RANCANG BANGUN SISTEM KEAMANAN PINTU GUDANG MENGGUNAKAN SIDIK JARI DAN ULTRASONIK BERBASIS RASPBERRY PI

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ABSTRACT

Plantation areas usually have warehouses that function to save agricultural materials such as fertilizers, agricultural tools, protective clothing, and other items. The warehouse can reduce the burden when returning home so that it requires leaving the warehouse without warehouse protection security. In the news published on riauterkini.com (Monday, June 15 2019), there are frequent fertilizer theft cases in small areas of Riau province. It is known that the damage to the warehouse door on Air Hitam Street, Tampan District, Pekanbaru, Riau. Furthermore, in the news published by Lampung1.com (October 4 2019), there was a burglary to the corn warehouse and taking 2 tons. By utilizing today's technology, warehouse security systems can be guaranteed safety in this study utilizing Raspberry Pi as a microcontroller. This system collaborates with the warehouse security system using the telegram application with ultrasonic sensors to monitor. If someone is in front of the warehouse for 10 seconds, then collaborates with the fingerprint sensor as access security for opening the door, and collaborates with the door sensor if there is a forced break in the door. This system also has a buzzer as the system indicator and security alarms in the event of a broken door. Based on the system testing conducted, the collaboration system using fingerprint recognition has an accuracy rate of 100%, the collaboration system using a door sensor has an accuracy rate of 100%. Collaboration systems using ultrasonic sensors as monitors based on distance have an accuracy rate of 100% and ultrasonic sensors as monitors based on image capture have an accuracy rate of 60%. So it can be concluded that this system is relatively safe in the warehouse door security system.

Keywords: *Warehouse Door, Raspberry Pi, Fingerprint, Ultrasonic, Telegram.*