

ABSTRACT

Portable water ionizer is an innovative device designed to produce alkaline water with positive ions on a portable basis. This device utilizes water ionizer technology to change the chemical properties of water and produce water that is healthier and more beneficial to the body. With a compact and portable design, portable water ionizers can be used anywhere, whether at home, office, or while traveling. However, there are weaknesses in the way it is used which is still conventional in the form of humans as the control center and must press a button so that the ionization process can start and stop.

The development of technology makes it easy for students to produce their own sophisticated but minimal cost water ionizer. The application of the IoT (Internet of Things) system will help us produce a sophisticated tool with ESP32 as the control center. Sensors are also used to see the changes that occur in the ionization process. The solution we offer is the use of relays to automatically cut off the current. By combining the IoT system with a relay, the device can be operated without touching the device at all.

The results of this study show that the resulting device can be operated automatically with the help of an installed IoT system and can produce alkaline water with a high pH. Water condition data is displayed in the form of a twilio web dashboard display that users can access when the device is finished ionizing and sending sms notifications containing a web dashboard link. Water samples used are rainwater, drinking water, water from springs and tap water.

Keywords: *Portable Water Ionizer, ionization process, IoT system, web dashboard*