

ABSTRACT

Cats are one of the most common animals to keep. Cats, as pets, require regular feeding and drinking. But not every cat owner has the time to feed their cats regularly. Additionally, cat owners are unable to monitor and know their cat's condition. This may cause cat owners feel worried about the condition of their cat. To solve this problem, some cat owners use a product in the form of an automatic cat feeder to feed their cats automatically. Other issues, however, cannot be resolved by feeding alone. Additionally, complete cat feeder products are relatively expensive to buy on the market. Therefore, the cat owner will feel calm leaving his cat alone if he can feed his cat regularly and on schedule and can monitor the condition of his pet cat.

To overcome these problems, a product was designed in the form of a Cat Feeding and Monitoring System. This product can dispense feed automatically on a scheduled basis and with adjustable portions. To overcome these problems, a product was designed in the form of a Cat Feeding and Monitoring System. This product can dispense feed automatically on a scheduled basis and with adjustable portions. This product can also monitor the condition of the room using a camera and identify which and when the cats are eating. In addition, this product can be used remotely using a smartphone application using the IoT concept. Through this application, the user can monitor the condition of the product and the cats, such as the weight of the feed in the bowl, the remaining available feed, the last mealtime for each pet cat, and so on. This product is also designed to have an affordable price.

After testing the product's features, it was found that the product can function properly. The product can dispense feed on a scheduled and portioned basis, with a difference in feed dispensing time of 3.8 seconds and an error in the mass of feed in the bowl of 3.05%. The product can also recognize cats that are eating with 100% accuracy. Through the smartphone application, users can monitor the condition of the room live with the help of the Ngrok application. Users can also dispense the feed manually with a delay of 3.71 seconds. The product can accommodate 1.91 kg of feed, equivalent to 81.37% of the total volume of feed storage. Products are also made with a total cost of components and cat collars of Rp. 606,350. However, there is a high increase in the system's build cost, which is Rp. 1,225,500. This is because acrylic and 3D printing were used to create the system's build. Products can be cheaper if they are mass-produced at lower production and material costs.

Keywords: Feeder, Automatic, IoT, Monitoring, Recognition