Security Algorithms and Protocols

MSCS_630

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Image and Video Cryptography

Objective: The main aim of this project is to provide security to images and video files using the advanced encryption standard algorithm (AES).

Description: Now a day's almost all digital services such as military and medical imaging systems, internet communication systems and multimedia share most of their information via internet due to the rapid growth of today's technology. These images or videos being transmitted through the network may contain some important information which may be breached by hackers by an intrusion attack and they may use the copied content for other purposes or may alter the existing information causing havoc to the sender and receiver. Thus there is need of a security level in the digital media systems where the images or videos sent are transmitted in an encrypted format to the receiver over the network. The client having received the file should decrypt it using this application so that no third person may hack the file and copy its contents. This application makes the transmission of both image and video files secure over the network.

This application mainly uses the AES algorithm which is considered to be more secure due to its key length. The AES works mainly on the concept of key expansion and is totally reversible which makes the process of encryption and decryption secure. AES is a symmetric block cipher and works on a fixed number of bytes.

This project paper shows the image cryptography using java and the video file cryptography in java and in an android application. Dependencies: Java, NetBeans IDE, Android Studio