

Abstract

The distribution of excess sunlight in a room is directly related to the architecture of the building. The intensity of excessive sunlight in the room causes an increase in temperature which causes discomfort. Reducing the level of light in a room is an efficient way to reduce heat. This final project builds a shading device using an Arduino ATmega 2560 microcontroller, LDR sensor, DHT11 sensor and RTC module. The LDR sensor is used to determine the intensity of the light outside the room, the DHT11 sensor is used to determine the temperature in the room and the RTC module is used to set the time for the rotation angle of the servo motor. Automatic sunlight system that enters the building by adjusting the vertical angle of the sun. The system was built using the mamdani fuzzy logic method which is used to produce an output in the form of a vertical shading displacement angle. The test results show the system can do fuzzy processes to change the vertical shading angle and can reduce the temperature in the room.

Keywords: vertical sun shading, shading device, fuzzy logic