

# End to End Secure Chat Application

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## Abstract

Chat application is used for communicating with people. Peer to Peer communication is popular these days which in turn led to development of many chat applications. Unfortunately not all chat applications provide security to the content being shared. As secure communication between person sending the information and person receiving the information is necessary, the objective of this project is to build a end to end secure chat application which proves confidentiality and integrity.

## 1 Approach

A secure message exchange should be done between two clients through the server. A REST web server is used to receive message from one client and to push it to the other. A proper authentication will be provided to client before initiating communication. All the messages sent by a client is stored in the database and is pushed to the other client only when available.

To achieve secure communication one can encrypt the message being sent. If so each message sent to the server will contain encrypted message, encryption metadata, sender and receiver information. In this project we are planning to use image steganography techniques to encrypt. Image Steganography is the method of hiding information into an image and generating a stego image which would be sent to the server. On the receiver end, the hidden message can be extracted using a stego key.

## **2 Details of Implementation**

Platform : Swing,RMI

Language : Java

## **3 Workload Distribution**

Client side: Himani

Server side : Chaitanya

Encryption technique : Chaitanya,Himani