computer systems and software products. The characteristics and subcharacteristics provide consistent terminology for specifying, measuring, and evaluating system and software product quality. They also provide a set of quality characteristics against which stated quality requirements can be compared for completeness.

The frequencies and percentages were employed for each of the items that were categorized and presented in tables with data and results treated using statistical measures: (a) Weighted Mean was used to weigh the respondent's answer on the questionnaire that intended to administer. The researcher made use of the five-level Likert scale to determine the corresponding descriptive equivalent and was quantified using the scale ranging from “Very Unacceptable” to “Very Acceptable”. For these analyses, “Very Unacceptable” was coded as 1, “Inacceptable” as 2, “Moderately Acceptable” as 3, “Acceptable” as 4, and “Very Acceptable” as 5. (b) F-Test or One-Way Analysis of Variance (ANOVA) was used to determine if there are significant differences in the evaluation of the three respondents on evaluating the developed Online Support Management System.

The data that was gathered from the answered questionnaires were checked, classified, tabulated, and analyzed according to research design describe in using IBM Statistical Package for the Social Science (SPSS).

3. Results

3.1 Steps Undertaken in the Development of the Online Support Management System



Figure 3. Software Development Life Cycle (SDLC) Phases of Online Support Management System

Figure 3 presents the stages undertaken in the development of the Online Support Management System of the University of Antique.

Stage 1 shows the conceptualization of the Online Support Management System. The developer identifies the problems, gathered all the information needed to develop the system, and understand the customer requirements and expectations of the product. The developer conducted an interview with the MIS Director and investigated the school's present IT infrastructure. In this stage, after all the information and business requirements are gathered, the developer then defined the functional requirements of the system. Stage 2 Technical Feasibility, the study is technically feasible since there will not be much difficulty in getting the required resources for the development and maintaining the system as well. Stage 3 Development stage, with the input from the system design the developer developed the user-interface. Actual coding and customization of open-source software happen here as PHP as a front end and MySQL as the back end of the system. Stage 4 Pilot testing. After the

development phase is done, the software program testing begins. The researcher set-up and installed the Online Support Management System at the University of Antique. Stage 5. Creation of User’s Manual, the researcher decided to print screen every detail of the system and created a step by step process, and give it to the person assigned for the operation for ease of use. Stage 6. Evaluation of Online Support Management System to the IT Instructor/Lecturer, Office Staff, and IT Technical Support Personnel. A user manual will be provided by the developer as a guide for the maintenance of the system.

3.2 Evaluation of the Online Support Management System by IT Instructor/Lecturer, IT Technical Support Personnel and Office Staff

Table 1. Evaluation of Respondents in terms of Functional Suitability

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Functional completeness. System capacity to provide all the functions specified by the user.	4.50	Highly Acceptable	4.30	Acceptable	4.54	Highly Acceptable
Functional correctness. The system has behavior and generates the results desired by the user.	4.67	Highly Acceptable	4.50	Highly Acceptable	4.62	Highly Acceptable
Functional appropriateness. System capacity to perform only the functions necessary for the system carries the task and objectives that have been specified by the user.	4.17	Acceptable	4.10	Acceptable	4.54	Highly Acceptable
Total	4.44	Acceptable	4.30	Acceptable	4.56	Highly Acceptable

Table 1 shows, both IT Technical Support Personnel and IT Instructor/Lecturer evaluated the system as “Acceptable” with the total mean scores of 4.44 and 4.30, respectively. While the Office Staff evaluated the systems as “Highly Acceptable” with a mean score of 4.56.

This result implies that as perceived by IT users the system can be integrated and is compatible with the existing programs that they are using. This result is more evident to the Office Staff than to the IT Technical Support Personnel and IT Instructor/Lecturer. This also suggests that the system possesses a relevant standard and work for which it was intended.

Table 2 shows the performance efficiency, IT Instructor/Lecturer, IT Technical Support Personnel, and Office Staff evaluated the systems as “Acceptable” with the mean scores 4.05, 3.93, and 4.26, respectively. This means that the respondents are satisfied with what the system can do in a specified condition.

Kanellopoulos *et al.* [5] enumerated the characteristics of software engineering standards from ISO/IEC 9126 Product Quality Standard which includes performance efficiency. They emphasized that a system needs to evaluate its capability to exhibit the required performance with regards to the number of resources needed to satisfy the needs of the users in a specified context of use.

Table 2. Evaluation of respondents in terms of Performance Efficiency

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Time behavior. Degree to which the response and processing times and throughput rates of the ticketing system, when performing its functions, meet requirements.	4.17	Acceptable	3.95	Acceptable	4.51	Highly Acceptable
Resource utilization. Degree to which the amounts and types of resources used by the system	4.33	Acceptable	4.05	Acceptable	4.28	Acceptable
Capacity. Degree to which the maximum limits of the system parameter meet requirements.	3.67	Acceptable	3.80	Acceptable	4.00	Acceptable
Total	4.05	Acceptable	3.93	Acceptable	4.26	Acceptable

Table 3. Evaluation of Respondents in terms of Compatibility

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Co-existence. A level to which support ticketing system can perform its required functions efficiently while sharing a common environment and resources with other products, without detrimental impact on any other product.	4.67	Highly Acceptable	3.95	Acceptable	4.41	Acceptable
Total	4.67	Highly Acceptable	3.95	Acceptable	4.41	Acceptable

Table 3 shows the system's compatibility, IT Technical Support Personnel evaluated the systems as "highly acceptable" with a mean score of 4.67. On the other hand, both IT Instructor/Lecturer and Office Staff assess the system as "acceptable" with their corresponding mean scores of 3.95 and 4.41, respectively.

As evaluated by the respondents, the result implies that the system can perform its functions while sharing a common environment without interfering with other systems. This characteristic is clearly perceived by the IT technical support group compare to IT Instructor/Lecturer and Office Staff.

Yoon *et al.* [6] added that compatibility testing helps ensure complete customer satisfaction as it checks whether the application performs or operates as expected for all the intended users across multiple platforms.

When the respondents evaluated the system's usability as seen in Table 4, it was revealed that both IT Technical Support Personnel and Office Staff give a "highly acceptable" rating with the mean scores of 4.64 and 4.57, respectively. Only the IT Instructor/Lecturer gives an "acceptable" rating with a mean score of 4.23.

Table 4. Evaluation of respondents in terms of Usability

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Appropriateness. A level to which users can recognize whether a product or system is appropriate for their needs.	4.83	Highly Acceptable	4.30	Acceptable	4.67	Highly Acceptable
Learnability. A level to which a product or system can be used by specified users to achieve specified goals of learning to use the product or system with effectiveness, efficiency, freedom from risk and satisfaction in a specified context of use.	4.67	Highly Acceptable	4.35	Acceptable	4.59	Highly Acceptable
Operability. A level to which a support ticketing system has attributes that make it easy to operate and control.	4.83	Highly Acceptable	4.35	Acceptable	4.59	Highly Acceptable
User error protection. A level to which a support ticketing system protects users against making errors.	4.67	Highly Acceptable	4.05	Acceptable	4.44	Acceptable
User interface aesthetics. A level to which a user interface enables pleasing and satisfying interaction for the user.	4.33	Acceptable	4.10	Acceptable	4.62	Highly Acceptable
Accessibility. A level to which a support ticketing system can be used by people with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use.	4.50	Highly Acceptable	4.20	Acceptable	4.51	Highly Acceptable
Total	4.64	Highly Acceptable	4.23	Acceptable	4.57	Highly Acceptable

These findings suggest that the system bears an effort need for use and easy to understand. In other words, the system is user-friendly. This is one of the important characteristics of a system. Nielsen [7] added that “usability is a quality attribute that assesses how easy user interfaces are to use and it includes learnability, efficiency, and memorability”.

Another characteristic that was evaluated was reliability as seen in Table 5. It was found out that the IT Technical Support Personnel, IT Instructor/Lecturer, and Office Staff give an “acceptable” rating with their respective mean scores of 4.25, 4.15, and 4.42.

This result supports that the system can maintain its level of performance under the specified conditions for a period of time. Pan [8] defines software reliability as the probability of failure-free software operation for a specified period in a specified environment.

Table 5. Evaluation of respondents in terms of Reliability

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Maturity. A level to which the system meets needs for reliability under normal operation	4.33	Acceptable	4.30	Acceptable	4.46	Acceptable
Availability. A level to which the system is operational and accessible when required for use.	4.50	Highly Acceptable	4.25	Acceptable	4.41	Acceptable
Fault tolerance. A level to which the system operates as intended despite the presence of hardware or software faults.	4.17	Acceptable	4.10	Acceptable	4.23	Acceptable
Recoverability. A level to which the system can recover the data directly affected and re-establish the desired state of the system.	4.00	Acceptable	3.95	Acceptable	4.59	Highly Acceptable
Total	4.25	Acceptable	4.15	Acceptable	4.42	Acceptable

Table 6. Evaluation of respondents in terms of Security

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Confidentiality. A level to which a support ticketing system ensures that data is accessible only to those authorized to have access.	4.83	Highly Acceptable	4.55	Highly Acceptable	4.54	Highly Acceptable
Integrity. A level to which a support ticketing system prevents unauthorized access to, or modification of, computer programs or data.	4.33	Acceptable	4.50	Highly Acceptable	4.44	Acceptable
Non-repudiation. A level to which actions or events can be proven to have taken place, so that the events or actions cannot be repudiated later.	4.00	Acceptable	4.10	Acceptable	4.33	Acceptable
Accountability. A level to which the actions of an entity can be traced uniquely to the entity.	4.17	Acceptable	4.30	Acceptable	4.41	Acceptable
Authenticity. A level to which the identity of a subject or resource can be proved to be the one claimed.	4.50	Highly Acceptable	4.50	Acceptable	4.51	Highly Acceptable
Total	4.37	Acceptable	4.39	Acceptable	4.45	Acceptable

In terms of systems security, Table 6 revealed that IT Technical Support Personnel, IT Instructor/Lecturer, and Office Staff perceived that the system has an “acceptable” rating. This is supported by their mean scores of 4.37, 4.39, and 4.45, respectively.

It can be deduced that as perceived by the respondents, the system has the ability to prevent unauthorized access, whether accidental or deliberative. Jaiswal *et al.* [9] suggest that security testing has become an indispensable and critical activity of the web application development life cycle which aims to maintain the confidentiality of the data, to check against any information leakage, and to maintain the functionality as intended.

Table 7. Evaluation of respondents in terms of Maintainability

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Modularity. A support ticketing system capability that allows to perform changes without affecting other parts of the software.	4.17	Acceptable	4.20	Acceptable	4.67	Highly Acceptable
Reusability. A support ticketing system capability to which an asset can be used in more than one system, or in building other assets.	3.67	Acceptable	4.35	Acceptable	4.49	Acceptable
Analyzability. A support ticketing system capability to detect software faults, or to diagnose a product for deficiencies or causes of failures, or to identify parts to be modified.	4.17	Acceptable	4.15	Acceptable	4.69	Highly Acceptable
Modifiability. A system characteristic in which it is easy to make changes to the system effectively and efficiently without introducing defects or degrading existing product quality.	4.17	Acceptable	4.35	Acceptable	4.41	Acceptable
Testability. A support ticketing system capability of having the ease with which a system or component can be tested nor the extent to which testing gives us confidence about correctness.	4.33	Acceptable	4.40	Acceptable	4.77	Highly Acceptable
Total	4.10	Acceptable	4.29	Acceptable	4.60	Highly Acceptable

As evaluated by the respondents, the IT Technical Support Personnel and IT Instructor/Lecturer give an “acceptable” rating with their corresponding mean scores of 4.10, and 4.29, while Office Staff give a “highly acceptable” rating of 4.60.

This result confirms that the system possesses analyzability for diagnosing inefficiencies, changeability for modifications, and testability for validating the modified software. In addition, Crouch [10] suggests that software always needs new features or bug fixes. Maintainable software is easy to extend and fix, which encourages the software's uptake and use.

Table 8 presents the overall result of the evaluation of IT Instructor/Lecturer, IT Technical Support Personnel, and Office Staff. It could be seen on the table that Office Staff give a “highly acceptable”

rating with a mean score of 4.50. While IT Instructor/Lecturer and IT Technical Support Personnel give an “acceptable” rating with an overall mean of 4.18 and 4.36 respectively.

Table 8. Overall Result of Evaluation

Online Support Management System	IT Technical Support Personnel		IT Instructor/Lecturer		Office Staff	
	Mean	VD	Mean	VD	Mean	VD
Functional Suitability	4.44	Acceptable	4.30	Acceptable	4.56	Highly Acceptable
Performance Efficiency	4.05	Acceptable	3.93	Acceptable	4.26	Acceptable
Compatibility	4.67	Highly Acceptable	3.95	Acceptable	4.41	Acceptable
Usability	4.64	Highly Acceptable	4.23	Acceptable	4.57	Highly Acceptable
Reliability	4.25	Acceptable	4.15	Acceptable	4.42	Acceptable
Security	4.37	Acceptable	4.39	Acceptable	4.45	Acceptable
Maintainability	4.10	Acceptable	4.29	Acceptable	4.60	Highly Acceptable
Overall	4.36	Acceptable	4.18	Acceptable	4.50	Highly Acceptable

The result implies that the newly developed system is more acceptable to the Office Staff than IT Instructor/Lecturer and IT Technical Support Personnel. This result could be attributed to the fact that IT Instructor/Lecturer and IT Technical Support Personnel in general, are more knowledgeable in terms of system development than the Office Staff.

The result shows that the system complied with the requirements or specifications based on ISO/IEC 25010:2011 Systems and Software Quality Requirements and Evaluation.

3.3 Significant Difference in the Evaluation among the Three Groups of Respondents on the Developed Online Support Management System

Table 9. ANOVA Result on the Difference in the Evaluation Made by the Respondents

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.988	2	.494	3.164*	.049
Within Groups	9.676	62	.156		
Total	10.664	64			

* $p < 0.05$

The result revealed that there was a significant difference noted in the evaluations of the respondents, $F(2, 62) = 3.164$, $p = 0.049$. This result implies that the evaluation made by the three groups of respondents significantly differs from one another.

To determine which group evaluation significantly differs from the other, Tukey HSD (honestly significant difference) was used as a post hoc test.

Table 10. Tukey HSD Results as Post Hoc Analysis for ANOVA

	(I) Respondents	(J) Respondents	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	IT Technical Support Personnel	IT Instructor	.10008	.18389	.850	-.3415	.5416
		Office Staff	-.16868	.17324	.596	-.5847	.2473
	IT Instructor	IT Technical Support Personnel	-.10008	.18389	.850	-.5416	.3415
		Office Staff	-.26876*	.10865	.042	-.5297	-.0079
	Office Staff	IT Technical Support Personnel	.16868	.17324	.596	-.2473	.5847
		IT Instructor	.26876*	.10865	.042	.0079	.5297

* The mean difference is significant at 0.05 alpha level.

As shown in Table 10, the evaluation made by the IT Instructor/Lecturer significantly differs from the evaluation made by the Office Staff. Looking back at the previous results, it can be seen that the newly developed system is more acceptable to the Office Staff than IT Instructor/Lecturer. This result could be attributed to the fact that IT Instructor/Lecturer, in general, are more knowledgeable in terms of system development than the Office Staff.

3.4 Problems Encountered by the Respondents in the Implementation of the Online Support Management System

The respondents listed all the problems encountered during their testing of the developed Online Support Management System. And the most common problems include: the response time in loading a system is slow, the dashboard responds slowly, there are times that the system hangs when selecting a certain command and there is difficulty to navigate in finding necessary features.

One respondent says that some fonts in the navigations options are small, there should be a balance of images in the banner section, other respondents mentioned to maximize the use of spaces and borders, and spacing of the system is over-crowded.

And lastly, there should be an email validation checker whether the email domains provided by the requester are valid or not.

3.5 User’s Manual of the Online Support Management System

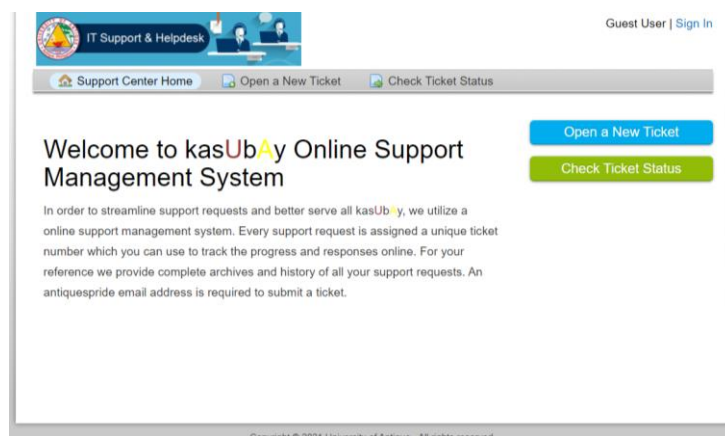


Figure 4. Landing Page of Online Support Management System

The researcher-made user's manual to represent every detail of the system. The manual is a step by step process on how to use the developed system.

4. Conclusions and Recommendations

Based on the findings, the following are concluded:

1. The development of the Online Support Management System involves the Conceptualization of the Online Support Management System, Technical Feasibility in the University of Antique, Development of Online Support Management System, Pilot Testing, Creating User's Manual and Evaluation of Online Support Management System.
2. IT Technical Support Personnel evaluated the compatibility and usability of the Online Support Management System as highly acceptable, while the IT Instructor/Lecturer found these characteristics of the system as acceptable and Office Staff perceived the functional suitability, usability, and maintainability as highly acceptable.
3. There is a significant difference in the perception of the IT Instructor/Lecturer, IT Technical Support Personnel & Office Staff on the Online Support Management System in the seven (7) criteria through which it was evaluated.
4. Problems encountered during the use of the Online Support Management System are: the response time in loading a system is slow, the dashboard responses slowly, system hangs when a selecting a certain command, difficulty to navigate in finding necessary features, some contents is not sufficient to meet the demands of users and the composed draft ticket details once it was not submitted, it still remains in the issue details section.

Based on the conclusions of the study, the following are recommended:

1. According to the overall result obtained by IT Technical Support Personnel, it is recommended that when it comes to performance efficiency and maintainability with a corresponding rate of 4.05 and 4.10 respectively, the system needs improvements to make it more changeable for future modifications for better usage.
2. According to the overall result obtained by IT Instructor/Lecturer, although the mean of the seven (7) criteria used is still equivalent to a verbal interpretation of acceptable, the developed system needs improvement.
3. For future studies that would include the development of a support ticketing system, it is recommended that need to include an inventory of IT assets and it should have an SMS features capability for notifying the requesting party because another requester has a limited internet connection.

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