Abstract

In the last few years technology develops rapidly, there are many things controlled using computer that can act automatically, the example is automatic roof. Automatic roof can opened and closed based on certain conditions. The implementation of automatic roof is vary, from stadium roof to car roof. The main function of roof itself is to protect anything below from excessive light exposure or rainfall. In daily life, drying clothes under the sun is primary need in the household. At house that has no roof, problem usually occured when suddenly the rain fall and case the clothes become wet instead of dry. By utilizing existing technology, it will be very helpful when building an automatic clothesline roof based on rain detection.

The technology of automatic clothesline roof in smart home use a microcomputer called Raspberry Pi that can acquire the value of temperature, humidity, and light intensity from each sensors. Those data will be sent to openMTC server so the fuzzy application can get those data to predict the weather. The result of the fuzzy process will be sent back to openMTC server so Raspberry Pi can get it and decide how the actuator act.

The result of this experiment shows that the value from each sensors can predict the occurence of rain after it processed in fuzzy application. System can predict rain before the rain fall if the value of light intensity is under 6000 lux, but one of the experiment shows that the system fail to predict the rainfall when the value of light intensity is above 6000 lux. At the time of experiment, the value of temperature and humidity change drastically, this is common because the weather at that time is windy.

Keywords : Raspberry Pi, OpenMTC, Fuzzy