

**SECURE AUDIO FILES USING VIGENERE CIPHER AND  
PLAYFAIR CIPHER METHODS**

**THESIS**

Submitted to partially fulfill the requirements for a degree Bachelor  
of Computer Science

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FAKULTAS SAINS DAN TEKNOLOGI  
UNIVERSITAS MUHAMMADIYAH KALIMANTAN TIMUR  
SAMARINDA  
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# ENDORSEMENT PAGE

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## FOREWORD

*Assalamu'alaikum Warahmatullahi Wabarakatuh.*

Praise and gratitude the author goes to God Almighty, who has bestowed His grace, taufik, and guidance.

The thesis entitled "Secure Audio Files Using Vigenere Cipher and Playfair Cipher Methods" was submitted as one of the requirements for students to be able to complete the final project at Muhammadiyah University, East Kalimantan.

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The author realizes that this thesis is still far from perfection, therefore suggestions and constructive criticism from all parties are highly expected for further improvement.

Therefore, the writer hopes that this thesis can be useful for the writer himself, alma mater, nation and religion, especially in order to improve the quality of education and technology in the future. Aamiin

*Wassalamu'alaikum Warahmatullahi Wabarakatuh.*

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## **ABSTRACT**

This study aims to maintain the confidentiality of audio files sent using a combination of the Playfair cipher and Vigenere cipher methods. In this research, the object of research is an audio file with the extension wave or \*.wav. This research requires several stages, including Audio Data Analysis, Determination of System Architecture, Implementation, Testing, and Results Analysis. The results of this study indicate that in the Vigenere Cipher 256 Encryption in audio wave files, the audio messages conveyed sound unclear or have no meaning. From the 6 trial datasets based on analysis of MAE and PSNR, the average value of the encryption process at PSNR was 28.345, and MAE was 97.0625. The average value of the decryption process on PSNR and MAE is 0.0, indicating that the decryption process is successful. The speed of the encryption and decryption process is affected by the audio file's size, which means that the larger the file size, the longer the encryption and decryption time.

Keywords: Cryptography, Audio, Confidentiality, Vigenere Cipher, Playfair Cipher.

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