ABSTRACT

Drying clothes is a simple activity to do at home and can not be avoid in daily life. The busyness that takes a lot of time for each individual in outsite home makes the activity is not simple anymore. The occurrence of problems such as rain, resulting clothes that have been dry become wet again. So to avoid these conditions, the owner needs to be at home when the rain occurs.

Smart home is a concept that can be the right solution and effective for every problems or activities in the house. The ability of Smart home to control almost all equipment at home with the command via remote control can facilitate the activities at home efficiently, considering the various outdoor activities that are done by every individual.

This Final Task develop a smart clothes roofing system that can be controlled and monitored by users through an application on a smartphone. This smart clothes roofing system uses rain sensor, humidity and temperature sensors (DHT22) as parameters to determine the occurrence of rain and light sensor (LDR) as additional information for the user. This system uses NRF24L01 as a tranceiver module, Arduino Uno as microcontroller and Raspberry Pi as a local server that will connect with VPS as internet server.

The test results obtained the maximum range of NRF2L01 is 97 meters in LOS (Line of Sight) Condition. Distance range of NRF24L01 can also affected the delay delay in the data transmission process. The availibility and reliability of the system are 98.276% and 98.264%.

Keywords: Smart home, Smart Clothes Roof System, Microcontroller, Application, Smartphone