

Design and Development of the CICT's Website: Basis for Enhancing Services to Students

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Abstract Websites are the most effective in promoting and disseminating information to the largest possible audience since technology is progressively becoming acknowledged as a beautiful and practical solution for moving information faster and more reliably. The study aimed to assess the designed and developed website of the CICT to enhance students' services further. The 300 randomly selected students and faculty members from the College of Information and Communications Technology participated in the study during the first semester of 2021–2022. The study utilized a developmental and descriptive type of research. A standardized questionnaire was sent to the respective respondents via messenger. The CICT's website was evaluated using the following criteria: content, efficiency, functionality, and usability. The study's results regarding the website content got a weighted mean of 4.52, meaning that the respondents strongly agreed on the acceptability of the content of the college website. In terms of efficiency, it only garnered a weighted mean of 4.43, meaning that they agreed that not all indicators were met. Regarding the website's functionality, the weighted mean is 4.53, with a "strongly agree" verbal interpretation. Lastly, usability garnered a weighted mean of 4.51, where the respondents strongly agreed that websites could be manipulable and understood clearly. Hence, the stakeholders have evaluated the CICT website as helpful to the students.

Keywords— Information Technology, Website, Content, Efficiency, Functionality, Usability

INTRODUCTION

In the 21st century, advancements have been made in science, knowledge, and technology. Websites are the most effective in advertising and disseminating information to the largest possible audience because technology is increasingly recognized as an appealing and valuable choice for doing it faster and more reliably.

Web technologies have enabled government, commercial, and nonprofit organizations to share information, connect with stakeholders, clients, and consumers, and undertake online transactions to promote themselves to the public (Walsham, 2012; Zhang, Gutierrez, & Mathieson, 2010). Likewise, Lee (2013) stated that the Internet is a business communication tool. Everyone interacts through one-to-many or many-to-many networks meeting matches to do business and supply or request services.

Hence, the Internet and web technologies have been essential in transforming offline to online business transactions. Organizations that use an e-business model have interactions and transactions with numerous partners that can be conducted electronically (Rao, Metts, & Monge, 2003).

Organizations worldwide use various web technologies in online marketing to attract and retain customers and acquire critical information and expertise to obtain a competitive advantage over their competitors (Majeed, 2011). Since the internet presence of a company serves as a portal to its knowledge, goods, and services. It should therefore mirror the requirements of the clients it serves (Caglar, 2022).

Thus, every level of education should place a high value on having a website because it will make it simpler for the general public to locate information, particularly school profiles. Other advantages of creating this website include the ability for the school to effectively and efficiently disseminate information about the school to the community at prominent

and school residents in particular, wherever they may be (Utomo & Bakara, 2013).

The College of Information and Communications Technology (CICT) began as a computer department in one of Bulacan State University's colleges in 1989, one of the region's and country's top universities. It was then changed into the Institute of Computer Education to spread computer literacy throughout the university and expand the scope of the computer department way back in 1999. It was converted into the College of Information and Communications Technology in 2008. Since then, the college's only means of disseminating information has been through a bulletin board and word of mouth. As a result, the current dean of the CICT, Dr. Keno C. Piad, wanted to stay current and follow the current information distribution trend, so he formed a team to work on designing and developing the college website.

A website is viewed as a product that differs from traditional software in terms of features. A website's quality is analogous to the indefinable concept of quality in general. A website must be simple to use, comprehend and provide necessary functionality and navigation in users' eyes. Information architecture, navigation, psychology, computer science, and the interaction of computer and graphic design all play a role in designing and developing a website (Suwawi, Darwiyanto, & Rochmani (2015).

The purpose of a college website is to provide a pedagogical response to the school's requirements and to serve as an effective, organized online learning environment. An effective website is an educational tool public school districts can utilize in their efforts to communicate with stakeholders (Ratliff, 2019). The school administration's website goal is to share information and create a solid interactive digital environment. With the sharing of information, parents can make a home environment that will support learning in the classroom (Piper, 2012).

Since online sources are becoming more and more likely to be the best place to start when looking for knowledge on any subject, before registering their child for school, prospective students' parents can browse the schools' websites. The advantage of creating this website is that the school can effectively and efficiently disseminate information about the school to the community (Utomo & Bakara, 2013).

Similar to the study outcomes of Par et al. (2022), which showed better knowledge of the value of the school website, the developed school website focuses on features necessary for the institution, both for stakeholder communication and to support academic promotions.

Thus, the study aimed to answer the following questions:

1. How may the College of Information and Communications Technology (CICT) website be designed and developed?
2. How may the CICT website be evaluated in content, efficiency, functionality, and usability?

Methodology

The developmental research method was used in this study. According to Richey and Klein (2005), developmental research systematically creates knowledge founded on evidence derived from experience. The quality of the produced software was also described using the descriptive-survey method. Salaria (2012) cited that descriptive analysis is a comprehensive collection of current conditions, descriptions, and interpretations of situations.

It employed the Agile System Development Life Cycle or SDLC. It is a method in such a way that software can be developed systematically, which increases the probability of completing the software project within the bounded time and maintains the quality of the software product as per standard (Mishra & Dubey, 2013).

The agile models use user feedback as the primary control mechanism. It can be called a people-centric approach. Also, it carries a working version of the product at an early stage, for its testing cycle time is relatively short (Dora and Dubey, 2015).

The evaluation was done during the first semester of 2021–2022. Three hundred (300) students and faculty members from the College of Information and Communications Technology were randomly selected to participate in the study. The ISO 9126 metrics for software quality were used for the instrumentation to assess the CICT website. The respondents visited the website, and a link for evaluation was sent via google forms.

Results and Discussion

1. Design and Development of the CICT Website

The researchers created the system using the Agile Development Life Cycle or SDLC. It is a process for developing software to be done systematically, increasing the chances of finishing the project on time and keeping the quality of the software product up to par (Mishra & Dubey, 2013). In designing, Figma and photoshop software was utilized.



Figure 1. Agile SDLC Model (Dora and Dubey, 2015)

Planning. Classifying the business challenges and determining if the system can be created to address them are the main goals of this phase. In this study, the researchers considered the accomplishment of its goals and examined whether the knowledge might be used to the desired target more effectively. This stage's output is a feasibility study. The administration must also decide whether to proceed with the system's development. The challenges at the colleges were described in the feasibility report, along with several potential fixes. It also entails defining the system that will be created, its parameters, and its operation.

Analysis. The major goal of this phase is to accurately document and understand the client's actual requirements. Finding what is required of the system is the focus of requirement analysis. This stage of the software development life cycle is one of the most crucial ones (Dora and Dubey, 2015). Additionally, during this phase, data needed for the system's design were collected, and the current system was examined to identify areas needing improvement. It attempted to achieve the goals by collecting the data from the appropriate system users.

Design. In the software development life cycle, it is the most inventive stage. This phase aims to create a framework or plan from the requirement specification. It is the planning and issue-solving process for a software solution. The strategy for a solution must be defined, which involves software engineers and designers. The Software Design Document results from this step (Dora & Dubey, 2015).

The developers then started to create the user interface to illustrate CICT's planned website. HTML programming is supported by default in Visual Studio Code. Stacks like Vue JS, Node JS, Express JS, and MongoDB were also used in software development. Afterward, they began coding the website's functionalities for them to perform as anticipated. If an error has to be addressed, the programmers debug the code for better improvement.

Implementation. The researchers converted the physical system specs into a viable and reliable solution during this step. The application was coded, tested, and debugged, after which the suggested system was installed on

the designated hardware (Dora and Dubey, 2015). After the system was created, end users gave it a close inspection.

Maintenance. This is the least glamorous but arguably most important step, and it continues forever. It occurs during the remainder of the software's existence, including changes, corrections, additions, migrations to various computing platforms, and more (Dora and Dubey, 2015).

2. Evaluation of the CICT Website

2.1 CICT Website as to its Content



Figure 2. CICT Website's Content

The study's results regarding the website content got a weighted mean of 4.52, meaning that the respondents strongly agreed on the acceptability of the content of the college website. It likewise indicates that the contents of the CICT's website are reliable and true, where students and other stakeholders can further access information about the college. Similar to the result of Tupa's (2015) study on the content features of their developed website, their students can easily access information about the college and find the website's content substantive and informative.

Table 1. Descriptive Measures of the Evaluation of the Developed CICT Website in Terms of Content

Indicators The content of the website:	Mean	Verbal Interpretation
1 is reliable and accurate	4.49	Agree
2 is substantial and informative	4.52	Strongly Agree
3 is relevant to the needs of the students	4.53	Strongly Agree
4 provide necessary details of the college	4.53	Strongly Agree
5 yields a good reputation for the college	4.59	Strongly Agree
Weighted Mean	4.52	Strongly Agree

2.2 CICT Website as to its Efficiency



Figure 3. CICT Website's Efficiency

In terms of efficiency, it only garnered a weighted mean of 4.43, meaning that they agreed that not all indicators were met. However, the respondents agreed that they could navigate and follow directions within the site, this got the highest mean of 4.54. On the other hand, they manage necessary tasks through the use of the student portal, making it the least efficient function, this got a mean of 4.36.

Table 2. Descriptive Measures of the Evaluation of the Developed CICT Website in Terms of Efficiency

Indicators The user can easily:	Mean	Verbal Interpretation
1 move to the desired page	4.45	Agree
2 manage necessary tasks through the use of the student portal.	4.36	Agree
3 maintain groups and networks of friends through the page	4.37	Agree
4 access the website without delays	4.40	Agree
5 navigate and follow directions within the site	4.54	Strongly Agree
Weighted Mean	4.43	Agree

2.3 CICT Website as to its Functionality



Figure 4. CICT Website's Functionality

The weighted mean for the website's functionality is 4.53. The respondents unanimously agreed that the CICT website had a user-friendly feature. It shows in their responses, which received a mean of 4.56, the highest functional indicator. On the other hand, Respondents agreed that built-in security safeguards for certification are minimal.

Table 3. Descriptive Measures of the Evaluation of the Developed CICT Website in Terms of Functionality

Indicators The website has:		Mean	Verbal Interpretation
1	an in-placed security feature for accreditors	4.45	Agree
2	functional buttons and links	4.55	Strongly Agree
3	several links which can easily direct the user to any desired page	4.53	Strongly Agree
4	a feature of being user-friendly	4.56	Strongly Agree
5	a well-designed, attractive, and functional layout	4.53	Strongly Agree
Weighted Mean		4.53	Strongly Agree

2.4 CICT Website as to its Usability

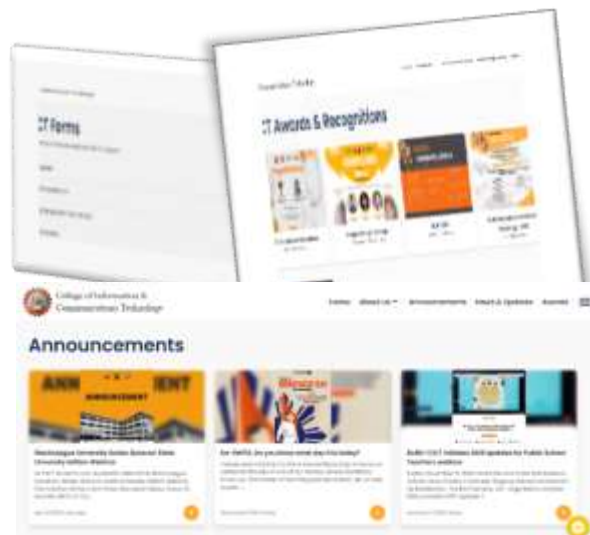


Figure 5. CICT Website's Usability

Finally, usability received a weighted mean of 4.51, indicating that respondents strongly agreed that websites could be easily manipulated and comprehended. This indicator had the greatest mean of 4.55, whereas the statement, provide comments, and upload photographs to the portal received the lowest mean of 4.44.

Similarly, Namoun et al. (2021) stated that the acceptance and contentment of visitors to a website are determined mainly by its usability.

Table 4. Descriptive Measures of the Evaluation of the Developed CICT Website in terms of Usability

Indicators The user can easily:		Mean	Verbal Interpretation
1	adapts to the environment of the website	4.51	Strongly Agree
2	learn the tools necessary for its operation	4.50	Agree
3	understand the functions of each button	4.55	Strongly Agree
4	find the information needed on the website	4.54	Strongly Agree
5	provide comments and upload pictures to the portal	4.44	Agree
Weighted Mean		4.51	Strongly Agree

Conclusion

The CICT website was designed and developed to enhance student services. The website has provided the students access vital information like news, updates, and announcements. The chatbox helped them directly connect to the page for the needed responses. The website was a significant help during the college program's accreditation because almost all the necessary information is found on the

website. Thus, the stakeholders have evaluated the CICT website as helpful for the students.

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