# UNIVERSITI TEKNOLOGI MARA

# IOT BASED WATER CONSUMPTION METER FOR DOMESTIC

**MUHAMMAD AFIF SHAZMIN BIN AZMI**

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# ABSTRACT

This study was conducted to analyse the water consumption for domestic purposes using the hall's effect sensor and the Internet of Things (IoT) for the regular water meter. Currently, most of water consumer was not aware of good water management. In other word, a method to save their water usage and any medium for analysing their consumption. Thus, in this work, new electronics graphical through smartphone to assist water consumer is introduced. The data on water consumption will assist the consumer to be more flexible in their saving as well as water usage. This method will display the amount of water and billings by employing YF-S201 and ESP8266 sensor. The result is analysed through *"Thingspeak"* application for data measurement. This finding show the data measured by YF-S201 sensor are approximately similar as the expected amount of water consumption.

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## INTRODUCTION

In Malaysia, average water consumption per capita is reported to be 288.4 litres per person per day which is higher than the standards set by the World Health Organization (WHO). Studies show that the level of water wastage in Malaysia is at high as well as in disturbing levels [1]. Although Malaysia is a country with its own water catchment from tropical rainforests, but its resources are limited. Some states face problems of water shortage and stress due to water usage is already reaching maximum demand levels such as in Selangor state [2]. The current water crisis should be a lesson to Malaysians to change their attitude towards better management of water use and conservation.

N. Merzi claimed that the undetected water leakage is one of main factor that lead to water wastage. Leakage rates may change from very small values of 5-10% to values higher than 50% [3]. Also, the main region behind the water wastage is due to poor water supply system and bad management [4]. Other than that, unaware of the water usage and bill amount also can lead to wastage [5]. These findings show that leading towards a better consumption require a minimum effort.

Government has subsidized for water usage, but it will never enough for the consumer if they do not understand what water management is [6]. Various ways can be done, however less work has been studied for day-to-day use of water for the domestic consumer.