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Client Server Electronic-Chat System

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Abstract: Electronic-Chat is designed for real-time, unstructured conversations with users who are signed on to the system at the same time. Electronic-Chat messages are saved and are visible to all users so that all site participants can benefit from clarifying conversations and questions and answers. With chat applications, you can connect in varied ways with users. Some applications allow you to quickly connect to users within your LAN while others allow you to connect to other chat services, such as Google Talk, Face book Chat, and more.
Keywords: Social media, LAN, Messenger, Chatting

I. INTRODUCTION

Electronic-Chat is a free, secure Instant Messaging application. We use Electronic- Chat to collaborate, text or chat one-to-one or in groups with colleagues, Project members, project leaders and programmers. Electronic-Chat works for private one-to-one conversations or group chats between large or small teams, so we can talk with just one colleague or a group of ten about work related ideas, projects, and more. Beyond chatting, with Electronic-Chat we can also securely share text messages, files, pictures, audio, and videos within the organization. It is the perfect tool for anyone seeking to improve their company's ability to collaborate, network, and share information. These Chat systems allow teams to both collaborate in open forums or just casually talk or catch up in private messages, taking away the need for time-killing 'catch-up' meetings. These applications are also great at keeping global teams in touch.

We can utilize this developed Chat system to communicate on the basis of

1) One to One
2) Real time
3) Text-based
4) Interactive conversation

The Chat tool allows for more than one "Chat Room," which an instructor or web site owner can create for specific kinds of Chats. These additional chat rooms can be created using the Options feature.

To initiate a chat: When we share a document from Online with our colleague, they can view, make edits in real-time. When multiple people are in the document at the same time, their names appear in the list of co-editors at the top of the browser window.

1) **When to chat and when to add document**.

Use Electronic- Chat when we want to communicate with others immediately, for example, to ask a quick question. Chat history is not saved when we close the document but can be copied and pasted if desired. When we want to attach a comment to a specific selection within the document, such as when we need to ask if a word should be changed. Comments are saved with the document and can be replied to, marked as done or deleted.

Availability

Chat requests are handled on a first-come-first-serve method. For example : If the user enters a shopping website and wants to chat with the online trader regarding the product details, he can use the E-Chat system to communicate and it becomes user friendly for the customer to get the required information.

Related Works

Client-server architecture developed as a response to the limitations of file-sharing architectures. In a client-server relationship, there are at least two types of logical entities involved: the client entity and the server entity. The term client-server may be applied either to hardware (computer system) or to software (applications) running on the hardware.

The server entity possesses and manages a well defined set of resources. The client-server model may also be characterized as a request-response interaction. To use the resource, clients must make requests to the server and server response. Since the client-server relationship is a logical one, nothing prevents both the client and the server components of an application from running from the same hardware. .

3-tier architecture

Two tier architecture has better speed and possibly easier maintenance, but as the system scale enlarged its performance will be lost and as the user base increased

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additional servers will be needed to run the system, moreover in a 2- tiered system, client communicates with the database server and other resources on network directly that is why this architecture is not secure .Due to these limitations on client/server architecture three tier architecture was developed.

Database security

Database security is allowing or disallowing user actions on the database and the objects within it. Each database has a list of usernames. To access a database, a user must use a valid user name of the database. Each user name has an associated password to prevent unauthorized use.

Database Privileges

Privileges are simply rights to view, modify or execute certain SQL statements on specified database objects (fundamental components such as a table, view, index or SQL script).

Each new user of a database must be given specific privileges before he can do anything at all within the database. This is an aspect of the security methodology known as the "principle of least privilege". As each user is added to the system they are given the minimum set of privileges that they require to perform their business functions, that is, privileges should be allocated to individuals on a need to use basis.

Privacy

Privacy is defined as ensuring that individuals maintain the right to control what information is collected about them, how it is used, who has used it, who maintains it, and what purpose it is used for. Information or data privacy refers to the evolving relationship between technology and the legal right to, or public expectation of, privacy in the collection and sharing of data about one's self. Privacy concerns exist wherever uniquely identifiable data relating to a person or persons are collected and stored, in digital form or otherwise. In some cases these concerns refer to how data is collected, stored, and associated. In other cases the issue is who is given access to information. Other issues include whether an individual has any ownership rights to data about them, and/or the right to view, verify, and challenge that information.

II. System Analysis

A. *Existing Methodology*

The existing system is a manual system and needs to be converted into an automated system. The existing system users are using third party public mail services for communication. Usage of public domains is not supposed for employee communication.

Anonymous user can be allowed like these public domains and it is critical to share their information. Some organizations use manual system where the data can be stored and transferred in the form of disk drives or paper.

DISADVANTAGES OF EXISTING METHODOLOGY:

- Accuracy not guaranteed
- Fewer Users – Friendly
- Not in reach of distant users.
- Mismanagement of data
- No Security
- No coordination between Applications and Users

III. Proposed Methodology

The development of the new system contains the following activities, which try to automate the entire process keeping in view of the database integration approach.

User friendliness is provided in the application with various controls. The system makes it much easier and flexible. There is no risk of data mismanagement at any level. It provides high level of security with different level of authentication. Users from any part of the world can make use of the system. New system will be much better in performance as compared to existing one.

The proposed system has frequent interaction between user and the project members by using chat modules. In the proposed system, the user can sit at his system and communicate with the project leaders, programmers and can also maintain the login time, logout time. He can chat about the project with both the programmers and project leaders. The user sees the IP address of the system of project leader/programmer and chat with the people .The project leader gives the instant report about the project to the user.

A. Advantages Of Proposed Methodology

- It's a web-enabled project.
- This is very helpful for the client to enter the desired information through so much simplicity.
- The user is mainly more concerned about the validity of the data.
- There are options for ADMIN by which he can update the records.
- User is provided with the links through framing so that he can go from one option of the project to other.
- Data storage and retrieval will become faster and easier to maintain because data is stored in a systematic manner and in a single database.

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- Decision making process would be greatly enhanced because of faster processing of information.
- Through these features it will increase the efficiency, accuracy and transparency.
- Project offers user to enter the data through simple and interactive forms.
- User is provided the option of monitoring the records he entered earlier. He can see the desired records with the variety of options provided by her/him.
- Data storage and retrieval will become faster and easier to maintain because data is stored in a systematic manner and in a single database.
- Decision making process would be greatly enhanced because of faster processing of information since data collection from information available on computer takes much less time then manual system.
- Allocating of sample results becomes much faster because at a time the user can see the records of last years.

B. Project Overview

Electronic-Chat features include:
- Group messaging and private chat
- Rich text messaging features that allow you share pictures, files, video, and audio attachments
- Ability to view images inline and play videos directly from within the message
- Unlimited chat history
- Detailed info pages for colleagues & teams
- Message delivery confirmation for your sent messages
- Real time push notifications for messages received by you
- Quick access to colleague list & the teams you are part of
- Email integration allows messages sent from office chat to be replied back from any email client
- Hyper real time where character by character message transfer option is available in private chat

IV. CONCLUSION

It has been a great pleasure for me to work on this exciting and challenging project. This project proved good for me as it provided practical knowledge of not only programming in ASP.NET and VB.NET/C#.NET web based application and to some extent Windows Application and SQL Server. It provides knowledge about the latest technology used in developing web enabled application and client server technology that will be great demand in future. This will provide better opportunities and guidance in future in developing projects independently.

The development of future Electronic-Chat system can have more added features as given below: Text, File, Image and Video Sharing Electronic-Chat not only gives us the option to send text messages, but we can also share documents, images, videos, and more. Upload files of any size upto 2GB, images, and video.

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