# Multi User Chat

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## Overview

In the existing system, the user can chat with friends in the particular room through the internet. By using a multi-user chat system, the user can chat with his friends in the network area (LAN) via internet mailing. We can use this system in any operating system. The multi-user chat system is very user-friendly and easy to use. By using applets, the multi user chat system provides the standard interface between the applet and the browser environment.

A network socket and electrical socket are same. The different plugs around the network deliver their pay load in standard way. Anything that standards the standards protocol can plug in to the socket and can communicate with each other. In socket programming, the server socket and client socket are used to connect the local host to the named host and port. By using server socket class, we can create server that listen either local or remote client programs to connect them on the published ports.

## Goals

1. The aim of this project is to develop desktop chat application incorporated with java multi-threaded client-server program which would allow users to communicated private and public way and share resources while chatting and archive communicated messages.

2. This report is to use java, swing, multi-threading and TCP-IP technology to design and create desktop based multi-user chat application design for chat and communicated over internet.

3. The methodology for this report is to understand how to carry out research into multi-user chat application, resource sharing while communicating through the Internet. Also finding out how users would feel. Interviews and research would be ongoing before starting the actual designing to identify the key elements of the project.

## Technology

Java Swings

TCP/IP programming

Multithreading

Servlet/JSP programming for chat Administration Application.

## Methodology – General Approach

When messages are communicated over the network there is a possibility that intruder introduce unwanted information with the transferred information. The volume of the messages and shared files while chatting will dominate problems and limit our ability to extract for results. As massages and these shared files are sometime very critical it need to it send and receive with reliable networking technology and privacy and authorization of user access control etc. are very important

## Technical Overview

## Java multi-Threading API's

Concurrency is the ability to run multiple parts of a program or multiple programs in parallel. Concurrency can greatly improve the performance of an application if certain tasks can be executed asynchronously or in parallel.

Threads are also called lightweight processes which have their own call stack but an access shared resource. Every thread has its own memory cache and if a thread reads shared data, it stores this data in its own stack of memory cache and used in the process of execution.

## Java network API's

One can write java applications that communicate over the network mean you are programming at the application layer. Typically, someone writing programs no need to

concern about the TCP and UDP layers. Instead of this you can make use of the classes in the java.net package and these classes provide platform independent network communication.

Through the classes in java.net, Java programs can use UDP or TCP to communicate over the network. The classes URL, URL Connection, Server Socket and Socket all use for TCP to communicate over the network and the classes Datagram Packet, Datagram Socket, and Multicast Socket are for use with UDP.

## Developing Multi-User Chat Application Using Java

Java is an object-oriented programming language expressly designed for use in the enterprise environment of the Internet. Java can be used to create end to end applications that may run on a single computer or be distributed among servers and clients in a network.

Any application you develop there should be proper architecture for future enhancement, performance, reliability, availability should be considered. The Chat application is developed using client server architecture with layered approach. Client application is developed using java swing API's and java network API's.

Server is developed using java multithreaded API's, java network API's. Client connects to the server and server need to send messages to connected other client.

# REQUIREMENTS

## Hardware

The minimum hardware requirements are:

Laptop/Desktop

Keyboard

Mouse

VDU

Router/Modem

## SOFTWARE

The software requirements are as follows:

System Software

Windows

JDK 1.6, Java IDE like eclipse

**THE END**