

A Prototype Intranet-Based Instant Messenger at Capiz State University, Mambusao Campus, Mambusao, Capiz, Philippines

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Abstract- The study was conducted to design and develop a prototype intranet-based instant messenger at Capiz State University, Poblacion Mambusao Campus, Mambusao, Capiz, Philippines and to determine its acceptability in terms of necessity, practicability and reliability. The software was designed as client-server application for the use of the students and employees to send, receive and check messages and to do chat. The users are allowed only to use the application that performs chatting, sending and checking of messages.

The server application was designed for chatting, sending and checking of messages, to access students, personnel, departments and programs' data entry, and to check the report. The system administrator is allowed to access all transactions in the server, the school administrator and the dean can perform only sending/receiving of messages, chatting and viewing of the reports, the faculty and staff can send/receive messages and chat only, the clerk who is the in charge in encoding is allowed only to access send/receive messages. To test its security, the software authenticates first the user if he or she was registered in the database before the user can access. The user cannot easily have access to the software without registering first to the data encoder of the department. The developed software can secure intranet-based instant messenger by authenticating the user's membership from the database. The researcher tested the acceptability of the software by allowing the target clients to use the program. A survey of the necessity, reliability and practicability of the software was filled among the client.

Based from the results, the researcher concluded that the prototype software for secure intranet-based instant messenger can be designed and developed. The developed prototype intranet-based instant messenger for CapSU Mambusao Campus was moderately acceptable in terms of necessity and practicability while acceptable in terms of reliability.

Index Terms- Prototype Intranet-Based Instant Messenger, Capiz State University, Acceptability

I. INTRODUCTION

An intranet is essentially an Internet contained within an organization. Intranets have been rapidly growing in the business world in the last few years but are still in their infancy in educational institutions(Webb, 2015). Through the use of intranet within the organization, instant messaging could be possible in order to provide faster communication within the institution.

There are many search engines providing services for instant messaging, which has revolutionized in the recent years. Formerly, the use of instant messaging was personal but later it has been utilized widely in business. The problem that rose were the risks involved in using instant messengers among organization where privacy has to be maintained in order to keep up with competition. (Grey, 2008).

Instant messenger (IM) is small-sized communication software that provides real-time dialogue and file transfers for individuals via the internet. Without any IT supported IM systems, workers in enterprises try to develop IM's business value for an effective information processing facility. Users are trying to get free IM services at amazing rate. Everyone connected with the internet can easily use IM by downloading from the internet or using OS-embedded IM software. Aberrations resulting from IM overuse and misuse are its primary bad influence. Within most enterprises, IM users can manage IM because their circle of IM contacts is small. However, IM's basic foundation is its freewheeling nature and, as enterprise IM deployment grows, individual management techniques will fail without direction. IM is considered as a new manner for workers in enterprises to communicate and to collaborate each other. Regardless of whether IM use is sanctioned within the enterprise, it exists and is increasing in use. Enterprises should recognize the degree of IM prevalence within their environment and develop guidelines for use that are specific to the organization. (Grey & Batchelder, 2008).

The internet connection of CapSU is not stable because it is only dial up. The students and employees cannot access easily to the internet connection. It is very hard to the personnel to communicate because some of the offices do not have intercom. It is in this premise that this study was conducted with the purpose of designing and developing a secure intranet-based instant messenger and determining the acceptability of the developed intranet-based instant messenger.

II. RESEARCH ELABORATIONS

As an initial activity, searching in the web was performed in order to look for topics or theories related to instant messenger. Likewise, the web was explored to broaden the researcher's knowledge by getting pertinent ideas and to make clear those uncertainties about the study.

Discussion with some experts on how the system could be developed was also done by the researcher. Several questions were asked to each of the experts primarily to gather their views

and ideas on how to come up with a good study. However, much of the time was spent in exploring the web until such time that the expected output or program was made a reality.

When the system was developed, the researcher tried to use it in her personal computer so that she would know if it is functional. She then tested it using two computers and after a few weeks of testing, the researcher installed it to the server of CapSU Computer Laboratory and with the LAN connections, students and CapSU personnel have access to the program and they use it as their medium of communication.

During the actual testing, the system administrator and the data encoder managed the server, while the other users utilized the computer intended for them or the so called client.

The computer used by the students was composed of virus scanner and screen saver. This can help the security of the system. Database Authentication was applied in retrieval of records in order to ensure security of data in the server. Otherwise, if the server is not activated, its user cannot have access to the system.

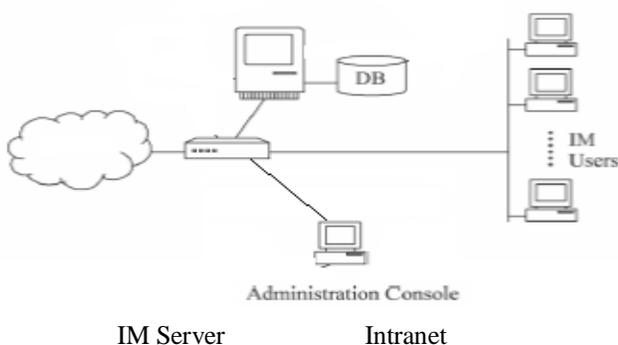
Each user's IM was configured to allow only the members of their buddy lists to track their presence. The IM management system performs monitoring of real-time connections, searching, and reporting. IM management system consists of the monitoring agent, database and administration manager.

On the operation process, the researcher developed a simple procedure. The IM procedure was delivered to the entire organization, which included the access and usage of the software for those who will use the IM. Before going to the operational phase of the software, the user is required to read first the procedure on how to operate the software and how to change the default password.

The researcher provided close-ended type of questionnaire to 80 students, 14 faculty members and 4 administrators to assess the acceptability of the system. Acceptability of the system was determined in terms of necessity of the development of the prototype CapSU instant messenger, reliability of the use of the prototype CapSU instant messenger and practicability of the use of the prototype CapSU instant messenger. They chosen respondents were the immediate users of the system. After gathering the answered questionnaires, the responses was then tallied and was subjected to statistical analysis in the form of mean.

III. RESULTS OR FINDINGS

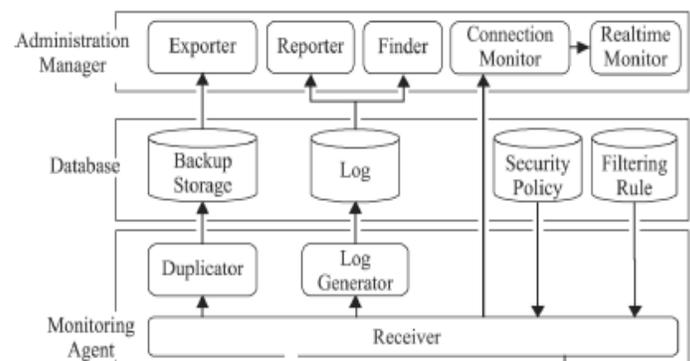
Figure 1. Architecture of the logical controls



Architecture of the logical controls shows that it consists of IM management system on the server side and security solutions on the client side. The security solution on the client side consisted of a data authentication on the database. Each software was installed on each user's desktop computer. The user can not access the file of each member. The user can perform both ways by sending messages and chatting alone. He/She can access the said data by enrolling first to the encoder. A default password was given and the user can change it once. Each user's IM was configured to allow only the members of their buddy lists.

The security on the server side consisted of a data authentication and IM management system. The IM management system performed the transaction by way of opening the chatting transaction. The client side cannot operate if the server side of chatting is closed. It also operates by sending messages. Other services include: encoding of data entries of employees and students, monitoring of real-time connections, searching, and reporting.

Figure 2. The logical diagram of the IM management system on Server



The logical diagram of the IM management system on the server side consisted of the monitoring agent, database and administration manager. The researcher developed a simple and consistent procedure on how to operate the system so that employees and the students can understand and that they can support the project. The IM procedure was delivered to the entire employees and students. The procedure on monitoring the IM communications clearly defined that the system administrator has the right to access the data. Before going to the operation phase of IM, the encoder give default password to each user to have privacy and security.

Table 1. The Acceptability of a Prototype Intranet-Based Instant Messenger at Capiz State University

	N	Mean	Interpretation
• Necessity of the development of the Prototype CapSU Instant Messenger	98	3.54	Moderately Acceptable
• Reliability of the use of the Prototype	98	3.76	Acceptable

CapSU Instant Messenger			
• Practicability of the use of the Prototype CapSU Instant Messenger	98	2.91	Moderately Acceptable

As to the necessity of the development of the prototype intranet-based instant messenger, the mean that was obtained was 3.54 which was interpreted as moderately acceptable. Regarding the reliability of the use of the prototype CapSU instant messenger, the mean was 3.76 which falls under the interpretation of acceptable. While when it comes to the practicability of the use of the prototype CapSU instant messenger to its users, a mean of 2.91 was obtained which has the interpretation of moderately acceptable.

IV. CONCLUSIONS

1. The prototype software for secure intranet-based instant messenger can be designed and developed.

2. The developed prototype intranet-based instant messenger for CapSU Mambusao Campus was moderately acceptable in terms of necessity and practicability while acceptable in terms of reliability

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