SMART WATER METER

EC ID No: 190201

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Agenda

- Introduction
- Abstract
- Module Identification
- Architecture Diagram
- Equipment Identified
- References

Abstract

- A smart way to conserve water.
- RF ID Reader, flow meter are installed to taps so that RF receiver limits the usage of water for each tap and flow meter will measure the amount of water.
- Limiting the usage of water from ground level itself.

1. Introduction

- Water scarcity can be seen everywhere. For instance 800 liters of water is being used,in addition an average of 120 lts of water per person is used.This will lead to scarcity of water in future.
- The smart way of conserving water is by using RF ID so that it limits the usage of water.
- Nearly half of the liters of water can be conserved by using this device .

2. Module Identification

The main modules which we are using in this project are :-

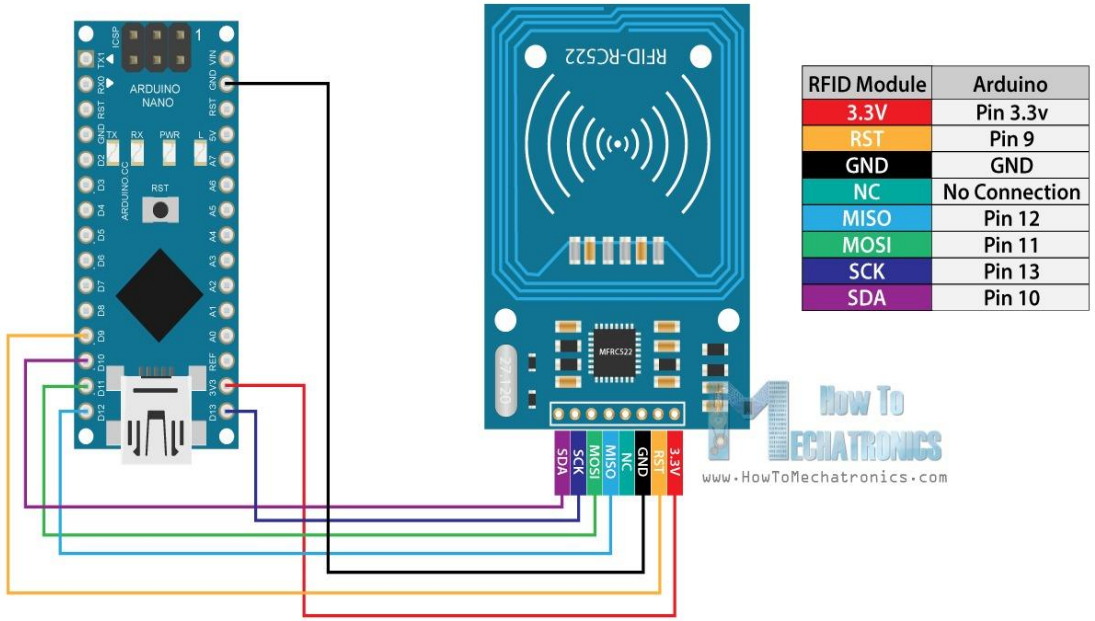
1. Flow meter measures the volume of water used ,So that we can easily limit the amount of water.

2. RF ID Reader which gives a limit of water usage for each person.

3. Servo meter which allows/stops the flow of water depending upon the command given by RF receiver to it.

4. The mechanism involved in this is, when RF ID is in contact to receiver , It sends signal to servo motor to open the tap and for each contact there will some limit of water.

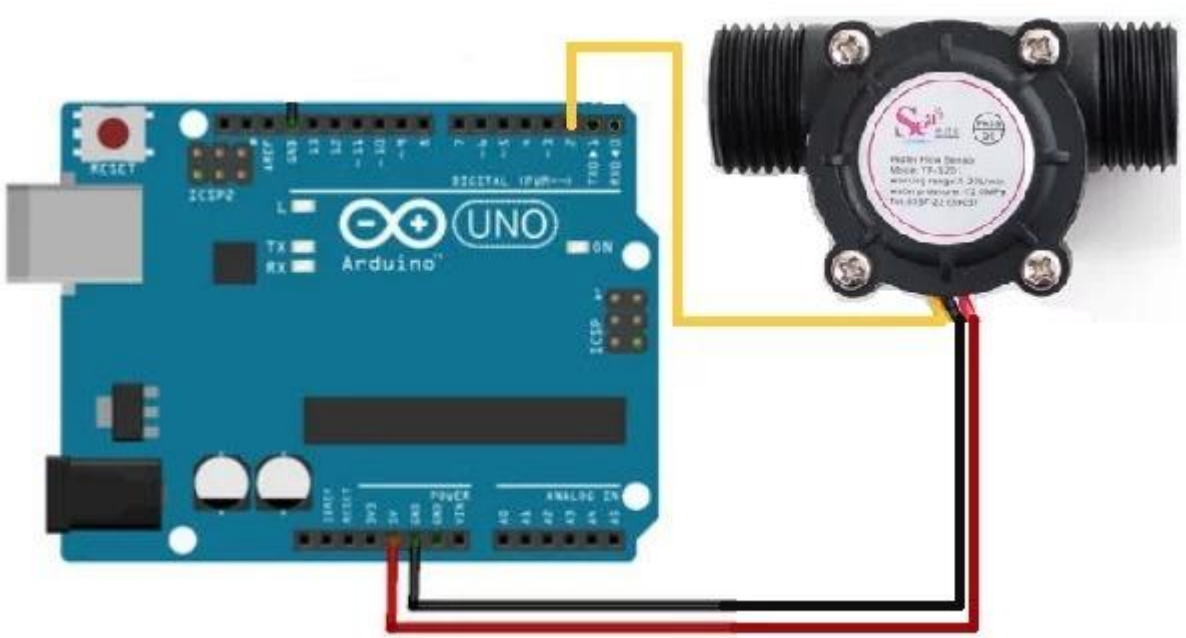
5. If the limit of water is flown, automatically servo motor turns off . Also there will be limit for the number of contacts per day. So that we can reduce usage of water as much as possible.



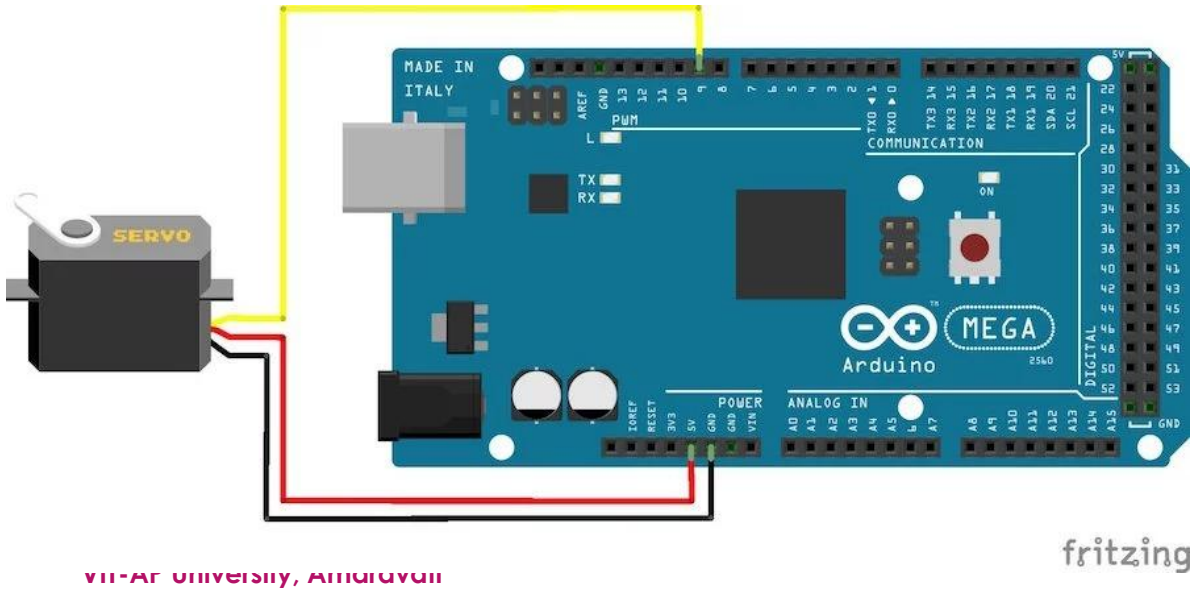
RFID Module	Arduino
3.3V	Pin 3.3v
RST	Pin 9
GND	GND
NC	No Connection
MISO	Pin 12
MOSI	Pin 11
SCK	Pin 13
SDA	Pin 10

Connections of R.F. id reader with Arduino UNO

The R.F. id reader and the R.F. id

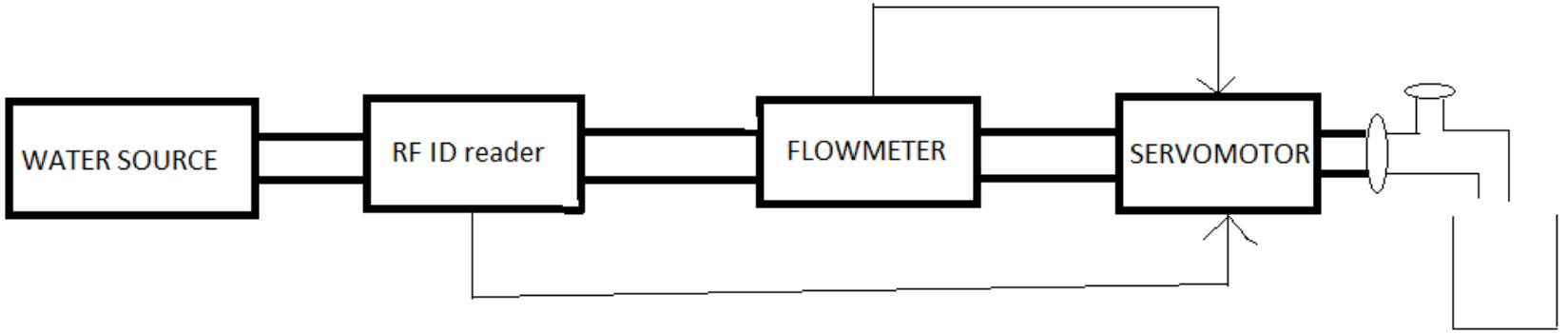


The flow meter and its connections with Arduino UNO



The Servo Motor and its connections with Arduino UNO

3.Architecture Diagram



4.Equipment Identified

S.No	Name of Equipment	Quantity	Cost
1	Arduino Uno	1	Rs.700
2.	RF ID Reader	1	Rs.300
3.	Flow Meter	1	Rs.2000
4.	RF ID Card	5	Rs.175
5.	Servo motor	1	Rs.200

5.References

- 1.https://www.youtube.com/playlist?list=PLONHQNUdvMGniqO21pexRgBY5MFST1IhY
- 2. http://playground.arduino.cc
- 3. https://learn.adafruit.com/category/learn-water-flow
- 4. Sams Teach Yourself " Arduino Programming" by Richard Blum ,Pearson Education 2019.