

ABSTRACT

In this modern age, very rapid development of digital world. This development makes it easy for many people to use the digital data. The convenience also easily misuse by other people to claimed other digital data. One of digital data that needs to be protected is 3D digital object. To prevent this there are several methods to protect copyright of the 3D digital object. One of the method is Digital Watermarking.

This final project design a digital watermarking technique on 3D objects using Singular Value Decomposition (SVD) method, in which this method perform decomposition to get singular value to generate further inserted at the vertex of 3D objects that were previously divided into blocks with size of 3 x 3 then perform the Discrete Cosine Transform (DCT).

The results of watermarking technique using Singular Value Decomposition (SVD) is a good method to protect the quality of watermarked 3D object with the largest SNR 75.4424 dB, the best value of VER 0.0036467 and the value of BER on the inserted image is zero. Then this method has good resistance (robustness) from granting attack such as rotate, rescale, translate, and combination between rescale and translate, But can't stand against crop, because there is a watermark who had gone along with vertex missing.

Keywords: 3D digital object, Digital watermarking, Singular Value Decomposition, Discrete Cosine Transformation

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