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A STUDY OF WEB CHAT APPLICATIONS WITH ITS PERFORMANCE MEASURMENT PARAMETERS

Dandane Tejas Chandrashekhar*, U. A. Jogalekar
*Department of Computer Engineering, Smt. Kashibai Navale College of Engineering, Vadgaon Budruk, Pune, Maharashtra, India
Associate Professor,Smt. Kashibai Navale College of Engineering, Vadgaon Budruk, Pune, Maharashtra, India

ABSTRACT

The WEB APPLICATIONS are used on a large scale now days. It can be online banking, online shopping etc. but it might happen that you face problems while doing these tasks online so live chat options are present to communicate with the agent and solve related problems. The WEB CHAT APPLICATIONS are used to send instant messages to agents requesting for help. When you are using a website example a bank website and are stuck with some problem with your bank account details you can directing use the chat option available with the website and send instant messages to the agent so that the doubt can be cleared soon in quite less amount of time. So it is needed to check the performance of the WEB CHAT APPLICATION so that multiple clients simultaneously can use the chat application. Live chat reduces overall contact center costs by lowering average interaction costs. It increases efficiency by allowing live chat representatives to handle multiple chats simultaneously, thus reducing the need to hire more representatives. With employees spending less time on the phone, they can multi-task during chat conversations and cut the waiting queue to a fraction of its former size when compared to a call center.

KEYWORDS: Web Application, Load Performance, Agents, Clients.

INTRODUCTION

Everywhere in the world, business companies are constantly looking for effective ways to save money, either by using their existing resources to be more productive or by cutting down costs, but without possibly losing any services that they rely on. Most business companies of today are pretty much depending on the internet and broadband services to market their business online to worldwide customers, website hosting and telecommunication.

As we can see that the world is completely depended on the internet. We communicate with long distance friends through internet. We make use of various social media websites. We communicate with our friends and relatives through messages, online chats, calls, video chats and much more. Messaging and chatting with friends has become the easiest and cheapest way of communication. We can send images and audio, video clips on long distance within fraction of second. As the users of the internet are increasing day by day on a large scale the performance measure comes into picture.

But to be successful, they need effective tools, resources and methodologies to provide the user with a high service level. Passing from LAN Client-Server (C/S) to Internet Web-based applications, your audience increases but your risks increase as well. So, now, application performances need greater attention. In the USA a survey has found that a user waits just 8 seconds for a page to download completely before leaving the site. In Italy, this limit may be higher, but anyway, providing high performance is a key factor in the success of the site.

Now a day the businesses are moving to internet and are supporting their clients through their websites. Giving information about their products and business through website and using electronic mails. Businesses have started making use of live chats application to help their clients online. To be specific to chat applications we are aware about the fast increasing users of the chat application. The numbers of users are tremendously increasing. So it is needed to check the performance measures of various chat applications. Performance measures includes the number of clients performing chat simultaneously, number of clients handled by an agent, the time

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required to reply the clients, memory utilization and memory leak issues.

LITERATURE SURVEY

As we know the use of internet has increased greatly and internet has become one of the easiest and cheapest sources of communication there are many messaging and chatting applications coming up. There are already many applications available for communication. The oldest one we use is electronic mails. Other applications available are the various social websites, SMS, Mobile Chatting applications and much more.

Electronic Mails

Every day, the citizens of the Internet send each other billions of e-mail messages. If you're online a lot, you yourself may send a dozen or more e-mails each day without even thinking about it. Obviously, e-mail has become an extremely popular communication tool. The real e-mail system consists of two different servers running on a server machine. One is called the **SMTP server**, where SMTP stands for Simple Mail Transfer Protocol. The SMTP server handles outgoing mail. The other is either a **POP3 server** or an **IMAP server**, both of which handle incoming mail. POP stands for Post Office Protocol, and IMAP stands for Internet Mail Access Protocol. Whenever you send a piece of e-mail, your e-mail client interacts with the SMTP server to handle the sending. The SMTP server on your host may have conversations with other SMTP servers to deliver the e-mail.

The chatting applications added with mailing service allow the live chat. The transfer of messages takes place within seconds. Here the numbers of people communicating are two. So the salability issue does not come into picture.

Instant Messaging

IM is the private network communication between two users, whereas a chat session is the network communication between two or more users. Chat sessions can either be private, where each user is invited to join the session, or public, where anyone can join the session. There are on the order of 100 million Internet IM users, where a user is defined as a unique name on one of the major public IM networks.

A fundamental issue faced by IM service providers, and thus designers of the protocols, is how the systems will scale with large numbers of users. Ideally, each provider desires to have millions of customers logged on to their systems at each time. This in turn requires that organizations have a system architecture that can scale with the number of users. Two approaches are available here: *symmetric* and *asymmetric*. In a symmetric architecture, each server performs identical functions, such that a client need not distinguish which server it contacts to engage in an activity with. In an asymmetric approach, each server is dedicated to a particular activity such as logging in, discovering other users on the network, maintaining a chat room, or forwarding instant message. The client-server architecture allows IM service providers to keep some degree of control over their users. On the positive side, it helps overcome some of the technical issues associated with traversing the firewalls that the clients are often behind. On the negative side, since both control and data paths go through the central servers, scaling the service to millions of users is difficult.

Social Networking Sites

The chats on social network are mainly peer-to-peer, they may happen in groups. As the chats take place in peer-to-peer they do not need to apply any queue to chat application. They use the algorithm for showing up the latest news in window and the friends available online. The friends to which we have chatted frequently are shown in the list. The newly updated news is at top on the page. The scalability of the chat is checked so that multiple chats can be carried out simultaneously. Here too the scalability issue comes in picture.

As the numbers of chats are carried out simultaneously the delay time to reply the chats is not fixed. If the reply time is fixed then delay study of the scalability with time constraint is a problem faced.

COMPARATIVE STUDY

Sr. No	TYPES	PARAMETERS	ISSUE
1.	Electronic mail chats	Scalability	Yes
2.	Instant Messaging	Scalability, Memory Leak, Time Delay	Yes
3.	Social Networking Sites	Time Delay, Scalability	Yes

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DISCUSSION DEPENDING ON COMPARATIVE STUDY

We can see the scalability, Time Delay, Memory Leak parameters are to be taken into consideration in the live chat applications.

Example: Consider a live chat for a bank website. The client faces some problem during his transaction or some account related problems then he uses the live chat option for its answer the bank agent is not available at that time to help the client as the agent is busy with other clients or the client is not able to connect the chat with the agent due to scalability issue. This poor performance may greatly affect the bank in its business. So it is very important to work out with the issues of Scalability, time delay, agent availability and memory leaks.

CONCLUSION

After a survey on the live chats in various fields we found that there are some issues which are faced on a greater extent and need to be worked on to improve the performance of the Chat Applications.
Issues – increase the number of clients to be processed simultaneously, increase the performance rate by reduction in time delay, Agents availability, Memory leak. The online support provided by the business to its clients needs to have high performance as clients prefer carrying out there work online as it saves there time of actually going to the exact location and work out there. If the service provided online is up to the mark then it will surely benefit their business in this internet world today.

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