

ABSTRACT

The Internet of Things (IoT) is a technology that enables devices and sensors to communicate with each other over the internet. One of the IoT applications in everyday life is the automatic drying rack roof. By utilizing rain sensors, temperature sensors, and internet connectivity, this system can control the opening and closing of the roof automatically based on weather conditions. The automatic drying rack roof is designed to ensure that clothes remain dry without the need for manual intervention, thus making it easier for users and helping to optimize daily activities.

In this final project, an automatic drying rack roof has been implemented in the form of a prototype, utilizing tests with a rain sensor, temperature sensor, and fan. The testing involved a rain sensor in the form of the SEN-007 sensor and a temperature sensor in the form of the NTC3950 sensor.

The testing of this automatic drying rack roof yielded results indicating that when the rain sensor value is 4.095 V, the condition is dry and the roof will open. However, if the rain sensor value is below 4.095 V, the condition is wet, causing the roof to automatically close. The average voltage obtained reached 3.737 V, and the average outdoor temperature reached 27.7°C, while the indoor temperature reached 28.8°C. The fan is used to maintain the temperature inside the prototype of the automatic clothesline roof.

Keywords: *Internet of Things, NTC3950, SEN-007, automatic, ThingsBoard.*