

Android Device for Smart Fluid Meter Reading System in IOT and WSN Environment

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Abstract – IoT can be considered as an emerging global technology, in which things can be connected and controlled remotely. Information about the usage of water can reduce the water wastage and will help in water management. In this project, we propose the architectural framework for IoT & WSN based fluid meter. Fluid meter sensor (YF-S201) placed in between the fluid pipe and contains a pinwheel sensor to measure how much fluid has flowed through sensor. In this an integrated magnetic Hall-Effect sensor which gives electric pulse as output with every revolution. Data will be sensed by YF-S201 is monitored by android device using Bluetooth/WIFI. Data will be stored and analyzed on the cloud; this system will be very economical. User can access, analyze and share data anytime, from anywhere.

Key words: Fluid metering, Internet of Things(IoT), Cloud, YSF201, Arduino Nano.

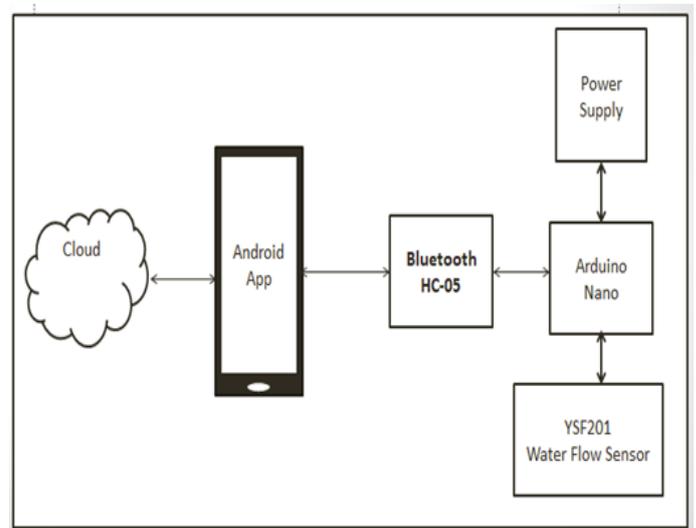


Fig: Proposed System

I. INTRODUCTION:

The efficient fluid measurement represents an energy flow means volumetric flow rate. Internet of Things (IoT) has provided objects to sense or control remotely across network and creates powerful industrial and domestic applications. One of its main applications is integration of sensing and actuation system to optimize energy consumption.

IoT can be considered as an emerging global technology in which things can be connected and controlled remotely. Information about the usage of fluid can reduce the fluid wastage and will help in fluid management.

II. PROPOSED SYSTEM:

Proposed system can be used in various ways for daily usage. The proposed system is affordable and portable.

So when we want to have exact amount of fluid (water, milk, petrol, diesel etc.) we can use this system.

III. WORKING:

YF-S201 is fluid flow sensor that is connected with Arduino Nano. YF-S201 placed in between the fluid pipe and contains a pinwheel sensor to measure how much fluid has flowed through sensor.

Arduino Nano is used to read and process the data which is sensed by YF-S201. The data is nothing but the count of pulses which is produced by YF-S201.

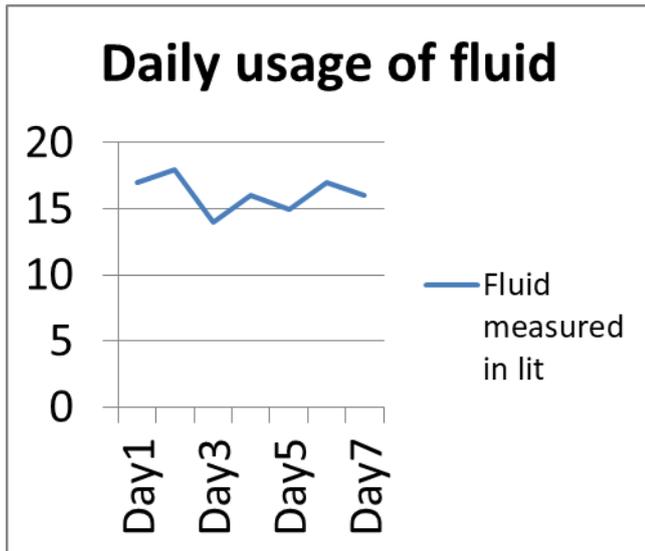
Here android application is an interface between human and hardware device. The android application is connected via Bluetooth to Arduino Nano. Arduino Nano passes measurement to android device so that user can see the amount of fluid sensed by device.

The collected data can be store on cloud for further analysis. It will give overall fluid consumption records to user.

PURPOSE –

The main purpose is to measure the fluid with device which gives accurate measurement of it. It will give us exact amount of fluid and that will help us to analyze the consumption of fluid used.

IV. RESULTS



Above graph shows us daily usage of fluid .This data stored on cloud when device is used for a week.

So we can easily analyse our usage of fluid.

V. CONCLUSION:

The IoT based fluid meter we aim to implement smart meter which will provide high data analyzing capability at lower cost.This meter will allow user to access real time as well as historical data anytime and from anywhere.

The proposed system uses web services for communicating between the water meter and the IoT cloud.

VI. REFERENCES:

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