**Abstract**

Cryptography is knowledge of sending information securely over the network. RSA is a well-known cryptic algorithm used worldwide. For providing confidentiality in the network and to improve the security of RSA algorithm, development and implementation of Modified RSA (MREA) algorithm was done. The project aims at providing a better counterpart of the above two algorithms on the basis of the time complexity and security. It is the most advantageous solution for the security of information in computer network.

The proposed method tries to decrease the time taken by the MREA for encryption and decryption. This is done with the help of Offline Storage and Big Integer library. Offline storage basically means generation of keys prior to the commencement of the encryption process and stores it in a database.

Use of Big Integer library aims at using pre-defined functions so as to decrease the time taken by the MREA algorithm. The proposed system will be using these two combination so as to get better result. MREA is one of the strongest algorithm when it comes to security but the time taken by it make the algorithm impractical for general usage. So the basic focus of this system will be to decrease the time taken in the entire process taking the help of above mentioned techniques in creating a better cryptic algorithm.

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