ABSTRACT

Thesis Title	**: AIR POLLUTION DETECTION SYSTEM BASED ON ARDUINO MEGA 2560 AND TELEGRAM WITH IOT INTEGRATION**
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This research develops an air pollution detection system based on Arduino Mega 2560 which is integrated with Telegram via the Internet of Things (IoT). Air quality sensors, including MQ-7, MQ-2, and air temperature (DHT22), are connected directly to the Arduino Mega 2560 to collect real-time air pollution data. This data is sent to the server via an internet connection, and users receive notification of detection results via the Telegram application. This system provides fast and accurate access to air quality information, enabling responsiveness to air pollution conditions. The research results show the reliability of the system in supporting air pollution mitigation efforts, with the potential for a positive contribution to environmental preservation and public health.

Keywords : *Air Pollution Detection, Arduino Mega 2560, Internet Of Things (IoT)*

ABSTRAK

Judul Skripsi	: **SISTEM DETEKSI POLUSI UDARA BERBASIS ARDUINO MEGA 2560 DAN TELEGRAM DENGAN INTEGRASI IOT**
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Penelitian ini mengembangkan sistem deteksi polusi udara berbasis Arduino Mega 2560 yang terintegrasi dengan Telegram melalui Internet of Things (IoT). Sensor-sensor kualitas udara, termasuk MQ-7, MQ-2, dan suhu udara (DHT22), terhubung secara langsung ke Arduino Mega 2560 untuk mengumpulkan data polusi udara secara real-time. Data tersebut dikirimkan ke server melalui koneksi internet, dan pengguna menerima notifikasi hasil deteksi melalui aplikasi Telegram. Sistem ini memberikan akses cepat dan akurat terhadap informasi kualitas udara, memungkinkan responsif terhadap kondisi polusi udara. Hasil penelitian menunjukkan keandalan sistem dalam mendukung upaya mitigasi polusi udara, dengan potensi kontribusi positif dalam pelestarian lingkungan dan kesehatan masyarakat.

Kata Kunci : *Deteksi Polusi Udara, Arduino Mega 2560, Internet Of Things (IoT)*