

## **ABSTRACT**

The design of remote electrical equipment using Arduino IDE software and Bluetooth Controller based on Arduino Nano is an innovation that integrates microcontroller technology, wireless communication, and remote control in one solution. This research aims to develop a system that allows users to control electrical equipment remotely via mobile devices using Bluetooth.

In this research, Arduino Nano hardware is used as the control centre. This hardware is programmed using Arduino IDE software to receive commands from mobile devices via Bluetooth connection. Communication between the mobile device and the Arduino Nano is organized through the Bluetooth protocol which is reliable and secure. Users can download the Bluetooth Controller app that has been created and integrated with the Arduino Nano. The app allows users to control electrical appliances with an intuitive interface. The implementation of this system results in efficient and flexible control. Users can easily switch electrical equipment on or off and customize the controls as needed.

In this study, we explored the technical aspects of the design, including component selection, software development, and functional testing of the system. The test results show that this solution successfully remotely controls electrical appliances with sufficient reliability. In conclusion, designing remote electrical appliances using Arduino IDE and Bluetooth Controller based on Arduino Nano has a wide application potential in bringing convenience, energy efficiency, and adaptive control to the use of electrical appliances.

***Keywords: Arduino IDE, Arduino Nano, Bluetooth Controller.***