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Project Report

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Abstract

Multimedia applications have an increasing importance in many areas. There is a growing need to store and transmit high quality video for applications where common coding schemes do not yield enough quality. An example of this is Telemedicine system is best example of Applied Medical Informatics. Several physiologic data, Digital images and video can be transmitted more rapidly and easily than conventional images and videos. In telemedicine expert physicians in tertiary care centres can view a digital image, videos and advice local physicians on the best plan of care without having to move the patient many miles away.

Telemedicine will be implemented using the TCP client-server model. The client-server model was originally developed to allow more users to share access to database applications. The data must be secure, when the data is transmitted from server to client, security must ensure that data will not be damaged by attackers and protects against danger, loss, and criminals. Even if someone tries to hack the data content of file should not be revealed to the attacker. So it is necessary to encrypt the data before transmitting the file using encryption methods. The encryption method used in server and client model is XOR or AES (advanced encryption standard) or Rijndael algorithm which is used to encrypt and decrypt the x-ray images of patients, drug prescriptions.

The Rijndael algorithm allows encrypt video at high quality while achieving great encryption. This property makes the Rijndael algorithm a good option for building a video encryption able to obtain better performance than other more general purpose algorithms such as XOR or AES algorithm. One of the main problems when working with the video sequence is the huge datasets that have to be dealt with. Therefore, memory accesses slowdown the encryption execution. Performance is one of the main concerns of modern systems; therefore Profiling and tracing tools is used to determine which parts of a program to optimize for speed or memory usage. A general rule of thumb is that 90% of a program's time is spent in just 10% of the code. Profiling enables you to determine which 10% of the code. The parallelization of code using multithreading concept is required to reduce execution time on the processer and speed up the application. The method of measuring performance is to arrive at the speed of execution, later, measure the execution on a single core and multi-core processor.

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