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IMPLEMENTASI SISTEM KONTROL OTOMATIS SUHU BERBASIS IOT PADA LINGKUNGAN KANDANG PUYUH DESA DORODEJO

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80 halaman + xiii halaman / 61 gambar / 10 tabel / 15 daftar pustaka.

ABSTRAK

Permasalahan yang terjadi pada pekerja peternak puyuh Desa Dororejo untuk melakukan pekerjaanya dalam menetralkan suhu ruangan dengan menggunakan kipas angin masih dilakukan secara manual yaitu dengan menyalakan kipas angin terus menerus jika suhu ruangan kandang panas dan penggunaan listrik juga semakin banyak, apabila suhu rauangan turun maka pekerja akan mematikan kipas angin tersebut. Dengan metode manual tersebut masih dianggap kurang efesien dalam melakukan pekerjaanya, sehingga dibangung sistem kontrol kipas otomatis berdasarkan suhu berbasis Iot pada lingkungan kandang puyuh Desa Dororejo, yang dapat dimonitoring jarak jauh melalui website. sehingga dengan dibangunkan sistem tersebut akan mempermudah pekerja dalam melakukan pekerjaanya dan hasil telur puyuh dan kualitas jangka produksi telur puyuh semakin membaik karena dalam peternakan puyuh, puyuh tersebut mudah mengalami stres jika suhu ruangan tidak sesuai dalam memelihara puyuh. Sistem ini dibuat menggunakan metode waterfall melalui tahap Communication (Project Initiation & Requirements Gathering), Planning (Estimating, Scheduling, Tracking), Modeling (Analysis & Design), Construction (Code & Test), Deployment (Delivery, Support, Feedback). Sistem kontrol otomatis suhu berbasis IoT dirancang menggunakan alat bantu flowchart, diagram block sistem, dan lembar kerja tampilan. Hasil pengujian media menggunakan metode pengujian black box testing, white box testing, dan pengujian User Acceptance Test (UAT). Hasil pengujian menunjukkan bahwa spesifikasi media sudah sesuai dengan kebutuhan pengguna, mudah digunakan karena mudah dipahami, dapat melihat suhu, kelembaban dari jarak jauh. Sistem tersebut akan berkerja jika suhu diatas 33 derajat celcius maka kipas angin menyala maupun sebaliknya, Kekurangan dari sistem yang sudah dibangun yaitu perlu penambahan fitur notifikasi yang menandakan ketika suhu naik kipas angin menyala dan ketika suhu turun kipas angin akan mati.

Kata Kunci : *Sistem Kontrol Kipas Otomatis Suhu Berbasis IoT, Arduino, Waterfall, IoT.*

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IMPLEMENTASI SISTEM KONTROL OTOMATIS SUHU BERBASIS IOT PADA LINGKUNGAN KANDANG PUYUH DESA DORONREJO

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ABSTRACT

The problem that occurs for quail breeder workers in Dororejo Village is to carry out their work in neutralizing the room temperature using a fan, which is still done manually, namely by turning on the fan continuously if the room temperature in the cage is hot and the use of electricity is also increasing. If the room temperature drops, the worker will turn off the fan. The manual method is still considered to be less efficient in carrying out its work, so an IoT-based temperature-based automatic fan control system was built in the quail cage environment in Dororejo Village, which can be monitored remotely via the website. so that by developing this system it will make it easier for workers to do their work and the yield of quail eggs and the quality of quail egg production will improve because in quail farming, the quail easily experience stress if the room temperature is not suitable for raising quail. This system was created using the waterfall method through the stages of Communication (Project Initiation & Requirements Gathering), Planning (Estimating, Scheduling, Tracking), Modeling (Analysis & Design), Construction (Code & Test), Deployment (Delivery, Support, Feedback). An IoT-based automatic temperature control system is designed using flowchart tools, system block diagrams, and display worksheets. Media testing results using black box testing, white box testing, and User Acceptance Test (UAT) testing methods. The test results show that the media specifications are in accordance with user needs, easy to use because they are easy to understand, can see temperature and humidity from a distance. This system will work if the temperature is above 33 degrees Celsius then the fan turns on or vice versa. The disadvantage of the system that has been built is that it needs to add a notification feature which indicates that when the temperature rises the fan turns on and when the temperature falls the fan will turn off.

***Keywords**: IoT Based Automatic Fan Temperature Control System, Arduino, Waterfall, IoT.*