



## Smart billing system for water consumption

**Sinnalebbe, A.M.**

*Department of Information and Communication Technology  
University of Ruhuna  
sinnalebbe\_2016137@fot.ruh.ac.lk*

**Jayasinghe, P.K.S.C.**

*Department of Information and Communication Technology  
University of Ruhuna  
subash@ictec.ruh.ac.lk*

### ABSTRACT

In recent years, households' demand for tap water has increased with the rapid increase of the worlds' population. However, in Sri Lanka, it is reported that consumers are very low aware of daily water usage with traditional water meters as water consumption is calculated manually monthly wise. With the development of information technology, no attempts have been made to enhance manual meter reading to automate in Sri Lanka. The main objective of this study is to propose and implement a system that uses a smart water meter system to identify customer behaviour and water usage patterns. As a developing country, the technology of using smart water meters is new to society. It can save costs and improve the operational efficiency of meter readers. The proposed system consists of a local web user interface for a smart water meter (developed using ESP-8266 microcontroller board and water flow sensor with wireless capability). Instant meter reading has been saved in the memory of the control board, and the data at regular intervals will be uploaded to the cloud system. Customers can log in to the cloud system and view daily consumption and analysis information within a given period. As an additional feature, customers can get bills to their mobile phones via SMS at the same time. It is expected to provide consumers with better service while saving water resources as it gradually declines and reduces the cost for manual meter reading by the National Water Supply and Drainage Board of Sri Lanka.

**Keywords:** Water billing, Water consumption app, Water consumption monitoring, Water meter.