

IMPLEMENTATION OF IOT-BASED SMART PARKING SYSTEM TO OPTIMIZE PARKING LAND USE

Ari Anggoro

*Electrical Engineering Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : aria38239@gmail.com*

ABSTRACT

The impact of technology on human life is increasing. This is inseparable from the human need to be practical. Likewise with the supporting technology that is developing and increasingly sophisticated. The Internet of Things (IoT) is one component of communication technology to support human performance more easily. In this study, an automatic parking system will be designed to fill parking spaces based on the Internet of Thing. This system uses an ESP-32D V4 microcontroller and various sensors, such as ultrasonic sensors and infrared sensors, to detect the availability of parking slots in real time. By using a web platform, users can monitor the availability of parking spaces remotely, thereby reducing the time spent searching for empty parking slots and increasing the security of the parking area. The results of system testing show that this tool can function well with a 100% success rate. This research is expected to provide practical solutions to parking problems that are often faced by the public.

Keywords: *Automatic Parking System, Internet of Things (IoT), ESP-32D V4 Microcontroller*