

Computer Studies Online Communication Website
(Web and android application)

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INTRODUCTION

Executive Summary. Communication has always been an essential part for humans and the society. It is a method of relating to other people in order to express one's thoughts and intents. Throughout the ages of mankind, communication has evolved radically through man's pursuit for better living. Using the present technologies to augment such field, man's search for betterment is within grasp.

Mobile technology for the past few years has developed broadly enabling it to provide multiple functionalities that change the role of the mobile from being only a medium for interpersonal communication to incorporate multiple forms of information exchange at a user level as well as at a technological level. Social media use has also been on the trends along with mobile spreading so quickly, not just because of the new technology available, but also because it lets us be ourselves. And then there is the cloud, an innovative method of efficiently managing information exchange among users and providing a new perspective to the use of the internet.

Currently, such communication technologies can be seen and available almost anywhere among countries being utilized for various exploits in different areas, may it be for personal or for much productive use like for certain businesses and other livelihood that are in need for such means.

The objective of the study is to develop a Web and Android Application that will serve as a means of communication between UPHSL College of Computer Studies faculty and students. The system is intended to serve as a storage wherein faculty members can easily share their files among their students. The system can be a useful communication media in terms of messaging

other users of the system. The system also updates students with the news and events inside the university. The researcher also utilized the reign of mobile devices to develop an android application, integrated with the website to enhance the accessibility of the system.

In developing the program, the researcher used HTML, CSS, Javascript and jQuery for the client side, PHP for the server side scripting and MySQL, for the database. Eclipse ADT was used in developing the android application.

The results of this study have shown that the Communication Line in Computer Studies (CLICS) is an effective system that would serve as a useful communication tool between UPHSL College of Computer Studies faculty and students. Seeing that the system have met a positive evaluation from the users, it's conclusive that this study is an accomplishment.

The researchers decided to develop a website that would serve as a supplementary communication line for students to share their concerns in the organization and be informed of events. Along with it is file sharing to manage academic-related file at ease. This way, professors may distribute their lectures to their students easily and collaborate with their student through online interaction. It would also allow students to upload files like their hands-on activities and other related works for their professors to retrieve and check even if there are certain circumstances that may thwart them from doing so.

This study aimed to develop a Web and Android Application that would serve as a useful communication line for practical usage of UPHSL College of Computer Studies faculty and students. On the other hand, it specifically aimed to design a communication line that allows students to share their concerns and thoughts through online collaboration. It also allows viewing of news and events in the department and it will provide online file sharing among professors and students in the department through the use of cloud computing technology.

Literature Review. According to McPheat (2010), communication is the art and process of creating and sharing ideas. It is not just about talking and listening—it goes beyond that. Communication involves getting information from one person to the other person.

It is this evolution in communication that allows people to connect in new ways (Spencer, 2009). Taylor (2008) acknowledges that different social networks give us access to our “friends” in different ways, ways which differentiate our relationships.

Social Media has been essential to change the internet from a space which has a large part in transmission or broadcast of information, to a place where the large amount of users are involved in creating their own and signposting their networks to content created by others (Beer, 2008, Thelwell, 2009).

Mayfield (2008) summarized the characteristics of social media with the following attributes, namely: participation, openness, conversation and community. Moreover, Coyle and Vaughn (2008) cited that a social network and related medias at its core is a set of individuals linked to one another through interpersonal means.

According to Trubitt&Overholtzer (2009), social networks of the electronic variety have become thoroughly embedded in contemporary culture. As stated Lampe, Ellison, &Steinfeld, (2008), “among young adults, relationships with peers are important both for generating offline benefits, commonly referred to as social capital, and for psychosocial development”. Ellison et al. (2007) suggest that intense Facebook use is closely related to the formation and maintenance of social capital. As purported by Hampton et al. (2011), “social networking site users have more friends and more close friends”,

Greenhow (2009) explained that today, information and communication technologies such as Facebook, MySpace, and Twitter are some of the most popular technologies available on the Internet, with millions of users worldwide. Pertaining to mobile communication, Mitra (2009) noted that communication is one of the fundamental parts of science that has always been a focal point for exchanging information.

One of the most popular platforms nowadays is undoubtedly, the Android OS. According to Benny Skogberg (2010), Android is a platform consisting of an operating system and a Software Development Kit (SDK) for handheld devices. As Eddy (2011) mentioned, mobile applications (commonly referred as “apps”), are considered to be one of the fastest growing trends in Information Systems industry. . These applications support a wide array of social, financial, enterprise and entertainment services for users (Enck, et al. 2010).

Theoretical Framework. This study is anchored on the Social Network Theory. It views social relationships in terms of nodes and ties. Nodes are the individual actors within the networks, and ties are the relationships between the actors. There can be many kinds of ties between the nodes. In its most simple form, a social network is a map of all of the relevant ties between the nodes being studied. The network can also be used to determine the social capital of individual actors. These concepts are often displayed in a social network diagram, where nodes are the points and ties are the lines.

Social networks have also been used to examine how companies interact with each other, characterizing the many informal connections that link executives together, as well as associations and connections between individual employees at different companies. These networks provide ways for companies to gather information, deter competition, and even collude in setting prices or policies.

Conceptual Framework. The researchers decided to develop a website that would serve as a supplementary communication line for students to share their concerns in the organization and be informed of events. Along with it is file sharing to manage academic-related files at ease. This way, professors may distribute their lectures to their students easily and collaborate with their student through online interaction. It would also allow students to upload files like their hands-on activities and other related works for their professors to retrieve and check even if there are certain circumstances that may thwart them from doing so.

The conceptual framework of the study is based from the data gathering procedures using literature search, observation, and interview method from the people involved in the study. The

gathered information from books, E-books, journals, case studies and Internet sites were used as resources for the development of the software. The CLICS web site was built using languages: HTML, PHP, CSS and JavaScript to develop an interactive and dynamic web site. MySQL, which is a relational database management system, was also used as the back-end of the system. The developers worked on Android as a platform for developing the mobile application. Basic 4 Android (B4A), a powerful application development tool for developing Android applications, was used for the development of the said software.

METHODOLOGY

Research Design. The proponents used the Rapid Application Development (RAD) as the methodology model in developing the system. Planning, data gathering and coding are done simultaneously in accordance to the testing and evaluation of the software for relative enhancements and better use of the project.

The Hierarchical Input Process Output (HIPO) and the Input Process Output (IPO) are the design tools used to demonstrate the program. The Hierarchical Input Process Output (HIPO) presents structural design of the program. The Input Process Output (IPO) is the detailed exposition of the HIPO in which the inputs and relative outputs are shown together with the processes involved.

Subject of the Study. The researchers conducted survey to students and professors of Computer Studies by giving survey questionnaires that would evaluate the number of Android users and their insights on the proposed system to be implemented in the organization. The final part of the

survey evaluates the system's capability to provide an effective communication tool for the students and professor.

The total respondents were seventy-five (75) consisting of sixteen (16) students from first year CS/IT/ACT, thirteen (13) students from second year CS/IT/ACT, thirteen (13) students from third year CS/IT/ACT, twenty-nine (29) students from fourth year CS/IT/ACT and four (4) faculty members.

RESULTS AND DISCUSSION

Project Capabilities. Students and Faculty users have a group menu where posting, uploading and downloading of files can be done. Students can request to join groups created only by a faculty member and only a faculty member can decide whether to accept the request or not. Faculty users have a faculty menu where the faculty member can post news, create events, and store files. Each faculty member has a maximum of 500mb for file storage. Admin users have an admin menu where the admin can register a new user, block / unblock users and reset an account.

Test and improve the system based on reliability. Software testing was done to identify possible errors and bugs of the program and to test if it meets the overall objectives, scope, requirements and satisfaction of the users which give way to possible enhancements and improvements of the software.

Project Evaluation. Survey was used to properly know the number of respondents who used various social media. It was also used to identify the number of respondents with android devices. Distinguishing the preference of the respondents for an effective and supplemental

communication media is the most essential area of the survey. The proponents were provided with feedback by the respondents that helped the proponents achieve the desired results.

Result of the Evaluation. The proponents evaluated Seventy five students as their respondents. The respondents were to evaluate the system in terms of its Functionality, Reliability, Usability, Efficiency, Maintainability, and Portability.

FUNCTIONALITY	4.92
RELIABILITY	4.90
USABILITY	4.88
EFFICIENCY	4.93
MAINTAINABILITY	4.92
PORTABILITY	4.93

Table 1.1 Overall Software Evaluation Result

Overall Software Evaluation. Overall Software Evaluation Result shows that efficiency and portability criterion as the strongest point of the system with an overall result of 4.93. Functionality and Maintainability criterion comes in second with an overall weighted mean of 4.92 followed by Reliability criterion with a result of 4.90. Usability criterion got the lowest weighted mean of 4.88 is the weakest point of the system.

The following graph presents the weighted mean ratings by the respondents on each question of the six categories of the questionnaire.

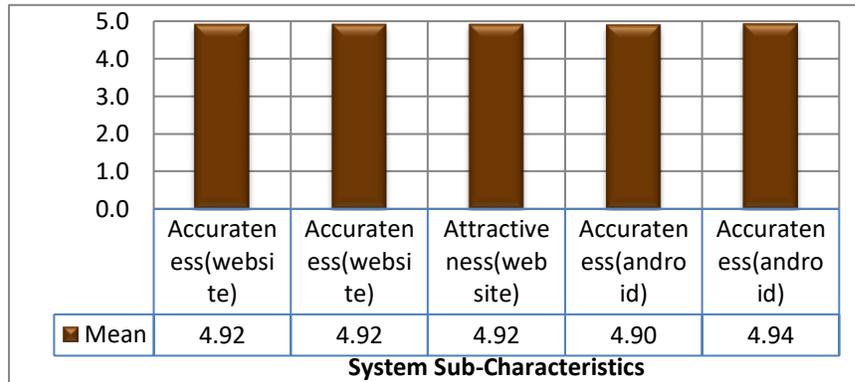


Figure 2.0. Evaluation Results of the Functionality Features of the System.

Figure 2.0 represents the weighted mean based on the answers given by the respondents on the five questions under the Functionality criterion. The result shows that most of the respondents strongly agreed with the functionality of the system. Android's Accuracy got the highest weighted mean of 4.94. Accuracy got the lowest weighted mean of 4.90.

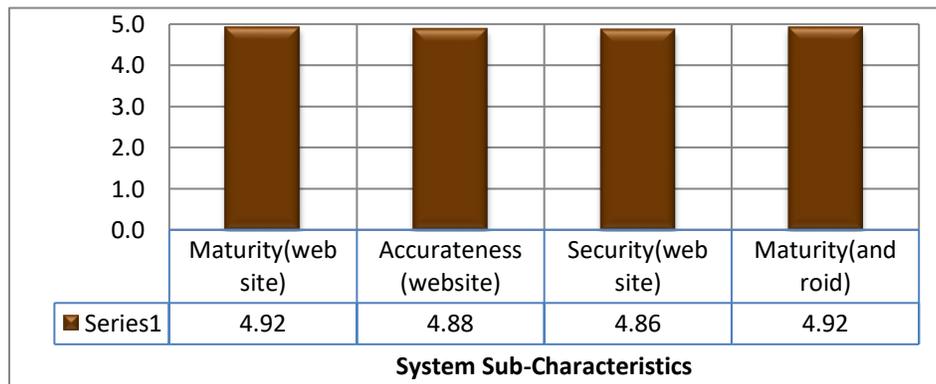


Figure 2.1. Evaluation Results of the Reliability Features of the System.

Figure 2.1 represents the weighted mean based on the answers given by the respondents on the four questions under the Reliability criterion. The result shows that most of the respondents strongly agreed with the Reliability of the system. Website's Maturity and Android's Maturity got the highest weighted mean of 4.92. Website's Security got the lowest weighted mean of 4.86.

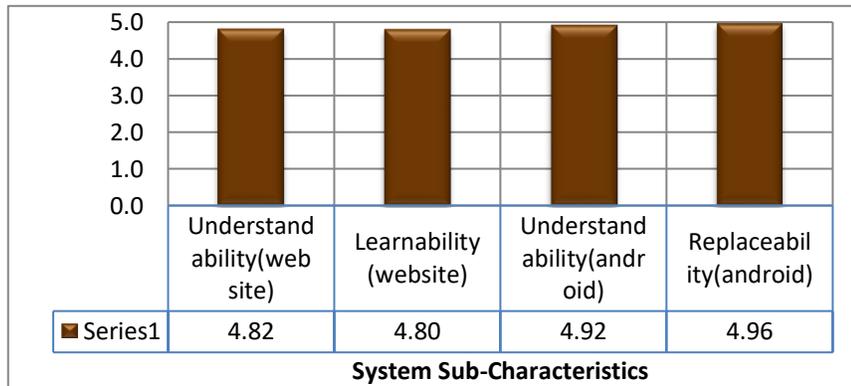


Figure 2.2. Evaluation Results of the Usability Features of the System.

Figure 2.2 represents the weighted mean based on the answers given by the respondents on the four questions under the Usability criterion. The result shows that most of the respondents strongly agreed with the Usability of the system. Android's Replaceability got the highest weighted mean of 4.96. Website's Learnability got the lowest weighted mean of 4.80.

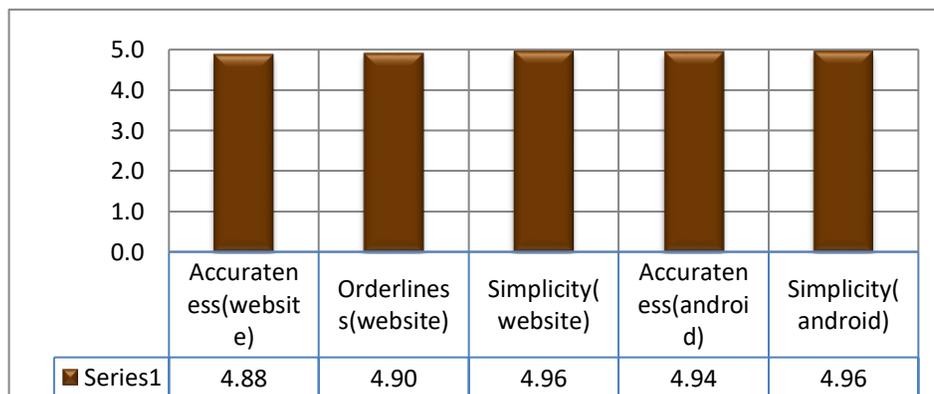


Figure 2.3. Evaluation Results of the Efficiency Features of the System.

Figure 2.3 represents the weighted mean based on the answers given by the respondents on the five questions under the Efficiency criterion. The result shows that most of the respondents strongly agreed with the Efficiency of the system. Website's Simplicity and Android's

Simplicity got the highest weighted mean of 4.96. Website’s accurateness got the lowest weighted mean of 4.88.

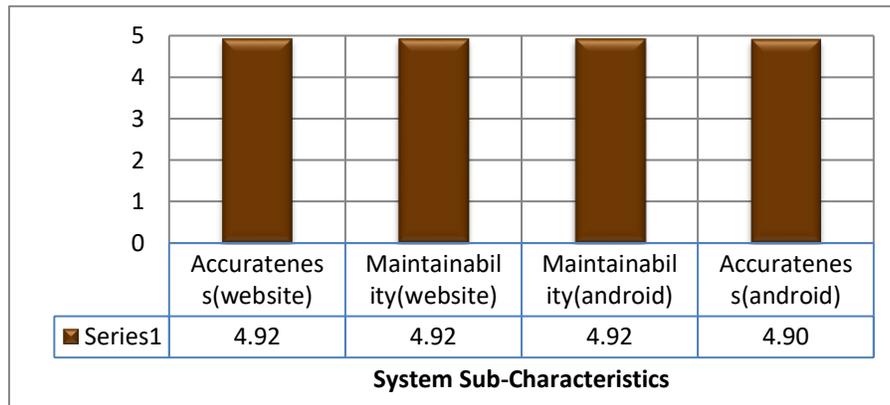


Figure 2.4. Evaluation Results of the Maintainability Features of the System.

Figure 2.4 represents the weighted mean based on the answers given by the respondents on the four questions under the Maintainability criterion. The result shows that most of the respondents strongly agreed with the Maintainability of the system. Website’s Accurateness, Website’s Maintainability and Android’s Maintainability got the highest weighted mean of 4.92. Android’s accurateness got the lowest weighted mean of 4.90.

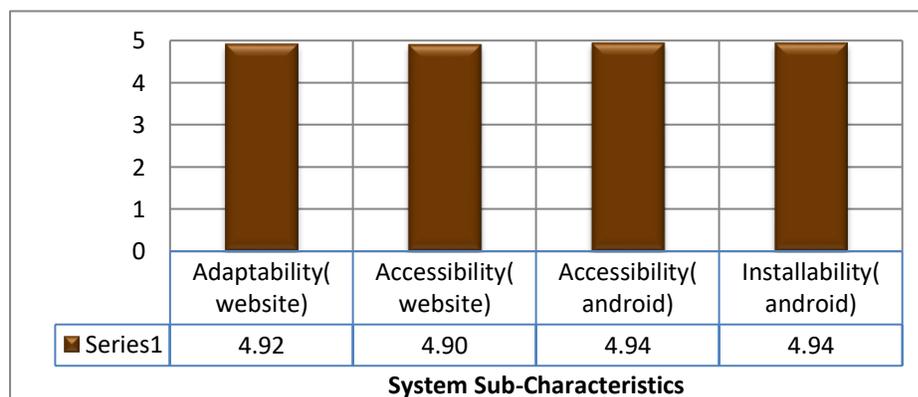


Figure 2.5. Evaluation Results of the Portability Features of the System.

Figure 2.5 represents the weighted mean based on the answers given by the respondents on the four questions under the Portability criterion. The result shows that most of the

respondents strongly agreed with the Portability of the system. Android’s Accessibility and Android’s Installability got the highest weighted mean of 4.94. Website’s accessibility got the lowest weighted mean of 4.90.

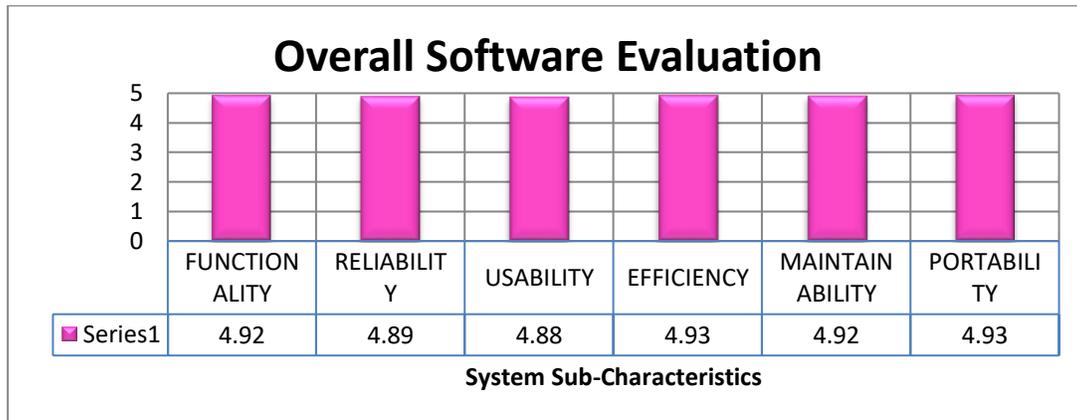


Figure 3.0. Overall Software Evaluation

The overall result of the system characteristic evaluation reflects that the efficiency and portability feature of the system was best agreed upon by the respondents with the highest weighted mean of 4.93 while usability feature of the system was agreed least by the respondents, with the lowest weighted mean of 4.88.

Project Description. The Communication Line in Computer Studies (CLICS) for College of Computer Studies is a web application that provides communication between CS faculty members and students. The system enables the faculty to post news and events, create a group for a subject, upload and download files, and message other users while the students can only upload and download files and message other users. The admin is capable of managing the system by the registration of the user and blocking and unblocking a user, it may be a student or a faculty member.

Alternatively, the Android application is designed for ease of use and accessibility of the system. It runs on Android smartphones versions 2.1 and above.

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