

Utilization of the Internet of Things (IoT) as a Remote Communication System on Unmanned Aircraft

by Pramudi Utomo, Mashoedah, Umi Rochayati, Oktaf Agni Dhewa, Soenarto, Evan Rega Mahendra, Fardiansyah Nur Aziz

ABSTRACT

This study aims to obtain unmanned aircraft communication technology by utilizing Internet of Things (IoT) technology, to obtain the design and development of a UAV telemetry system at the perception layer, including the development of flight controller circuits and PCBs, sensors, and actuators, and developing an interface at the application layer which is the operator interface with the system through a smart device or personal computer at the transport layer determined.

The method used is the DDR (Design and Development research) model. The procedures carried out are (1) Needs Analysis of the availability of components (substitution components), (2) Focus Group Discussion (FGD) on system component requirements, (3) Circuit design and flight controller PCB, sensors, and actuators at the Perception Layer, (4) Development of flight controller, sensor, and actuator circuits and PCBs, (5) Static testing of flight controller, sensor, and actuator circuits and PCBs, (6) Focus Group discussion of Test Results, (7) Installation of flight controller circuits, sensors, and actuator on the UAV vehicle, (8) UAV flight test and data collection, (9) FGD Flight test.

Data collection was carried out through (1) electrical test, (2) vehicle weight test, (3) function test of each system, (4) static test before flying, (5) flight test, (6) connection test, (7) range test. The data obtained were analyzed descriptively quantitatively to obtain the results of the feasibility and overall system performance.

Kata Kunci: Keywords: Internet of Things, IoT, UAV, drone