GNANAMANI COLLEGE OF TECHNOLOGY

Departnament of BioMedical Engineering

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TOPIC : SMART WATER FOUNTAINS

TEAM MEMBERS

      M.ABARNA (620821121002)

      N.ENISHA (620821121022)

      R.MOHANADHARSHINI (620821121067)

      J.DIVYAPRIYA (620821121021)

      K.LOKESHWARI (620821121056)

SMART WATER FOUNTAINS

The basic idea of this Arduino water fountain is to take an input from any external sound source like mobile, ipod, pc etc.., sample sound and brark it down to different voltage ranges, then use the output to turn on various relay . We first used as condensor mic based sound sensor module to perform on the sound sources to spilt the sounds into different voltages ranges. Then the voltage will be fed to op-amp to compare sound level with a. Particular limit The higher voltage range will correspond to a relay switch ON which comprises a musical water fountain operating to the beats and rythms of the song so here we are building this Musical fountain using Arduino and sound sensor

MATERIALS REQUIRED

1. Arduino Nano

2. Sound sensor Module
3. 12v Relay module
4. DC pump
5. LEDs
6. Connecting wires
7. Vero based (or) Breadboard

WORKING OF A SOUND SENSOR

 The sound sensor module is a simple electric Microphone based electronic board used to sense external sound from the environment. It is based on the LM393 power amplifier and an electret microphone ., It can be used to detect wether there is any sound beyond the set threshold limit. The module output is a digital signal which indicates that the sound is greater or lesser than the threshold

The potentiometers can be used to adjust the sensitivity of the sensor module . The module output is HIGH/ LOW when the sound source is Lower / high than the threshold set by the potentiometer same sound sensor module can also be used for measuring the sound level is decibel .

The complete program of this Arduino water fountain projects is given at the bottom of the page. But here I am just explaining that by parts for better understanding

```
int sensor = A6;

int  redled = 12;

int greenled=11;

int pump = 10;

# define REF 700

delay  (70) ;

}
```

```
Printmode (sensor, INPUT) ;
Pinmode (redled, OUTPUT) ;
Pinmode  (greenlet, OUTPUT);
}
Void loop ()
{
int sensor – value = analog read sensor
if ( sensor – value > REF )
{
digitalwrite ( greenled, HIGH);
digitalwrite (redled, HIGH ) ;
digitalwrite (pump, HIGH) ;
delay (70);
}
else
{
digitalwrite ( greenled, LOW );
digitalwrite (redled, LOW);
digitalwrite (pump, LOW) ;
delay (70);
}
}
```