

LAMPIRAN 8

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING *

Judul Karya Ilmiah (Artikel) : A Fog Networks for Measuring the Physical Parameter of Greenhouse Plant
 Jumlah Penulis : 3 Orang
 Status Pengusul : Penulis pertama/~~penulis ke-~~...~~~~ /~~penulis korespondensi~~ **
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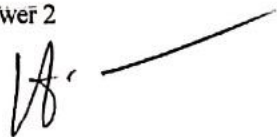
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	Reviewer I	Reviewer II	
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b. Ruang lingkup dan kedalaman pembahasan (30%)	7,5	8,5	8
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	8	8,5	8,25
d. Kelengkapan unsur dan kualitas penerbit (30%)	9	7,5	8,25
Total = (100%)	27,3	27,5	27,4
Nilai untuk Pengusul : (60% x 27,4) = 16,44			

Semarang, Januari 2020

Reviewer 1

Reviewer 2

Prof. Dr. Wahyu Setia Budi, M.S.
 NIP. 195806151985031002
 Bidang ilmu/Unit kerja : Fisika FSM UNDIP

Prof. Dr. Heri Sutanto, S.Si., M.Si.
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c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9		8
d. Kelengkapan unsur dan kualitas penerbit (30%)	9		9
Total = (100%)	30		27,3
Nilai Pengusul =			0,6x27,3=16,38

Catatan penilaian Artikel oleh Reviewer :

- Kelengkapan unsur isi Jurnal ; bila ada ucapan terimakasih akan lebih lengkap.
- Ruang lingkup dan kedalaman pembahasan cukup baik, judul sistem pengukuran, isi meliputi komparasi fog dan cloud network.
- Kecukupan dan kemutakhiran data/informasi dan metodologi, data dan metode cukup sesuai tujuan penelitian, seluruh pustaka mutakhir kurang dari 10 tahun. Deviasi sangat kecil bila dituliskan secara kuantitatif akan lebih baik.
- Kelengkapan unsur dan kualitas terbitan/jurnal baik.

Semarang, 10 Oktober 2019

Reviewer 1



Prof. Dr. Wahyu Setia Budi, M.S.

NIP. 195806151985031002

Bidang ilmu/Unit kerja : Fisika FSM UNDIP

* dinilai oleh dua Reviewer secara terpisah

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b. Ruang lingkup dan kedalaman pembahasan (30%)	9		8,5
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9		8,5
d. Kelengkapan unsur dan kualitas penerbit (30%)	9		7,5
Total = (100%)			
Nilai Pengusul =	30		27,5

Catatan penilaian Artikel oleh Reviewer :

a. Artikel telah ditulis lengkap sesuai rumus jurnal
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 c. Data/informasi telah di dukung 100% referensi terkin dan relevan. Kemutakhiran data/informasi bagus dg index similarity 5%.

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Semarang, 13 / 8 / 2019
 Reviewer 2



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3rd International Conference on Energy, Environmental and Information System, ICENIS 2018;
Semarang; Indonesia; 14 August 2018 through 15 August 2018; Code 143635

A Fog Networks for Measuring the Physical Parameter of Greenhouse Plant (Conference Paper) (Open Access)

Suryono, S.^{a,b} ✉, Sunarno, S.^c, Saputra, R.^d 👤

^aMagister of Information System, School of Postgraduate Study, Diponegoro University, Semarang, Indonesia

^bDepartment of Physics, Faculty of Science and Mathematics, Diponegoro University, Semarang, Indonesia

^cDepartment of Biology, Faculty of Science and Mathematics, Diponegoro University, Semarang, Indonesia

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Abstract

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Greenhouse is a very effective method of matching and has been able to contribute to food independence in various countries. Plants that are in the greenhouse must be maintained with chemical-physical parameters in order to grow optimally. Monitoring of plants in greenhouses must always be done. Some monitoring reports have been made online so that they can provide solutions as quickly as possible if there is a disturbance on the plants. Unfortunately, online monitoring is still dependent on internet networks that require network infrastructure needs that have many limitations. As a result, many agricultural lands are not covered by the internet network to monitor the greenhouse. The use of a large number of sensor nodes also affects the decline in available broadband internet performance so as to reduce monitoring performance. In this research proposed a fog network that connects the sensor node with the local fog server via a WIFI network. Sensor node has been built with a system on chips WIFI-Microcontroller ESP8266 to perform data acquisition and temperature sensor data transmission, relative humidity and light intensity using the WIFI network to the fog server. In this study testing the accuracy of sensor parameters used and network performance by comparing with the use of cloud networks. From the tests performed, the results of Mean Absolute Percent Error (MAPE) were obtained for each parameter, temperature = 1.3%, humidity: 1.9% and light intensity: 0.6%. The use of the fog network has proven to not contribute significantly to the error value of measurement data sent to the server. The use of WIFI on the fog network requires less network broadband needs when compared to cloud networks. This difference is very significant, which is an average of 253 BPS if using a fog network and 1276 BPS if using a cloud network. From the experiments conducted, the use of networks for proven to have a high data transmission speed with value 471 ms when compared to the internet network with value 1349 ms. Variations in the number of sensor nodes up to 5 nodes do not significantly affect that speed. © The Authors, published by EDP Sciences, 2018.

SciVal Topic Prominence ⓘ

Topic: Air quality | Air pollution | Pollution monitoring

Prominence percentile: 93.597 ⓘ

Author keywords

Broadband Monitoring Online Sensor node Transmission speed

Indexed keywords

Engineering controlled terms:

Data acquisition Data communication systems Data transfer Fog Greenhouses Information systems Information use Monitoring Sensor nodes System-on-chip Wireless local area networks (WLAN)

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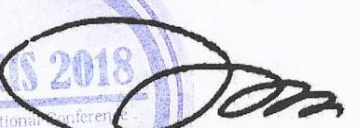
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