

## **PROJECT PROPOSAL**

*OpenChat*

*(A real-time Java socket chatting software)*

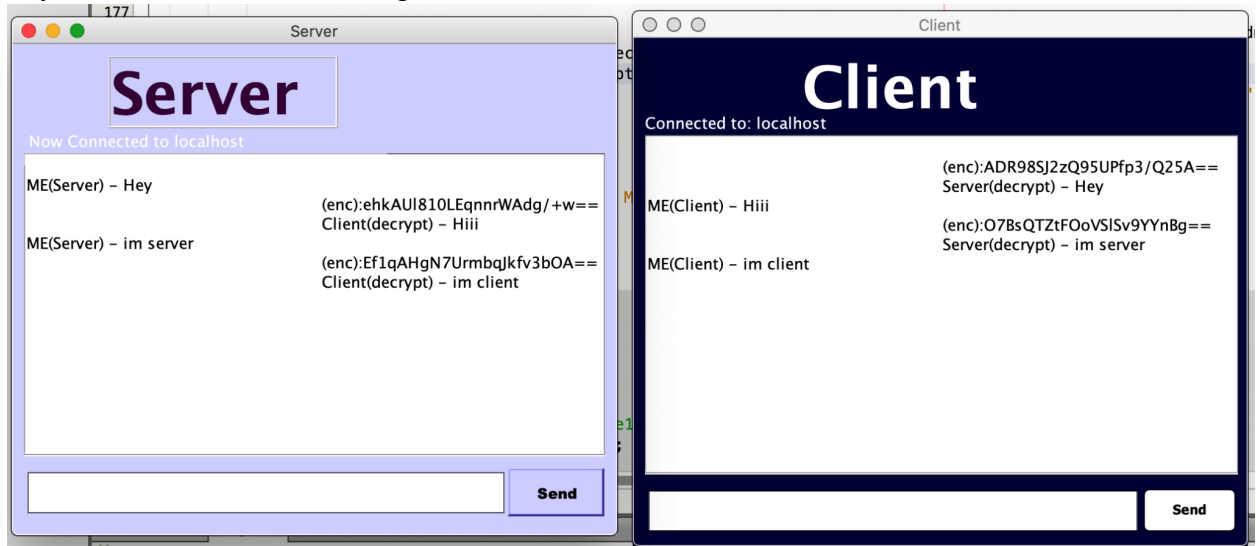
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## Project Abstract

This project uses sockets to have multiple users communicate within a graphical user interface (GUI) at the same time. This allows for instant communication between multiple users. The users can post snippets of code directly into a chat and are able to directly edit the code together. They can suggest edits and changes while maintaining a connection. This will be a software application created with Java. I want to keep the design lightweight and center it around communication and programming. Similar to the way



## Conceptual Design

A server will be created where multiple users can connect to it. This is done using Java sockets to establish connections between client and server. There will be a class for the server and client where the client is an instance so multiple connections can be made to the server. The style of this program will be done using OOP designs and will be based on Windows operating systems. However, this could be ported to Linux or MacOS since Java allows for it. The frameworks / Libraries used are called Java.net and Java.io.

## Proof of Concept

<https://github.com/CWRMB/OpenChatDemo>

In this repository we can see two files have been uploaded called client and server. These two files are the basic starting point for creating this chatting application. The way to compile and run it is using one of Java's latest long term support (LTS) JDK's which is currently Java 17. Running with a compiler and text editor we can see a simple connection between client and server. You can then type words into the console through the client which the server will then receive.

## Background

This project is based on an idea of combining different already existing tools out there. The tools I am referring to are Google Docs (Text editor) and a form of VS Code. The idea is to combine both of these tools in a lightweight manner to create a chat application that serves as

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communication between developers and potential clients. Developers can share code snippets and edit them directly. This works similarly to Google Docs where users can edit each other's text. Unfortunately Google is not open source and does not share code with the public. However, there are many applications that use socket programming for different purposes such as WhatsApp. Resources on this information can be found [here](#). With that said there are many resources / examples available to use at our disposal to learn more about sockets in programming.

### **Required Resources**

The resources required are a database if we want to store the messaging information in the future. Also, a simple Java installation with an IDE that allows developers to easily debug and make changes to the code since this will most likely be using multiple threads. I believe all of these tools are free under student licenses.