Enhancement of hydroponics agriculture

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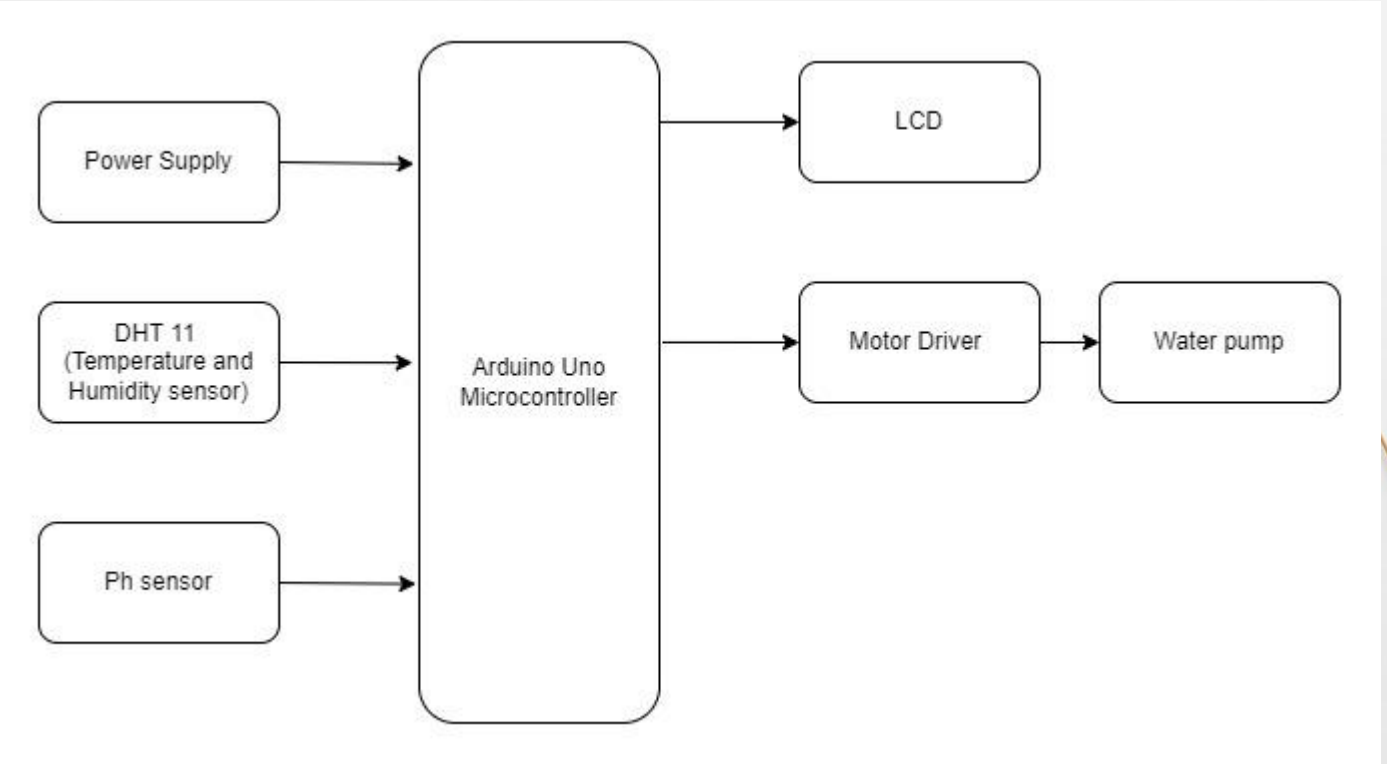
INTRODUCTION

An automatic watering system can simplify plant care for hydroponic plants. Drip irrigation is a common and efficient system that delivers water and nutrients directly to the roots. Flood and drain systems are also effective but require more maintenance. Automated watering ensures plants receive the right amount of water and nutrients at the right time, leading to healthier plants.

Proposed Block diagram:



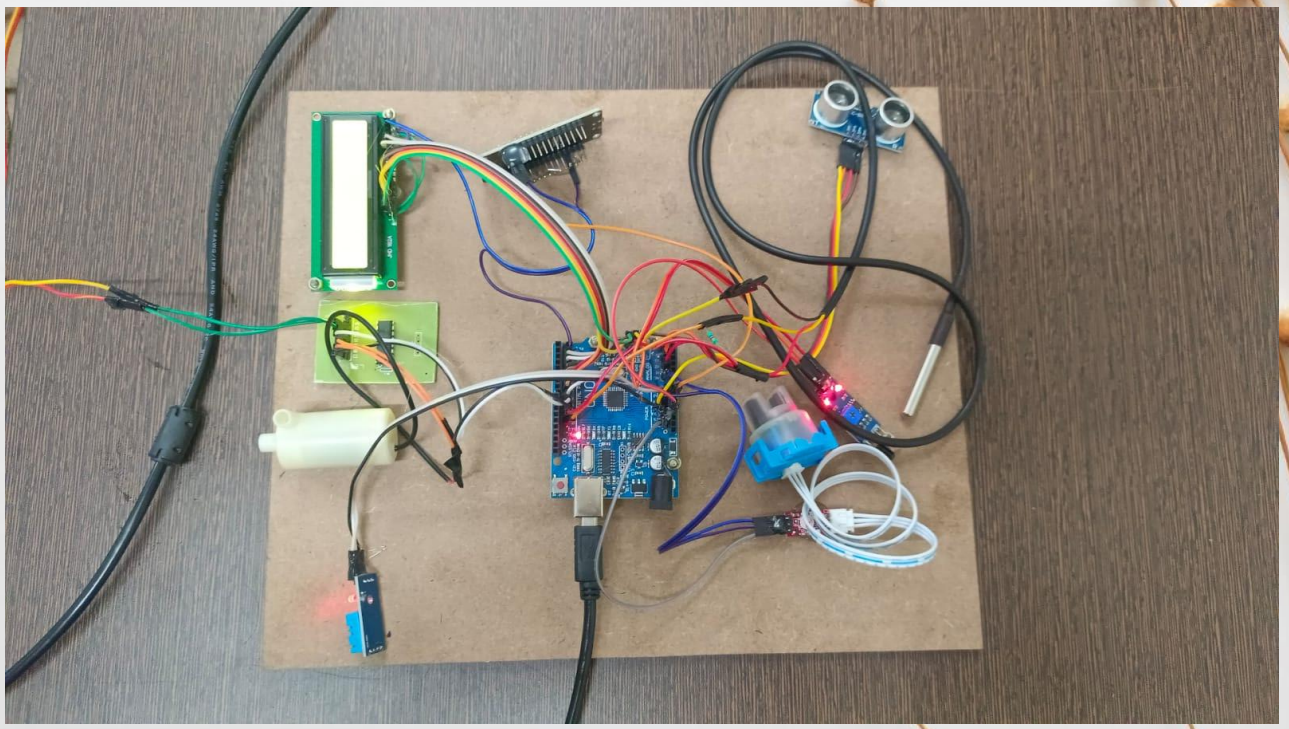
Hardware components

- Arduino Uno Microcontroller
- PH sensor
- DHT 11 Sensor
- Lcd display
- Water Pump

Software components

- Arduino Software
- Arduino c language

PROJECT PROTYPE

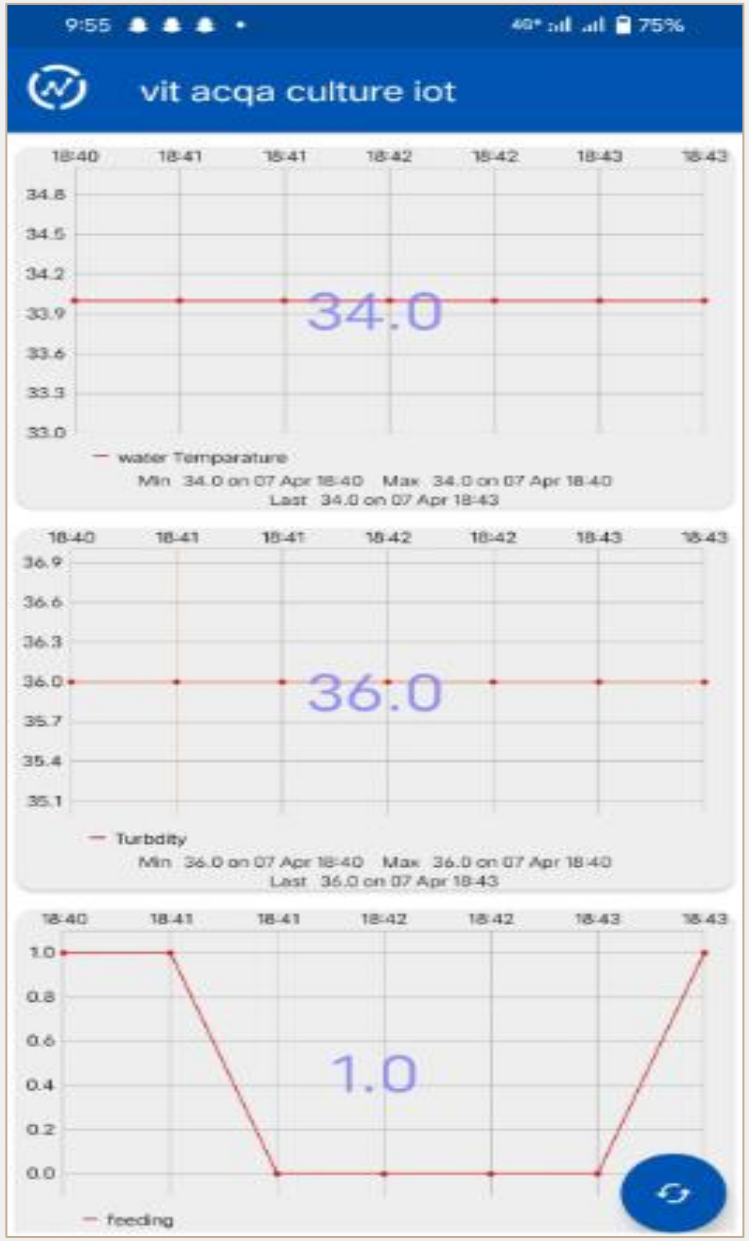


Arduino

Turbidity Sensor

LCD

Result


9:55
75%
vit acqa culture iot
34.0
water Temperature
Min 34.0 on 07 Apr 18:40 Max 34.0 on 07 Apr 18:40
Last 34.0 on 07 Apr 18:43
36.0
Turbdity
Min 36.0 on 07 Apr 18:40 Max 36.0 on 07 Apr 18:40
Last 36.0 on 07 Apr 18:43
1.0
feeding


9:55
75%
vit acqa culture iot
173.0
water level
Min 3.0 on 07 Apr 18:40 Max 173.0 on 07 Apr 18:43
Last 173.0 on 07 Apr 18:43
34.0
outside temperature
Min 34.0 on 07 Apr 18:40 Max 34.0 on 07 Apr 18:40
Last 34.0 on 07 Apr 18:43
63.0
humidity
Min 63.0 on 07 Apr 18:40 Max 63.0 on 07 Apr 18:40
Last 63.0 on 07 Apr 18:43

Advantages

- No soil needed, leading to better space utilization and lower water usage.
- Climate control results in faster and larger plant growth.
- Low maintenance, as there are no weeds, pests, or diseases to contend with.
- Less labor-intensive, making it a cost-effective option.

CONCLUSION

This hydroponic plant irrigation automation system simplifies plant care for owners by utilizing sensor distance technology and a basic watering guideline. The system ensures optimal water and nutrient delivery, promoting healthy and thriving plants. It is particularly useful for owners with a large number of plants and is an effective tool in the field of hydroponic plant care.

T H A N K Y O U