

ABSTRACT

Some people, especially busy employees, view work as a top priority. They often don't have time to take care of the house because they work from morning to night. In this context, the use of a sliding canopy which is part of the house building is usually used as air circulation, garage, and protects from unfriendly weather factors, so that it becomes difficult to control when you want to open or close it. Therefore, an idea emerged to apply the Internet of Things to overcome this problem.

This research develops an IoT-based sliding canopy drive system using rain and light sensors that are connected via the Blynk application. This system involves several components such as an ESP 32 microcontroller, a rain sensor to detect water droplets, a BH170 light sensor to detect light, and the Blynk application as a user interface via a smartphone. By using an internet connection, the use of an IoT-based sliding canopy can be controlled remotely via the Blynk application.

After twenty experiments with automatic and manual modes, the results of the IoT-based sliding canopy prototype show performance that is in accordance with the system design. The canopy can be opened and closed according to instructions from manual and automatic systems with an average result of 100%.

Keywords: Sliding canopy, rain sensor, light sensor, IoT, Blynk application.