ABSTRAK

RANCANG BANGUN SISTEM *MONITORING* DAN KONTROL *LEVEL WATER* DENGAN SENSOR ULTRASONIK DAN SENSOR *FLOW WATER* BERBASIS *INTERNET OF THINGS* (IoT)

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Rahmat Wijaya: dibimbing oleh Ir.A.Rahman., M.T. dan Amperawan, S.T.,M.T.
Rancang Bangun Sistem Monitoring dan Kontrol *Level Water* Dengan Sesnor Ultrasonik Dan Sensor *Flow Water* Berbasis IoT

Pemborosan air akibat pengisian yang berlebih masih sering terjadi, terutama karena kurangnya sistem monitoring. Untuk mengatasi hal ini, dibuatlah sistem monitoring dan kontrol level air berbasis *Internet of Things* (IoT) mengunakan sensor ultrasonik dan sensor *flow water*. Sensor ultrasonik berfungsi untuk mengukur ketinggian air, sedangkan sensor *flow water* berfungsi untuk memantau aliran air yang masuk. Data ditampilkan secara *real-time* melalui platform IoT dan notifikasi dikirim melalui Telegram, sehingga pengguna dapat memantau dan mengontrol pengisian air dari jarak jauh. Sistem ini juga dapat mematikan aliran air secara otomatis saat air sudah penuh, sehingga dapat mencegah pemborosan. Sistem ini membuat penggunaan air menjadi lebih efisien dan tekontrol.

Kata Kunci : IoT, *Monitorig,* Sensor Ultrasonik, *Flow Water*, Pengisian Air Otomatis, Telegram.

ABSTRACT

DESIGN AND DEVELOPMENT OF A WATER LEVEL MONITORING AND CONTROL SYSTEM USING UITRASONIC SENSOR AND FLOW WATER SENSOR BASED ON *INTERNET OF THINGS* (IoT)

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Water waste due to excessive filling still frequently occurs, primarily caused by the lack of an integrated monitoring system. To address this issue, a water level monitoring and control system was designed and developed based on the Internet of Things (IoT), utilizing an ultrasonic sensor and a flow water sensor. The ultrasonic sensor functions to measure water height in real-time, while the flow water sensor is used to monitor the incoming water flow rate. Data from both sensors is displayed through an IoT platform and complemented with a Telegram-based notification system, allowing users to monitor and control water filling remotely. The system is also designed to automatically stop water flow when the tank is full, thereby preventing waste. This system ensures that water usage becomes more efficient, controlled, and user-friendly.

Keywords: Internet of Things (IoT), Monitoring, Ultrasonic Sensor, Flow Water Sensor, Automatic Water Filling, Telegram.