ABSTRACT

Water is a basic need for living things, including humans, where 70% of the body consists of water. Lack of water can have a negative impact on human health, especially in coastal areas that lack fresh water. One way to get fresh water is seawater desalination which can be done by thermal desalination method. Thermal desalination is a process that involves converting salt water to water vapour, so that this water vapor is generally free of salts, minerals, and other contaminants present in seawater. As technology develops, the seawater desalination process can be automated using the Internet of Things (IoT) platform, IoT can be applied to systems that function as control and monitoring.

In this final project, a desalination system prototype is made using the thermal desalination method which has control and monitoring features through an android application. As a communication between the prototype and the android application, system based IoT is applied so that can be monitored and controlled anwhere and anytime. In this prototype, raw water/seawater is put into the heater, when the user presses the on button, the prototype starts operating to produce fresh water and stops when the water in the heater is empty. When the prototype operates, the temperature, volume, and salinity data in the desalinated water is sent through the IoT platform so that it can be monitored by users through the android application.

Based on the tests that have been done, the prototype of the desalination can work automatically with control and monitoring through the android application by utilizing IoT. The prototype of the desalination tool has a percentage water volume after desalination of 92.74% with the delivery time of sending data through the IoT platform takes 1.817 seconds.

Keywords: *Desalination, Internet of Things, and Salinity*