

## **ABSTRACT**

Currently, the development of communication technologies become increasingly advanced and the need for higher security in communications, so that we need an application that can meet those needs. Chat application is a communication medium that is fast, simple and cost effective which is expected to meet those needs.

In this final project, conducted the design and implementation of a chatting application using encryption algorithms. Encryption algorithm used at the software is blowfish algorithms, because blowfish algorithms fast, simple, freely licensed so that the open source and does not consume a lot of resources in data encryption. Software using the Java programming language, it is intended that the software is platform independent. Software testing carried out on test blowfish algorithm performance, alpha and beta testing.

The result of alpha testing show that the software works with both functional (error-free program). The result of beta testing showed that the design of application systems produce applications in accordance with design specifications that have been designed. In terms of safety, proven, data sent over the network is ciphertext (plaintext that has been encrypted), the average time is about 0.111 milliseconds of encryption process and the average time of decryption process is about 0.251 milliseconds, and avalanche affect blowfish algorithm , so it prove that the algorithm is qualified as a good cryptographic algorithm. So, chatting application "VicChat" safe from cryptanalyst or sniffer.

**Key Words :** *Chatting, Encryption-Decryption, Blowfish Algorithm, J2SE.*