ABSTRACT

Water is the source of life for living things on earth. About 50 to 70% of our body mass consists of water, including skin, body tissues, cells and all organs where the highest levels are in the human brain and blood. So that humans need clean water so that they can continue to carry out normal activities. But unfortunately the damage to the water environment in the environment around us is polluted by humans such as mistakes in excavating groundwater that are too shallow or too close to the Septic Tank. Many people dispose of garbage arbitrarily in rivers, dispose of factory waste in rivers so that river water becomes dirty, smelly and polluted which causes a decrease in the quantity and quality that seeps into the ground thus polluting the groundwater content around the polluted river flow. Through this research, a tool that is capable of monitoring water conditions is developed which is suitable for daily use based on IoT (Internet of Things). The measured indicators are pH, temperature, and water turbidity level in water suitable for bathing. This device can monitor these indicators remotely by reading the values sent by Arduino MEGA to an online database which is then forwarded to the web. So that we can read the value on the web which will be displayed via a smartphone. In this research, the turbidity level in the water will be measured one by one using a pH, turbidity and temperature sensor. These sensors will be connected to the Arduino MEGA. If the water sample has passed the normal limit, the water in the experiment is indicated as not suitable for bathing. After that, Arduino MEGA will send the measurement results to the database using Ubidots. Then the user can see the measurement results of the tool through the android smartphone application. The desired result of this research is the creation of a device that is able to detect the suitability of water to be used for bathing someone so as to prevent or minimize various kinds of diseases.

Keywords: *pH, temperature, water turbidity, Arduino Mega, Web, Internet of Things, Ubidots.*