Modern automatic drying system applied in

Agriculture

Component required:

|  |  |  |  |
| --- | --- | --- | --- |
| no | names | No items | specification |
| 1 | ARDUINO UNO: | 1 | **ATmega328P** |
| 2 | RAIN SENSOR | 1 | 3.3---5V |
| 3 | RELAY MODULE |  |  |
| 4 | LED | 2 | GREEN/ RED |
| 5 | BREAD BOAD | 1 |  |
| 6 | BUZZER | 1 |  |
| 7 | LCD | 1 | 16/2 |
| 8 | JUMPER WIRE |  |  |
| 9 | RESISTER | 2 | 10K |
| 10 | POTENTIOL METER | 1 |  |
| 11 | Gear dc motor | 1 | 12 |

ARDUINO UNO:  is an open-source microcontroller board based on the Microchip ATmega328P

RAIN SENSOR is **one kind of switching device which is used to detect the rainfall**. It works like a switch

RELAY MODULE  is an electrical switch that is operated by an electromagnet.

LED A light-emitting diode is a semiconductor device that emits light when current flows through it.

BREAD BOAD is a construction base used to build semi-permanent prototypes of electronic circuits.

BUZZER is a sounding device that can convert audio signals into sound signals. It is usually powered by DC voltage

LCD  is a type of flat panel display which uses liquid crystals in its primary form of operation.

JUMPER WIRE  is an electric wire that connects remote electric circuits used for printed circuit boards.

RESISTER  is an electrical component that limits or regulates the flow of electrical current in an electronic circuit.

POTENTIOL METER  is a manually adjustable variable resistor with 3 terminals.

Blocked diagram

Relay module

Relay 2

Relay 1

Arduino uno

Rain sensor

LCD

**CIRCUIT CONNECTION**

**WORKING PRINCIPLE OF THIS PROJECT**

**ON THE RAIN CONTROL BOARD. IN SIMPLY WORD WHEN THE RAIN IS RAINING. THE OUTPUT OF RAIN SENSOR WILL DEPEND ON THE LEVEL OF DROPS FALLING**

**ON RAIN SENSOR BOARD AND SETED VALUE on rain driver. when rain is raining motor will move in forward direction and move with with loof. And when the is no rain motor will move In reverse direction.**

**Loof are coupled on motor belt.**

Important of this project

1. it save the time when the people are drying the grain.  
2.it is cheap compared to the other normal drying system  
3.it save the environment <no more trees are applyad in system>  
4.construction cost is very low  
5.oll material are available.  
6.it increase efficient of harvested grain.  
Problem to be solved by this project

1.the time taken while move out the grain to the sun.  
2.some time people are out of home.we need to make Automatic control when sun rise  
and when the rain is falling dawn .  
3.in agriculture cooperatives many people  
are need to monitor the operation of drying  
no more people are need  
4.invoronment dagradetion are not performed in system  
5

**Codes**

**#include <Wire.h>**

**#include <LiquidCrystal\_I2C.h>**

**LiquidCrystal\_I2C lcd(0x27, 16, 2);**

**int sensor\_pin=A1;**

**int d=10;**

**const int relay1=8;**

**const int relay2=11;**

**int check=0;**

**int check2=1;**

**void setup()**

**{**

**lcd.begin();**

**lcd.backlight();**

**pinMode(sensor\_pin,INPUT);**

**pinMode(relay1,OUTPUT);**

**pinMode(relay2,OUTPUT);**

**Serial.begin(9600);**

**}**

**void loop(){**

**lcd.setCursor(0,0);**

**lcd.print("welcome on");**

**lcd.setCursor(0,1);**

**lcd.print(" my project");**

**delay(2000);**

**lcd.clear();**

**lcd.setCursor(0,0);**

**lcd.print(" RAIN DETECTOR");**

**delay(2000);**

**d=analogRead(sensor\_pin);**

**Serial.println("LOL");**

**d= map(d,0,1023,225,0);**

**Serial.println(d);**

**delay(200);**

**if((d>10)&&(check==1)){**

**digitalWrite(relay1,HIGH);**

**digitalWrite(relay2,LOW);**

**delay(4000);**

**digitalWrite(relay1,LOW);**

**digitalWrite(relay2,LOW);**

**check2=1;**

**check=0;**

**lcd.setCursor(0,0);**

**lcd.print("...RAIN ALTER..!!");**

**}**

**else if(d<10 && check2==1 && d==0)**

**{ digitalWrite(relay1,LOW);**

**digitalWrite(relay2,HIGH);**

**check=1;**

**delay(4000);**

**digitalWrite(relay1,LOW);**

**digitalWrite(relay2,LOW);**

**check2=0;**

**lcd.setCursor(0,0);**

**lcd.print(" NO RAIN");**

**lcd.setCursor(0,1);**

**lcd.print(" DETECTED");**

**}**

**}**