ABSTRACT

As the development of technology, SMS (Short Message Service) is a telecommunication facility the most frequently used in all circles of society. Sometimes a message sent via SMS have the confidential whereas the messages that are sent via SMS are plaintext message so that unauthorized people can read it easily retrieve or read it.

Therefore we need an encryption so that confidential messages can be designated confidential. In this case the authors apply the Cramer Shoup algorithm as the algorithm to be used for encrypting messages. Where Cramer Shoup algorithm is an asymmetric algorithm that key to encrypt (public key) and decrypt (private key) the message is different. So that the sender and recipient don't be afraid of doing key exchange.

In this research, the authors implement the Cramer Shoup algorithm to create J2ME applications based SMS encryption. SMS encryption application is analyzed from the speed of the process of key generation, message encryption, and decryption of messages. In addition the use of memory for key generation, message encryption, and decryption of messages is also measured. Then for security the authors use the method of Avalanche Effect.

From the experimental results, Cramer Shoup algorithm is one of the exact algorithm for encrypting messages. Because Cramer Shoup algorithm is an asymmetric algorithm where the computational require huge resources so the mobile device that is used for encryption affects the speed of the process and the maximum number of bits that can be used.

Keywords: SMS, encryption, Cramer Shoup, asymmetric, J2ME