# SmartFarmer - IoT Enabled Smart Farming Application

## IoT Assignment 1

**Topic :** Home Automation using Arduino

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## Home Automation:

Home automation is the automatic control of electronic devices in your home. These devices are connected to the Internet, which allows them to be controlled remotely. With home automation, devices can trigger one another so you don't have to control them manually via an app or voice assistant. For example, you can put your lights on schedules so that they turn off when you normally go to sleep, or you can have your thermostat turn the A/C up about an hour before you return to work so you don't have to return to a stuffy house. Home automation makes life more convenient and can even save you money on heating, cooling and electricity bills. Home automation can also lead to greater safety with Internet of Things devices like security cameras and systems.

**Code :**

```cpp
int trigger_pin = 2;
int echo_pin = 3;
int buzzer_pin = 10;
int time;
int distance;
void setup()
{
    Serial.begin (9600);
    pinMode (trigger_pin, OUTPUT);
    pinMode (echo_pin, INPUT);
    pinMode (buzzer_pin, OUTPUT);
}
void loop()
{
  digitalWrite (trigger_pin, HIGH);
  delayMicroseconds (10);
  digitalWrite (trigger_pin, LOW);
  time = pulseIn (echo_pin, HIGH);
  distance = (time * 0.034) / 2;

 if (distance <= 10)
    {
    Serial.println (" Door Open ");
    Serial.print (" Distance= ");
    Serial.println (distance);
    digitalWrite (buzzer_pin, HIGH);
    delay (500);
    }
```
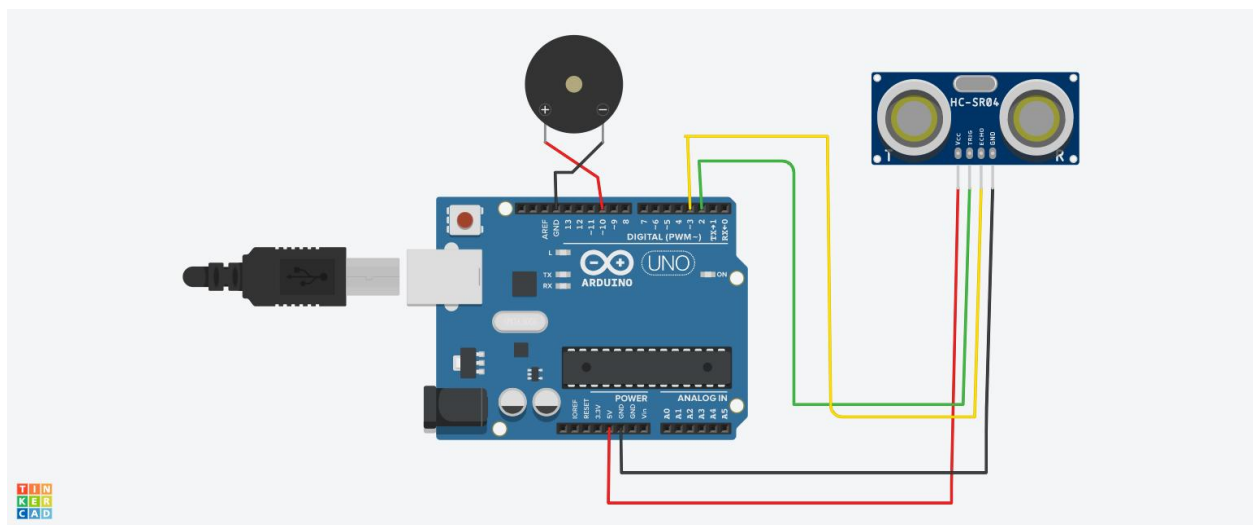
```
    else {

        Serial.println (" Door closed ");

        Serial.print (" Distance= ");

        Serial.println (distance);

        digitalWrite (buzzer_pin, LOW);

        delay (500);

        }

}
```

## Block Diagram :



## Result :

Thus, The home automation using arduino as assignment 1 has been successfully developed and executed.