ABSTRACT

Water is source of life for living things. The water quality is not always good, one way to measure the quality of the water is to see the level of turbidity of the water. Water turbidity can be caused by particles, microorganisms, plankton, soil, and others[1]. Turbidity is a measure of water clarity levels which can be seen in the ecistence of the concentration of particles in a liquid measured in Nephelometric Turbidity Units(NTU)[2]. Now many are using water filters to clean the air of particles contained therein. Water filters need backwash. Backwash is a process of laundering or treatment filter media without removing the tube from the filter media filters [3] with the aim of keeping water quality to deteriorate. So far the user water filters do a backwash when the water had started poorly so the backwash is not timely. Then designed a prototype that can monitor the condition of the air filter so that users can perform a backwash on time. This is a prototype system that could monitor water filters by calculating the discharge of water flows and water turbidity levels measured are then processed using Fuzzy Logic Methods as workaround so that optimal point obtained or the appropriate time for the user to perform a backwash. The result issued by the system is a form of Email notification to the user that the water filter conditions had started to deteriorate. Condition deteriorating water filter is derived from the result of the data processing on the methods of fuzzy logic, this methods has two data as input to be processed the values of water discharge and the value of the level of turbidity of the water. The prototype uses a microcontroller, two sensors namely water flow sensor to measure water and turbidity sensor to measure the turbidity of the water. This prototype implements the communication Machine-to-machine(M2M) and using wifi as a liaison.

Keyword : Turbidity, Discharge, M2M, Filter, Backwash, Sensor , Wifi