

ABSTRACT

3D Digital watermarking is a method to hide some confidential information or messages that are integrated with the 3D object with the purpose to protect a copyrighted works against misuse or illegal use (piracy) ^[11]. Such objects may include images, sound, video, or writing. Watermarking is used in various applications, such as ownership evidence, fingerprinting, content labeling and protection ^[12]. Type watermarking used in this final project is a blind watermarking. Blind watermarking is the process of verifying the watermark does not require the original media or a host that has not been watermarked.

In this final project simulated blind watermarking technique on 3D digital objects using the Moment-Preserving Principle. This method classifies the edge vertices used as a reference in embedding and extraction. The watermark's message is a name of the author 'rindimaurenvioleta' which has been converted into ASCII binary unsign.

The result is a blind watermarking technique using Moment-Preserving Principle. Moment Preserving Principle is an excellent method to protect the quality of watermarked 3D objects with the best MSE $1.53831e-07$, the best VER 0.000519357 , the largest SNR 72.4334 , 0.057342 the fastest computing time and $4,7$ for MOS. Then the message embedded resistance (robustness) is better than giving the attacks such as rotation, rescaling, and translation. But it is not resistant to cropping and noise attacks. Because the watermark message are cropping attacks that go missing along with the missing vertex. On the offensive noise, a watermark message is damaged due to the addition of noise.

Keyword : *3D watermarking, Triangular meshes, Moment-preserving principle, Blind 3D watermarking*