ABSTRACT

Data theft in the digital age has become a serious threat, especially in Indonesia. This issue can be solved if the public becomes more vigilant about personal data security and understands technologies that can protect data, such as steganography and quantum computing. However, achieving this is challenging since a most of the Indonesian population is still unfamiliar with quantum technology and steganography. The advancement of quantum technology, which promises increased speed and efficiency in information processing, has the potential to increase this risk. However, the application of steganography techniques, which can hide confidential information in other media, can protect data from crime.

The two techniques can be combined to create an optimized increase in data security and robustness. The Final Project is designed to overcome these problems by building a system that can provide education to the public while securing personal data. Three quantum steganography techniques, namely spread spectrum, discrete cosine transform, and wavelet are integrated into applications and websites to protect personal data through images as media.

The results of the research on the three techniques show high similarity between the original image and the stego image and successfully retain the secret message without any bits of information being lost. The integration of the three quantum steganography techniques in applications and websites provides good performance and the demonstration provided hopefully make people understand about steganography and quantum technology.

Keywords: *Steganography, Quantum Steganography, DCT, Spread Spectrum, Wavelet, application, website.*