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1. Abstract

Instant messaging may be the next great shift in information sharing. The following essay compares the two main service providers, ICQ & MSN Messenger, both very popular and available free. A broad description of the technology is provided and a detailed comparison of the current versions is made.

2. Keywords

ICQ, MSN Messenger, Peer-to-peer, Mp3, SMS, Voice/Video-Conferencing, Instant Messaging Software.

Note : There are not many books on Instant messaging software because they are relatively new inventions. However there are some journals about the security of instant messaging and synchronized chat. Hence most of my resources are web references and the journals I have just mentioned.

3. Introduction

(a) What is Instant Messaging software?

Instant messaging software is a distributed communication tool that allow users to communicate through peer-to-peer using a web server. So what actually motivates people to use Instant messaging software? Undoubtedly, the use of so many wonderful functions for free is alone a very tempting reason. The exchanging of instant messages, voice/video-conferencing, sending/receiving SMS with other users' cellular phones and sharing of files, all are available free of charge. Indeed, with so many free benefits, it's no wonder why Instant messaging software's popularity is becoming so widespread. In fact, 'ICQ remains the leading brand among instant-messaging services at home with 41.7 million unique users in September 2001, up 21 percent from September 2000. However, MSN Messenger! Messenger are the fastest growing applications: MSN increased 94 percent, from 9.6 million users in September 2000 to 18.5 million in September 2001' with reference to (Jupiter Media Metrix 2001) report.

(b) Problem

Many computer users are into downloading instant messaging software because it not only helps them to communicate better, but also save them a lot of money on long-distance communication through using free voice/video conferencing. Due to the rapid growth of these two instant messaging tools, the number of users concurrently using more than two software packages is escalating. Nevertheless, many users still have doubts about which application will satisfy their communication needs better. Should they stick with one or should they use both at the same time to get the best of both worlds? This paper intends to give potential users an overview of both ICQ and MSN Messenger so they will know better which software will suit their individual needs best. Firstly, this paper will explore & demonstrate all the popular features of the two software pieces of software. Then, it will make a comparison of the pros & cons, before researching the network protocols of both the applications. Lastly, the paper will discuss security and social issues, followed by a development on future dissertation and an overview of both tools.

4. Background

MSN Messenger History

According to (Redmond Wash 1999) news article on "July 21, 1999 - Microsoft Corp. today announced the launch of MSN Messenger Service, the free Internet messaging service that allows users to communicate with the greatest number of Internet users and offers the tightest integration with popular Microsoft communications tools. MSN Messenger Service tells consumers when their friends, family and colleagues are online and enables them to exchange online messages and e-mail with the more than 40 million users of the MSN Hotmail"





ICQ History

According to (ICQ Story 2002) website "ICQ Inc., the successor of Mirabilis Ltd. was created when America Online acquired all Mirabilis' assets on June 1998. Mirabilis was founded in July 1996 when four young Israeli avid-computer users established a new Internet company. Yair Goldfinger (26, Chief Technology Officer), Arik Vardi (27, Chief Executive Officer), Sefi Vigiser (25, President), and Amnon Amir (24, currently studying), created the company in order to introduce a new way of communication over the Internet. They observed the fast deployment of the World Wide Web which was propelled by the mounting popularity of surfing and browsing, and watched the growing number of people interacting with web servers. They realized, however, that something more profound was evolving under the surface. Millions of people have been connected to one huge world wide network - the Internet. They noticed that those people were connected - but not interconnected. They realized that if one missing component would be added, all these people, in addition to interacting with web servers, would be able to interact with each other. The missing link was the technology which would enable the Internet users to locate each other online on the Internet, and to create peer-to-peer communication channels, in a straight forward, easy, and simple manner. They pioneered this technology, that way opening a whole new industry."

In contrast ICQ was originated by an Internet company, which aimed to introduce a communication revolution across the Internet. However MSN Messenger was created by Microsoft seeing a need to be part of this new communication technology in order to stay competitive.

5. Popular Features of ICQ: Base on (ICQ Features 2002) website

(a) Send instant Messages, SMS and Email

- Exchange messages of any length to online buddy instantly and securely.
- Support Mobile SMS message from ICQ to friends anywhere in the world, as long as he has a cellular phone with supported network.
- Check email accounts using ICQ. When an email is received, a notification will be send.

(b) 13 versions of Languages

- ICQ can translate its interface to any of the 13 languages available: Arabic, Chinese, Dutch, French, German, Hebrew, Italian, Japanese, Portuguese, Russian, Spanish, and Swedish.

(c) Voice and Video – Conferencing

- Launch net meeting with multiple users for video and telephony chat.

(d) Send and Receive file plus Shared File Utility

- Send file of any type and size to other users online. Plus, additional features such as "shared file", to browse and get a file from a buddy's shared directory.

(e) Chat with a friend

- Real time chat with one or more friends. Find friends of common interests or random chat.

(f) Launch custom Games

- Play online custom games together with friends.

(g) Security Status plus Objection Language.

- Select your different online mode such as Chat with a Friend, Available/Connect, Free for Chat, Away, N/A, Occupied, DND, Privacy, Offline/Disconnect. Plus filter incoming message by blocking words which you would prefer not to receive.

(h) Send online Voice message

- Leave a 15 second voice message (offline/online) to user using microphone and soundcard.

(i) Spell Checker

- Check text spelling of messages.

(j) Message History

- Allow the viewing of incoming/outgoing message history or chat, using message history button.

6. Popular Features of MSN Messenger: Base on (MSN Messenger Features 2002) website

(a) Send instant Messages, SMS and Email

- Exchange instant messages, SMS and Email with other users. Also, you can chat with 1–14 users in the same conversation window. The automatic typing indicator alerts you whenever one of the users is typing a response.

(b) 26 versions of Languages

- MSN Messenger is available in 26 different languages: Arabic, Brazilian, Chinese (simplified), Chinese (traditional), Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Slovak, Slovenian, Spanish, Swedish, Turkish.

(c) Voice and Video – Conferencing

- See and chat with a friend anywhere in the world using the computer microphone and speakers. Windows Messenger supports high quality voice calling from the computer.

(d) Send and Receive file

- Trade files with friends, without any file type or size constraints.

(e) Chat with new friends

- Search for friends with common interests or find long-lost friends in the MSN Member Directory.

(f) Invite friends to play a Game

- Use MSN Messenger to invite friends to play a DirectPlay® compatible game online.

(g) Security Status

- Use block SPAM to block instant messages from people unknown to user.

(h) Remote Assistance

- Seek a friend for Remote Assistance, which is to allow a friend to take control of your computer with your permission.

(i) Work with a friend on the same program or Brainstorm using Whiteboard

- Share the same program such as Word processor or Whiteboard to work or draw simultaneously. However, at least one of you must have the program.

(j) Microsoft.Net Alert

- Receive important notice like Stock Alerts in your MSN Messenger.

7. Overview of Features

No	Feature	ICQ	MSN	No	Feature	ICQ	MSN
1	Instant Messaging	√	√	9	Launch Game	√	√
2	Mobile SMS	√	√	10	Security Status	√	√
3	Email	√	√	11	Voice Message	√	X
4	Language Support	√	√	12	Spell Checker	√	X
5	Voice and Video Conferencing	√	√	13	Message History	√	X
6	Sent and Get File	√	√	14	Remote Assistance	X	√
7	Share File Utility	√	X	15	Share same program and Whiteboard	X	√
8	Friend Chat	√	√	16	Instant Alert	X	√

Note : If you are unfamiliar with the popular features of both tools, please refer to the screenshot of ‘Popular features - Utilization of ICQ & MSN Messenger’ in the appendix. But if you are familiar, please skip this and go to the next section. The purpose of this is to give you an overview of how the features work, before getting into detailed comparison of both tools. Compare and observe how each software execute its popular features and figure out which is more useful or user- friendly.

8. Comparison of ICQ with MSN Messenger : Why use ICQ?

(a) Instant Message, SMS and Email Exchange

ICQ is able to send instantaneous messages, SMS and emails all in one instance. For example, the user can click on the targeted buddy, and the message menu will pop up, allowing the user to input text in the message box. The user can then choose to send just instantaneous messages, SMS, emails or all of them by ticking on the respective boxes. MSN Messenger does not have this feature, but sends each service one at a time instead, making it more tedious.

(b) SMS Networks

ICQ supports the sending of SMS to 180 networks across the world. Hence, ICQ users in London can send SMS to a buddy’s cellular phone in Singapore and vice versa. Interestingly, the buddy can also use the cellular phone to reply to the user instantaneously without using the computer. On the other

hand, MSN Messenger SMS service is restricted to US or Canada only. Also, it does not provide the service of direct reply to the SMS received, creating an inconvenience to MSN users.

(c) Send and Receive File

ICQ supports File–Resume and File–Transfer Speed Gauge whereas MSN Messenger does not. ICQ file–resume will help to resume the transfer of files from where it was previously disrupted, instead of downloading from the start again, as MSN Messenger requires. MSN Messenger does not have a speed gauge which makes it difficult for user to estimate how long it takes for a file– transfer download to complete.

(d) Share File Directory

ICQ allows its users access to a friend's shared directory in order to download files from it. If User A wants to know what kind of files User B has, A can view B's shared directory and pick the file instead of checking one by one physically with B. MSN Messenger does not provide this feature.

(e) Voice Message

With ICQ, you are able to send online voice messages. 15 seconds of voice messages can be sent to any offline or online user, informing them that your message sent is in vocal form instead of plain text form. Unfortunately, MSN Messenger does not provide such a service and is unable to process the interaction of voice messages.

(f) Friend Chat

ICQ allow users to chat in real time, search for friend sharing common interests, or random search for a chat. In this case, User A can invite User B and C for a real time chat, enjoying instantaneous response as messages are being typed, instead of being sent one by one. Moreover, a user may search for a buddy sharing the same interests to chat or just random search for anyone. In fact, this service has helped many ICQ lovers to meet online and build relationships in real life. MSN Messenger is only able to search for chat pals with common interest.

(g) Security

ICQ allows user to choose the appropriate ICQ status and filter incoming messages so as to achieve better control of security and privacy. MSN Messenger is only able to block users. In the case where the Do–Not–Disturb mode is on, users who send messages will be notified that the person prefer privacy through a non-blinking icon. Invisible mode indicates to other users that you are offline, when in fact you are still online. Filter message disallow wording like vague language that you dislike to be displayed. All these features are ICQ security–added features that MSN Messenger lacks.

(h) Spell Check

ICQ gains an upper hand by providing spell–check capability to check text messages sent. When a user has finished typing a message, he can use the spell–check function to ensure correct spelling before sending. MSN Messenger does not provide spell–check, allowing its users to send messages with spelling errors.

(i) Message History

ICQ also allow users to view message history or even offline messages. User A is sending User B a message when he is offline. The message would still be able to reach him when he goes online again, by using the view history function to retrieve the last message from User A. However, MSN Messenger does not provide this service and hence its users will miss the opportunity to recall what had been discussed previously.

9. Comparison of MSN Messenger with ICQ : Why use MSN Messenger?

(a) Automatic typing indicator

MSN Messenger provides an automatic typing indicator, which is a status bar that allows a user to see whether his buddy is typing a response or not. For example, User A sends a message to User B. If B replies, the indicator bar will show a typing response status in A's window. ICQ does not provide this feature. Therefore, its user will have to wait for a response and it can be frustrating if the user has to wait for a long time.

(b) Language Support

MSN Messenger supports 26 versions of languages, whereas ICQ only supports 13 versions. In addition ICQ charges a fee for its language translation service. Thus, MSN Messenger will win over ICQ with this function, because not only is it free, it also allows more people of diverse languages to chat together.

(c) User Friendly Interface

MSN Messenger Interface is very user-friendly. For instance, a user can make a Phone Call, Start a Video Conversation or use any other feature of Windows Messenger with just a click of a button. Using ICQ is more complicated as it requires more clicks to execute a similar function.

(d) Launch Game

MSN Messenger is able to invite friends online to play a DirectPlay game, such as “Microsoft Age of Empire”. As an illustration, User A of MSN Messenger would know if any of his buddies is online before inviting him for a DirectPlay game. This saves the trouble of User A having to call each buddy to check if they are free for a game. User A’s buddies could be all over the world and if he needs to make long-distance calls, it would become very costly. As for ICQ, it does not provide DirectPlay game to its user. ICQ users are only able to invite buddies to play its own custom games

(e) Remote Assistance

MSN Messenger allows a user to seek a friend for help in controlling his computer with permission. When a user encounters some computer problem which he does not know how to fix, the user can let his friend take control of his computer using remote assistance and fix the problem. In a situation where a user is downloading files from his buddy, but cannot be at the buddy’s side, the buddy can shut down the computer for him after download completes. ICQ does not provide such a service. Its users will find it more difficult to seek help from buddies when faced with any difficulties.

(f) Share Program & White Board

MSN Messenger allows two users to work on the same program, such as MS word, or draw on the same whiteboard simultaneously. This is a great feature as it allows user to find help from all over the web to solve a particular problem. For instance, a Chinese student may seek help from a British friend in London to correct his English essay. If he seeks help just by sending email to his friend, he may not learn much. However, if he is able to see the correction of his grammar in real time, he can question why and learn better from his mistakes. ICQ does not provide either of these services.

(g) Instant Alert

MSN Messenger has stock or email alerts to inform a user once it is updated. For example, if there is a change in a stock that the user is interested in, it will alert the user through a pop up interface with the updated stock price. The same goes for email as well. ICQ does not provide alerts like MSN, although it does inform its users via beeping sound or flashing icon once an email has arrived.

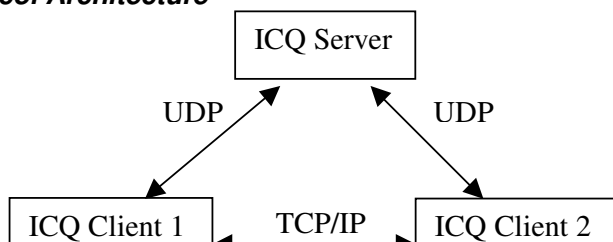
Note : If you have doubts about the computer networks terms, please refer to the appendix ‘Network terms definition’, for better understanding.

10. The Network Protocol for ICQ & MSN Messenger

(a) ICQ Protocol

With reference to the (Henrik Isaksson 1999) ICQ protocol specification document, there are 2 ways ICQ communicates: between Client-Server and between Client-Client. Firstly, we are going to talk about the communication between Client-Server.

- ICQ Protocol Architecture



Note: With the ICQ Architecture, you can observe that all clients login to one ICQ server, while client 1 and client 2 are directly connected.

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