ABSTRACT

Instant messaging (IM) is currently in great demand by all the population of the world, including in Indonesia. Most people who use a smartphone to use this application as a means to facilitate communication. With the widespread use of IM, then the security aspects of the data or information on IM also need to be considered. Therefore, the use of encryption for IM is needed to maintain the security of data or information when communicating.

Encryption and descriptions algorithms that will be used is AES-128 algorithm. This algorithm is a stream cipher algorithm and uses 128-bit symmetric key. By using this algorithm, the data or information to be sent to the recipient will be safer.

Encryption and decryption using AES-128 algorithm will be implemented on Prototype Community Messenger application based Android operating system that has a good performance, seen from the Avalanche Effect with an average worth 0.53906. Comparison of time encryption and decryption of messages, where a growing number of messages by the user enter the encryption and decryption time is getting longer.

Keywords : instant messagin*g* (IM), encryption, AES-128 algorithm, android