

ABSTRACT

One device that is able to maintain the quality of food ingredients to stay fresh longer is a refrigerator, by using a refrigerator, in addition to maintaining the quality of food ingredients, food ingredients stored in the refrigerator will also look fresher because the air temperature in the refrigerator is cooler. However, by storing food ingredients in the refrigerator, it does not mean that stored food ingredients will last forever, stored food ingredients can also rot and reduce the quality of these food ingredients. A person who uses the refrigerator to store groceries often forgets to check the stored food ingredients, so that person does not know whether the stored food ingredients are still in good condition or not and are still available or not. That's why this device is created so that someone can see the quality and quantity of stored food ingredients just by looking at the blynk application on the smartphone.

The device made in this study is able to detect the quality of food ingredients by monitoring the humidity in stored food ingredients using a DHT11 sensor module that is able to detect temperature and humidity. This device is also able to detect the quantity of food ingredients by monitoring the mass or weight of the stored food ingredients using the Load cell and the HX711 module.

The device will notify the user of that the food ingredients have run out, when the device detected food weight is less than 250gr, this will be a warning for the user to buy new food ingredients so that the food ingredients in the refrigerator are still available. The quality of food ingredients can be categorized as good when the detected humidity is less than 95 RH with a food weight of more than 500 gr, less than 94 RH when the weight of the food ingredients is 250 to 500 gr, and less than 90 RH when the weight of the food ingredients is less than 250 gr. The device will notify all of this information through blynk media on the user's smartphone.

Keywords: smartphone, blynk, refrigerator, quality, quantity, weight