SMART IRRIGATION SYSTEM

EE Independent Project(EE 171)

Course Instructor- Dr. Rinkee Chopra

Mid-Evaluation Term

MEMBERS

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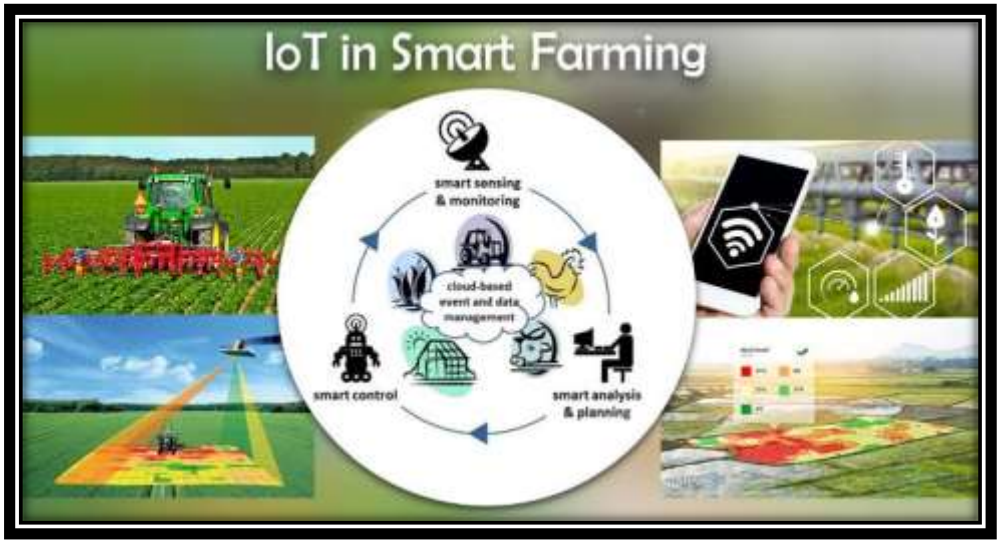
INTRODUCTION

- Traditional irrigation methods is long overdue for a change in our world as watering crops manually consumes a lot of time and can't amount for changes in the weather or soil conditions.
- Therefore, smart irrigation systems prove to be a valuable asset for us in this scenario as this method defines its watering process acc. to weather condition

Main Features of the Smart Irrigation System:

1. Variable Watering and Sprinkling schedules
1. Linking it with Smartphone
2. Range of Control
3. Less consumption of water



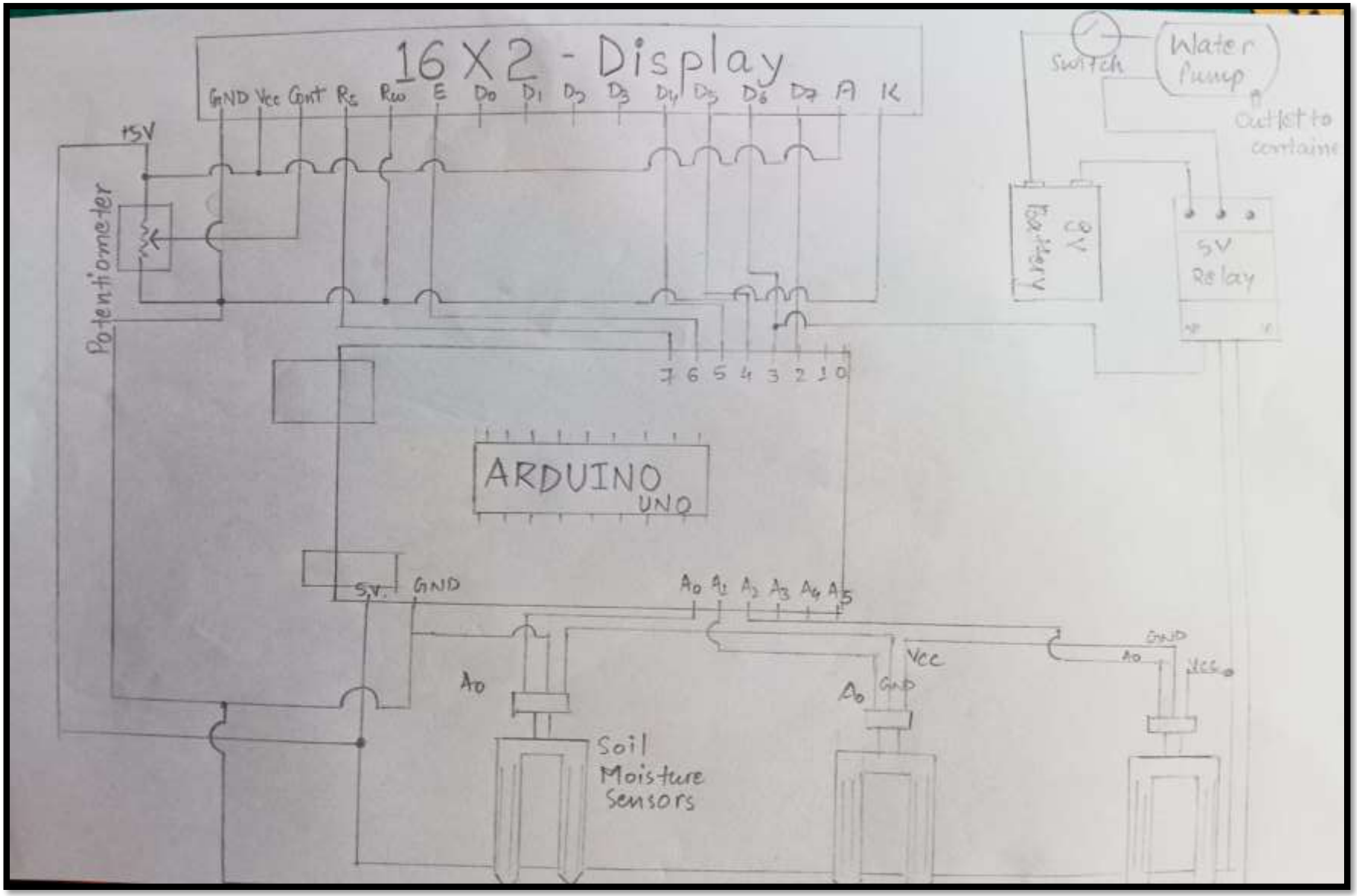
Components of a Smart Irrigation System

- Arduino UNO -1
- Soil Moisture Sensors -3
- Water Pump DC(3-6V)Micro -1
- 16X2 Display Screen -1
- Single Channel 5V DC Relay Module -1
- Wires and Pipe compatible with water pump
- Breadboard
- Plastic designed plants pot -3
- Switch -1
- 9V DC Battery-1
- IC7805 Voltage Regulator- 1
- Tray for Support -2

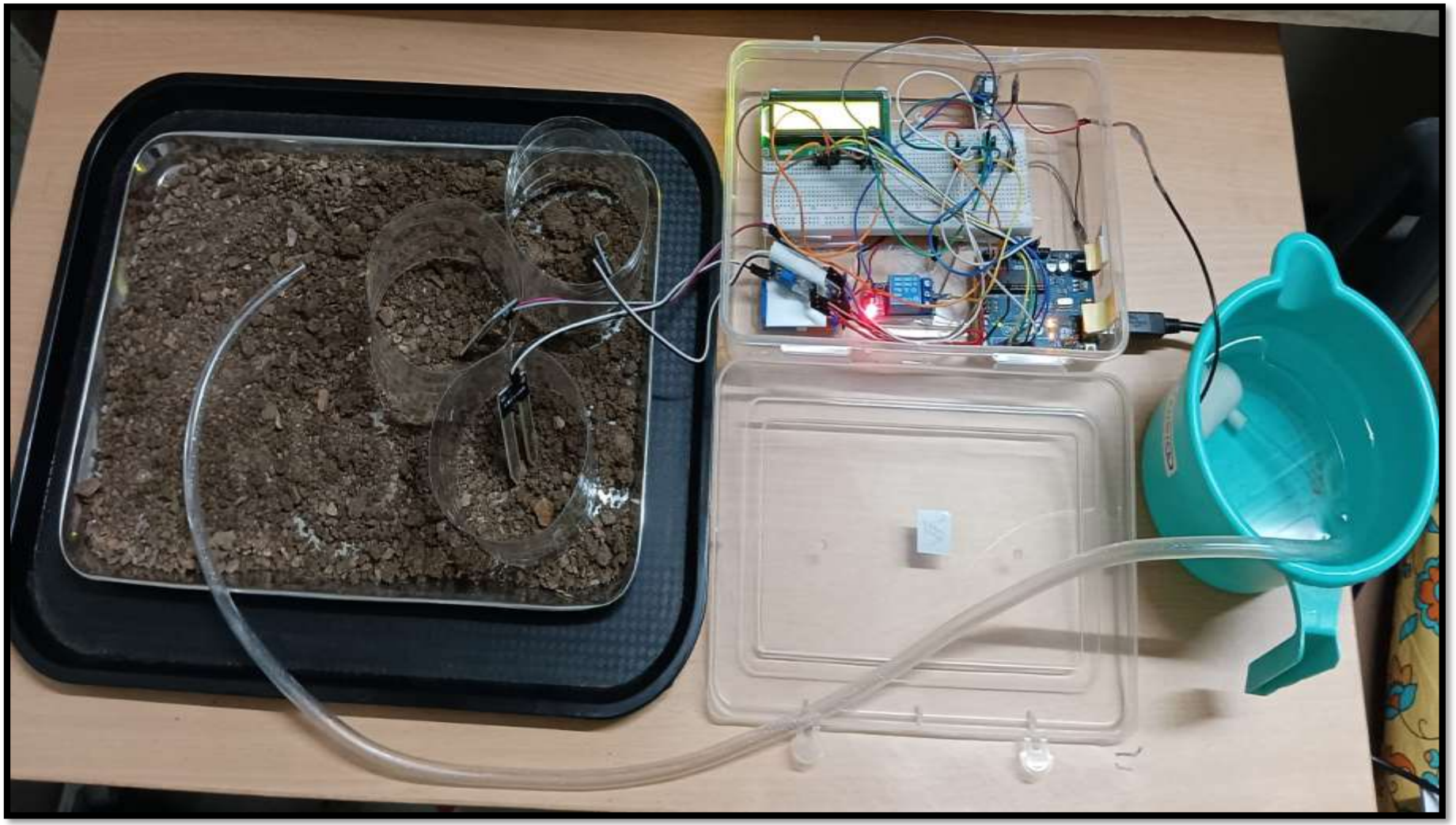
Working of Smart Irrigation System

Soil Moisture Sensors and Display	Micro-transmitter reads the humidity level and moisture content on the display screen
Arduino UNO	It reads the necessary conditions for requirement of water and signals accordingly to the relay module
Relay Module and Water Pump	Relay receives the signal and as per demand of water orders the water pump to switch on or off.

CIRCUIT DIAGRAM

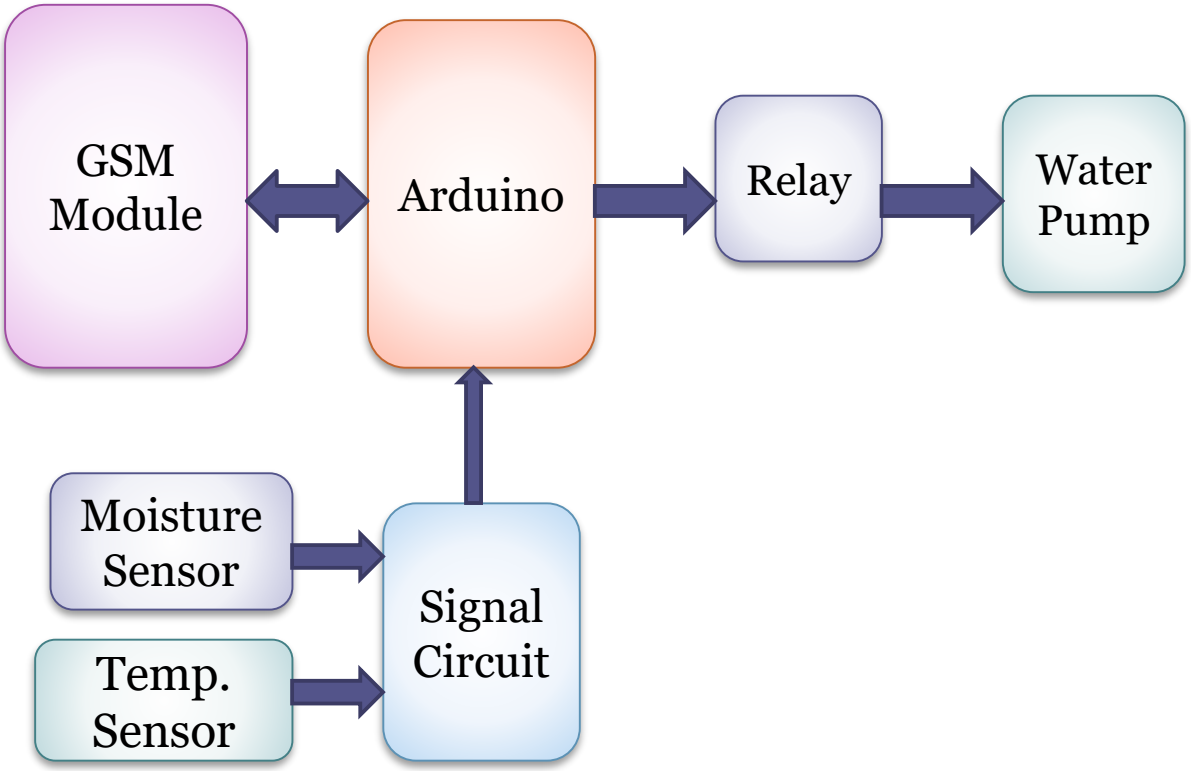


GLIMPSE OF THE WORKING SAMPLE



FUTURE OBJECTIVE

- The main goal for us is to design a GSM based smart irrigation system which does all the work on wireless mode. Whenever system switched On or off the pump, a message is sent to the user via GSM module, updating the status of water pump and soil moisture on your cell phones.



REFERENCES

- Article on “An overview of smart irrigation systems using IoT” by panel of authors: Khaled Obaideen , Bashria A.A. Yousef , Maryam, Nooman Almallahi and many others.(https:\\www.sciencedirect.com)

- Article by Abhimanyu Pandit on designing smart irrigation system using soil moisture sensors.(www.circuit digest.com)

- “Design, development and performance study of a polymer coated capacitive sensor for measuring moisture content of soil” by M S S Verma, Jit Ghosh, Avishek Adhikary and many others and pdf link: https://1drv.ms/b/s!Aqyser95W8WmhTfwVZkm2iEKNyaj?e=9ABck3


THANK YOU