**PROJECT REPORT**

**TOPIC: COLLABORATIVE EDITOR**



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**INTRODUCTION**

Collaborative editor is a desktop application which enables two users i.e client and server to edit the same document in different computers simultaneously.

The project is based on java socket programming in which the client and server are connected via an IP address and can perform collaborative editing.Through this editor the users will be able to edit their code and share it without any hassle.It is based on client-server architecture in which one user acts as server and other acts as client.The applicaton also notifies the user wether the remote user is connected or not connected and also specifies the remote user’s name who is connected.

The project has a simple and interactive User Interface which provides the ease of access to the user.It is very easy to understand and use.The objective of the project is to provide user-friendly application for collaborative editing as the server can be at a remote location from the client.

The project contains two jar files with the name server.jar and client.jar. Always to establish connection for working or editing first server.jar needs to be run. Then on another machine which is to be connected with the machine in which server is running has to run client.jar. Client.jar on running ask for the IP address of the machine with which it wants to be connected. If Client needs to be connected to Server on the same machine then Client should be provided with the IP address as “localhost” or “127.0.0.1”. If Server is at some remote location machines or some other machine than the client’s machines then the IP address of that server machine needs to be provided to client for establishing a successful connection.

**Technology used in the project**

The famous java programming language provides networking through socket connection with which the chat application like application can be made. UI is needed to make for such application. UI is also provided by the Swing class of javax package. So with the knowledge of both the classes and effort to make can result into an application which is intended.

KeyListener is the interface in java provides keyPressed() method with which whenever user types anything we send it to other connected application with this over socket connection. When other application receives the message then print immediately into its text area.

When any key presses from the keyboard keylistener listen it and call the keypressed() method. This method then perform the task which is written inside it on every key press from keyboard. When key pressed we send what the key of the keyboard is pressed over the socket connection. Which gets received on other user’s application which is connected to this application. On other side received character is identified and displays into its application’s text area. Identification is required because we could not able to send newline or backspace character. So if any such key presses then it sends the full word backspace and enter. At the reciever this is verified if the received string is backspace then it will print the backspace character on its textarea or if enter then will print enter character or if a single character then print single character. In this way the communication between the client and server application occur. Similarly, the client can be sender of the key pressesd events and server can be the receiver. This is a two way communication. Among them anyone can be a sender and can be a reciever. If one is sender then other has to be reciever.

**Scope of the Project**

This project provides the user interface with which using the software becomes easy with a just one click away. The project is a desktop application. It is a jar files. Two jar files which directly runs on click.

This project connect the two person who are at distance from each other and want to work together which is not possible. With this it is possible to provide a platform to work.

This is possible that one person can type the program/code while the other person is watching or supervising each line of code as typed.

**PROJECT**

The subject of the project is Network Programming Language. It means make a project on any programming language which provides networking. The JAVA is a programming language which provides networking. Thus, it is suitable to use this language for making a project. We did our project in java language.

**What is the Project?**

Project topic is “Collaborative Editor”. This is a software with which two person can edit the same piece of text/code together when both are at different place. This is a software with which person can also share their experiences or chat without a button click because as they type other one can see the typed character on the spot. This is not made for chatting but it is also possible. It is mainly made for the editing of text/code.

Project shows the person name who is connected with him. When one person closes editing by clicking the cross mark on title bar then this means this person have been disconnected with other one. So, this notifies to the other person about the disconnection.

**FUTURE WORKS IN THE TECHNOLOGY**

**Increase number of users to connect**

Our project is java technology Swing and Networking based. The project can be further expanded by providing 4 or 5 user to connect and edit together. Where there will be only one server but all others are client. This is possible by creating a thread. Where each client acts as a thread and all are connected to server and the connected persons is to be shown with the array. As the new client connects with the server, that client gets added into the array of connected persons. When any client disconnected then that person needs to be removed from the list maintained by an array. Whenever any clients press a key it get notifies to the server. Then, it is the job of server to print that key into its text area as well as send it to all the clients which is connected to it for printing that key into all other client’s textarea. When server press any key then it sends to all the clients connected to it. This way the communication between multiple client and single server would be done.

**Provide Chatting features to the software**

We could also provide chatting on side with the features of editing. For editing with the understanding between the connected persons, chat features would really be the need of the software.