

## ABSTRACT

*PDAM is a local government institution which has a role to serve the need of clean water or drinking water from piping for the community. One of PDAM tasks is to do reading to water meters that are located at every people's house to report water usage cost. Until this day, most PDAM users use analog flowmeter as their water metering system. This causes the need of officers to come to every house to do the reading of water meters.*

*As time develops, information technology keeps on growing further. The emergence of technologies that accommodate smart cities and home automation open a huge possibility to increase the efficiency of processes that need human intervention. By using existing technologies, jobs or activities that were once still done manually will be able to be automated.*

*In this Final Assignment, a prototype analog water meter reading automation system is made by using an optocoupler sensor and Arduino Uno microcontroller. The meter register reading process is automated by integrating optocoupler sensor with an encoder disc onto the flow indicator part from an existing meter. The data read from the sensor, which is the amount of how many encoder gap passed by the optocoupler, is processed by Arduino Uno into a data of the litre amount of water usage. Then the data is sent to a platform in a certain period of time and displayed on a simple web page.*

*Based on the testing and analysis result in this Final Assignment, it is shown that the automation system functions well, where the modification is applicable to the existing water meter without compromising the whole mechanism of the meter itself. The optocoupler sensor is able to read the amount of how many gaps passes by and input those data to Arduino Uno. The microcontroller then able to process those data into the litre amount which is then sent to the platform by using ESP8266 Wi-Fi module. Those data is able to be displayed by accessing the webpage.*

**Keywords: Reading System, Water Meter, Prototype, M2M**