

ABSTRACT

Development of information technology has given significant effects in all area. One of them is in financial transaction which we know as electronic money which able to save some value of the money into electronic media. E-money is an efficient and practical payment device. E-money can decrease coins and counterfeit money. E-money also can be top up. E-money has become a simple and performance life style. Financial transaction system in IT Telkom has used cash, debit, credit and internet banking. That is why financial transaction system based on e-money is needed to maximize and upgrade technology information service in IT Telkom.

In this final project, it will be designed and implemented electronic money for financial transaction using rijndael encryption method and RFID based. The focus of this final project is electronic money design and implementation which integrates application in PC and RFID module. RFID module has a role to read and write data from/to card. In that application is also designed database and rijndael algorithm. Database is used to save transaction data. Rijndael algorithm is used to secure transaction. RFID module used is ACR120U. Electronic value is saved on tag card. Tag card used is MF1 IC S50.

The result of this final project is financial transaction system based on electronic money which is single purpose, prepaid product, card based product and balance based product. The security of transaction system is secured by rijndael algorithm which is build by key 128, 192, 256 bit. RFID module can read/write data from/to tag card with maximum range are 8 cm when the position of tag card is parallel with RFID module and 2 cm when the position of tag card perpendicular with RFID module. The maximum capacity of data which can be written to tag card is 48 characters.

Key word : *electronic money*, RFID, rijndael