

ABSTRACT

Cases of theft often occur either in the community or the campus environment. Most cases of theft occur due to a lack of environmental monitoring systems or a lack of records on stored items. To overcome this problem, a room monitoring system and logging system are needed as an effective monitoring system. Every object that is borrowed or transferred will be attached with RFID and the perpetrator must scan the RFID reader as proof that the perpetrator has borrowed the item, while the activity is taking place, the CCTV system will monitor the perpetrator's actions and store evidence in the form of video as supporting evidence that the perpetrator has borrowed the item. The two parameters must have adjacent timestamps for the proof to be valid. In testing this system, it was carried out using the RC522 RFID reader and NodeMCU as a bridge to send the log id of the goods to Google Spreadsheet. For the CCTV system using Rasberry Pi 3 and MotionEye as the Monitor system. From the test results, the RFID sensors show that the logging system runs optimally and generates timestamps and is stored in a spreadsheet. For the CCTV system, the test results show that this system is running optimally. According to the results of data analysis using the Confusion Matrix and F1 Score, it produces an accuracy of 100% and an F1 score of 1.0.

Keyword: RFID, CCTV, Monitoring, Asset Tracking, Timestamp