

**Universiti Teknologi MARA**

**An Audio Watermarking Using Matlab**

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**Thesis submitted in fulfilment of the requirements for  
Bachelor of Science (Hons.) Computer Science  
Faculty of Computer and Mathematical Sciences**

**January 2014**

## **ACKNOWLEDGEMENT**

Thanks to Allah S.W.T for giving me the opportunity in doing this final year project paper. This project paper is important to me in partial fulfillment of the requirement for my course Bachelor of Computer Science (Hons.) Computer Science.

I would like to acknowledge with much appreciation to my lecturer, Madam Siti Khatijah Nor Binti Abdul Rahim and Mohamed Imran Bin Mohamed Ariff as my project supervisor and also my lecturer, for their guidance, commitment, motivation and support. Without their constant encouragement and guidance, this project will not achieve according to the objective and maybe not complete on given time.

Furthermore, my humble special thanks to my parents and all my relatives for their moral support, understanding, financial support, emphasis on the value of the education and encouragement. Plus, not to forget to my friends that have given me guidance and full support in order to finish this final year project report.

Last but not least, an expression and gratitude to all lecturers, staffs and individuals who involve directly or indirectly in the making of this final year project report.

Thank you.

## ABSTRACT

The growth of computers and the Internet has made it easier for unauthorized copying, duplication and distribution of digital media. An example of the digital media is audio, video, images and many more. In order to solve these problems, watermarking technique had been used as an alternative to protect the digital media from having unauthorized copying and distributed without granting any permission from the owner. Watermarking is a technique used to label digital media by hiding copyright information into the original data. This research focuses only on audio watermarking. The audio watermarking gives an audio to have better security protection after being embedded. This research used the Discrete Cosine Transform (DCT) technique in non-blind watermarking which provides better quality result for a watermarked audio. Furthermore, by using this technique, watermarked audio would have the same quality as the original audio. In this research, the audio format that being used is Windows Wave (WAV). This research had been done in order to test the quality watermarked audio by using Signal to Noise Ratio (SNR). Through the testing had shown that watermark audio that embed TIFF image has a better SNR value compare with the watermark audio that embed JPEG image. Therefore, a watermark audio is produced in order to have a copyright protection from illegal distribution. The recommendation future works may use others audio file extension for embedding and extracting procedure.

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