

## ABSTRACT

The rapid growth of digital makes transaction protection very important to ensure data security and integrity. One method that can be used to protect transaction data against *QR Code* is by using Digital Signature. By using Digital Signature, *QR Code* can be authenticated securely and its authenticity can be guaranteed. Digital Signature allows *QR Code* creators to sign data with their private key, so that recipients can verify and authenticity of the data.

This research was conducted to collaborate Digital Signature in transaction protection using *QR Code*. So that this system can increase the security and authenticity of transactions and ensure that the data stored in the *QR Code* is not manipulated or modified by unauthorized parties. This implementation is expected to provide an effective and efficient solution in protecting digital transactions, especially in the face of increasing cyber threats. In addition, this system can also allow users to verify and validate data easily and can increase transaction trust.

In testing the *QR Code* verification application involves testing the API with the average response time of 876 ms to test when doing a login experiment. So that the API that has been deployed has no problems or problems in making requests and responses. As for the speed of signing a *QR Code*, the average is 1,617 ms. In addition, the speed of verification of the *QR Code* response given to the application to display verified or not verified status results in an average of 67.7142 ms. Thus, the *QR Code* verification application using Digital Signature provides an effective solution to the *QR Code* in terms of confidentiality, integrity, and availability.

Keyword: *Digital Signature, QR Code.*