

## **ABSTRACT**

*Water electrolysis can solve problems in places where it is difficult to get clean water. This is because the electrolysis process can make water drinkable. Therefore, it is hoped that a water ionizer that can carry out the electrolysis process can be a solution to this problem. It would be nice if this water ionizer could be controlled remotely using an application that can be accessed via smartphone.*

*This research is aimed at creating an application system related to the electrolysis process and can also be accessed via smartphone. This system can monitor what is happening in the device, such as looking at the temperature, pH of the water, TDS, and current, all of which will be affected if the electrolysis process occurs. Because of this, an ESP32 microcontroller is needed and it is forwarded to Antares for the data processing process and the use of Kodular to create the Android application that will be designed.*

*The results of this research are a Kodular Android application which is expected to be easy to understand and can be used by all groups. The results of the temperature sensor data show a change of 0.5°C, data from the pH sensor shows a change of 0.8-0.9, and the TDS sensor shows a change of 10-17 PPM. From all the test results that have been carried out, it was found that the large volume of water and the large PWM value can influence the differences in results in the electrolysis process on the water ionizer which are obtained from the Electrizer application display.*

**Keywords:** *android application, ESP32 microcontroller, Antares, Kodular.*