Presentation Topic :

Design a social impact based system built by microprocessor : Smart Farming Device

Group Members :

1. Mubeen Abdullah (2019-1-80-072)

2. Kazi Sadia (2019-1-80-077)

3. MD. Mofazzal Hossain(2019-1-80-023)

Overview

1. Course Outcomes
2. Introduction
3. objective
4. Working Method
5. Advantage and Disadvantage
6. Conclusion

Course Outcome :

Design a microprocessor based system that meets specified needs.

Introduction

What is Smart Farming ?

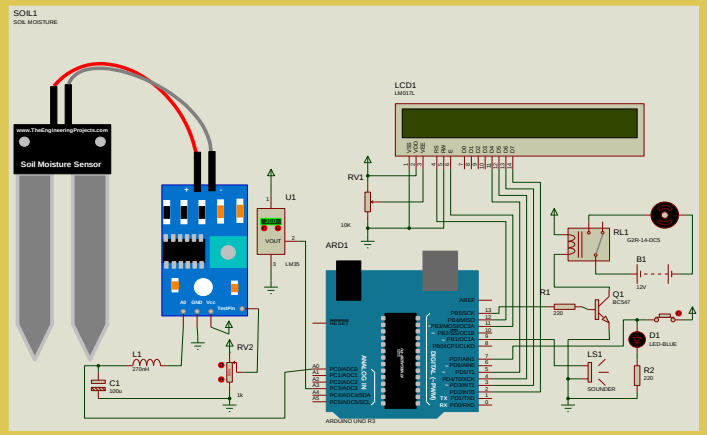
- **Smart Farming** is an modern concept
- It uses modern Information and Communication Technologies

What is Smart Farming Device ?

- The word **"smart farming device"** represents a device, which reduces human efforts while farming.
- This device saves times and money.

In commercial farming, smart farming systems can make a better output.

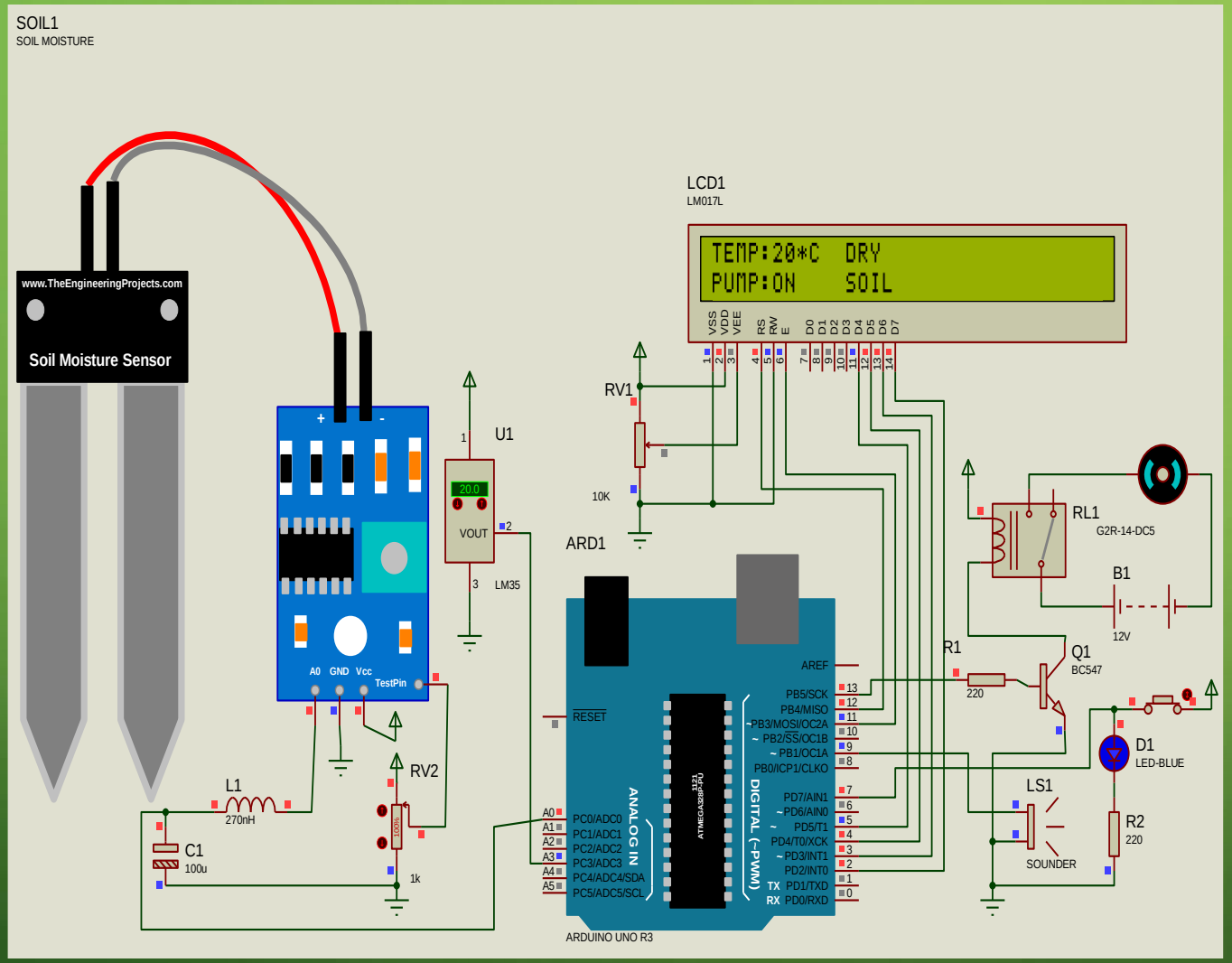
The number of workers can be reduced by using these kind of devices.



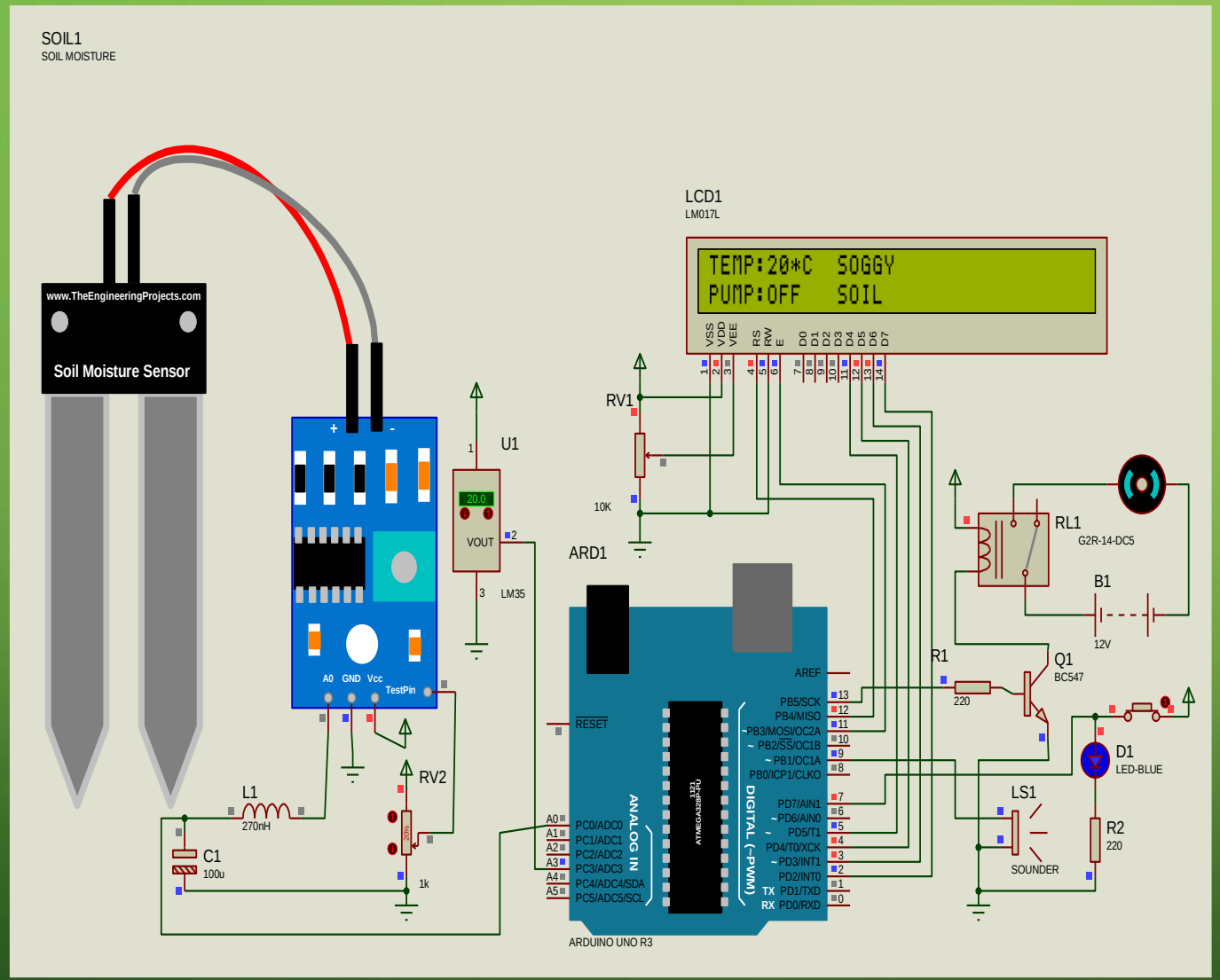
Objective

- To build a device that will measure the soil moisture which help the water pump to turn on/off.
- It also gives the update of the soil as it is dry or not. By this way, it will take care of the soil and plants.

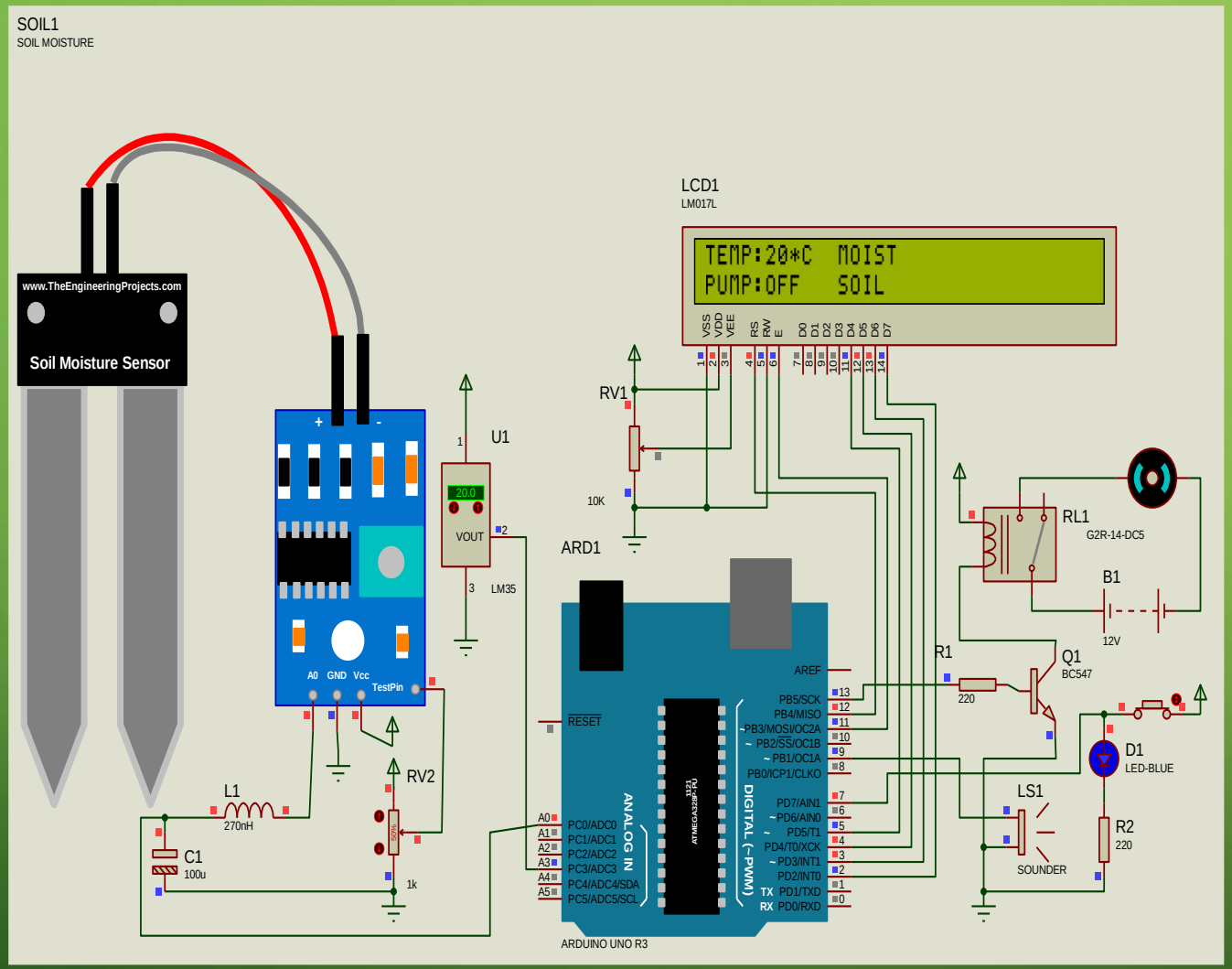
Soil Condition	Value of the POT (Ohm's)	Condition of the Water Pump
Soggy	Less than 300	Switch off
Moist	Greater than or equal to 300 & Less than or equal to 700	Switch off
Dry	Greater than 700	Switch on



Moisture >700 (Dry Soil) ; PUMP ON



Moisture < 300 (Soggy) ;
PUMP OFF



Moisture >=300 (Moist) ;
PUMP OFF

Working Method

1. Soil moisture sensor measures the moisture level of the soil.
2. Temperature sensor measures the temperature of the soil.
3. The LCD display shows the temperature, moisture level of soil, the condition of water pump.
4. The Arduino UNO controls the whole system.
5. Relay control the pump on/off according to the Arduino signal.
6. The system of switching on/off the water pump can be activated/deactivated by the button switch.

Effectiveness In Real Life

Advantage :

i. Saves time

ii. Reduces working load of workers

iii. Reduces the wastage of water

iv. Keeps the moisture of the soil in a perfect level

v. Increases the productivity

Disdvantage :

i. Hard to maintain

ii. Expensive device

iii. Hard to keep all devices up to date

Conclusion

This Smart Farming Device project helps us to come in a few conclusion :

1. Gain overall concept about smart farming and also its working process;
2. Also gives us the online-based simulation idea, which helps us to enrich our knowledge;
3. We learnt how to built a smart device that measures the soil moisture and temperature. Also analyze the condition of the soil;
4. Here, we notice that this device needs no human involvement for working.
5. By using this device, the user can control the overall irrigation system of an agricultural farm.

THANK YOU