

ABSTRACT

In Indonesia there is a Indeks Standar Pencemaran Udara (ISPU) that provides information about the air quality that exists. Some of the particles that are the source of pollution are Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Ozone Surface (O₃), Dust Particle (PM₁₀). To be able to monitor the air quality, built a prototype of air quality monitoring. Implementation of air quality monitoring prototype by making 2 stations containing MQ-7 sensor as carbon monoxide (CO) detector, MQ-135 detector carbon dioxide (CO₂) detector, SHARP GP2Y1010AU0F sensor as dust detector, arduino microcontroller and radio communication module NRF24L01 that representaiton of station id. For the gateway using Raspberry pi 3 model B. Data obtained from sensing sensor, sent via Wi-fi and displayed into dashboard domoticz as dashboard and local database and freeboard.io as web dashboard that can be accessed by everyone. From the communication system test results, the NRF24L01 module can only receive maximum data at a distance of 6 meters under unavoidable conditions and 3 meters under hindered conditions because of interference from other signals. The test results of the average air quality value for 2 hours in the cafeteria technique are: CO = 44.28 included in the GOOD category , CO₂ = 671.68 entered in stiffness and odors category. While in the parking lot of motorcycles are: CO = 51,72 enter in MODERATE category, PM₁₀ = 18,68 enter in GOOD category.

Keywords: ISPU, sensor, NRF24L01, freeboard.io, domoticz.