

## ABSTRACT

Internet of Thing or IoT is now starting to penetrate the world of housing or commonly called smart home that serves to improve efficiency and security for its residents using applications on smart phone so, because of that lots of home devices connected to IoT and one of them is a refrigerator. Refrigerator is a household requirement that is very important to store groceries such as fruit, vegetable, and side dishes to keep it fresh.

Users whose majority of time are not in the scope of the house often have trouble checking the contents of the refrigerator to ensure the supply of food in the refrigerator and value temperatures on the freezer refrigerator to ensure the refrigerator is functioning properly. In this research, monitoring of food supplies in the form of eggs are the main ingredients that are always present in the user's refrigerator.

This research offers a solution by making the existing standard refrigerator a smart refrigerator by adding an egg supply monitoring function so that the user can monitor the inventory of eggs in the refrigerator at a long distance, this is makes it very easy for users with a majority of time to use on outdoor activities such as work and school.

This research uses the principle of infrared sensor for the detection of eggs with a maximum number of six pieces. This research also monitors the temperature of the freezer by using the temperature sensor DS18B20 where the temperature monitoring is focused on milk's freezer, this is based on the temperature in the freezer should be stable at a minus condition so that the breast milk is not damaged and can be consumed. In this study the temperature of the refrigerator are stable at it lowest point which is  $-12^{\circ}\text{C}$  and the average accuracy value obtained in this are is 100% on the infrared sensor and 91% on the temperature sensor DS18b20.

Keywords: smart refrigerator, smart home, Internet of Thing, Infrared Sensor, freezer, temperature Sensor DS18B20.