

ABSTRACT

Manual data collection process of public transportation in Bandung Regency leads to the use of many papers to record data and causes a search of a data becomes less effective. This paper design a digital data collection program (paperless) of RFID for public transportation and an encryption algorithm as a data security system. AES-128 algorithm is used to encrypt data.

This RFID program connected with the information system database managed by the Department of Transportation Bandung Regency, and then the data will be processed for data collection every public transportation. AES-128 use 1 private only officer knows. With the AES-128 encryption system, the Department of Transportation Bandung Regency no longer hassle to always make sure the public transportation data operation and can ensure there is no falsification of data by the owner of public transportation..

The results of AES Encryption on RFID card show the good performance of the system. Average time for encryption for 1 data block is 0.273s, for decryption need 0.305s for every block. Encryption and decryption time are depend on the number of block in use. Then the *Avalanche Effect* shows good value from average value 47.5%. Application has a success to give the valid data for encryption and decryption until 100%.

Keywords : RFID, data encryption, AES, data security, public transport