

ABSTRACT

In general, the arrival of a guest can be known from a conventional bell that is pressed by the guest when in front of the house. Not only guests, there can be guests. the delivery person of the package or the animal that stopped in front of the house. However, on conversional bells generally homeowners cannot know who is in front of the house when the owner is not in the house. Based on these problems, researchers designed a prototype Smart Doorbell based on the Internet of Things (IoT) to find out the arrival of guests, package delivery persons or animals stopping by through the Passive Infrared Sensor (PIR) and ESP32-Cam which provides Smartphone notifications through the Telegram application and is equipped with a Weight Sensor to find out the weight of the package at the door of the house. With the IoT-based Smart Doorbell, homeowners can find out guest arrival information even though the homeowner is not at home.

The results obtained from the design of the Internet Of Thing-Based Smart Doorbell tool are that it can provide time efficiency so that homeowners do not have to spend time to see who is at the door of the house via a smartphone sent through the Telegram application. Homeowners can also find out the weight of the package delivered by the package delivery person in front of the house through notifications sent through the Telegram application. In addition, through the Telegram application, homeowners can be viewed again the history of images or videos recorded by the camera on the smart doorbell.

In this study, the internet of thing-based smart doorbell prototype can be realized with a package load measurement accuracy value of 99%, a PIR sensor detection distance of 5 M, and a delay time obtained when sending notifications on a smartphone via Telegram with an average time of 6 seconds to 61 seconds for Telegram notifications when detected by humans or animals. delay time obtained when sending notifications on smartphones via Telegram with an average time of 4 seconds to 13 seconds.

Keywords: Smart Doorbell, Internet of Things, Passive Infrared Sensor, Loadcell Sensor.