



# SMART COMPOST SYSTEM

# AGENDA

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# The Problem Statement

As we see nowadays organic farming is widely practicing by the people. It involves storing all the biodegradable matter such as vegetables waste and rotten leaves and allowing microorganisms to grow. The problem of making the compost is it need proper maintenance and great observation to make a good organic compost. The challenge with this approach is the care needed to maintain the composting environment. This involves aerating the compost, adding materials to maintain heat/pH, and watering the compost as needed. This is where the Smart Compost System can help.



# Solution

This problem can be resolved by making a bin which stores the waste and make quality compost. The smart composting system monitors and manages your compost - adding air and water when needed. It tracks when your compost is ready and alerts you when a specific action needs to be taken like stir the compost, cover the compost. It's simple way of generating compost at home itself. If all you did was dump kitchen scraps and leaves into a pile, then you're guaranteed to get compost.



# Working

- Initially the waste which is collected in the dust bin is dumped into the Smart compost bin for preparation of the compost.
- The preparation of the compost takes around 30 to 45 days for getting a good and proper nutrient compost.
- In those days the smart compost bin monitors various processes like mixing the waste and crushing, checking the temperature, monitoring the released gases.
- The bin automatically inlets water when the compost is dried and the lid of the box is opened and alarms the users when excess amount of gases are evolved.
- These are displayed to the user for their next action to be taken.
- All the readings in the bin is displayed on the LCD screen at the top of the bin.



# Components

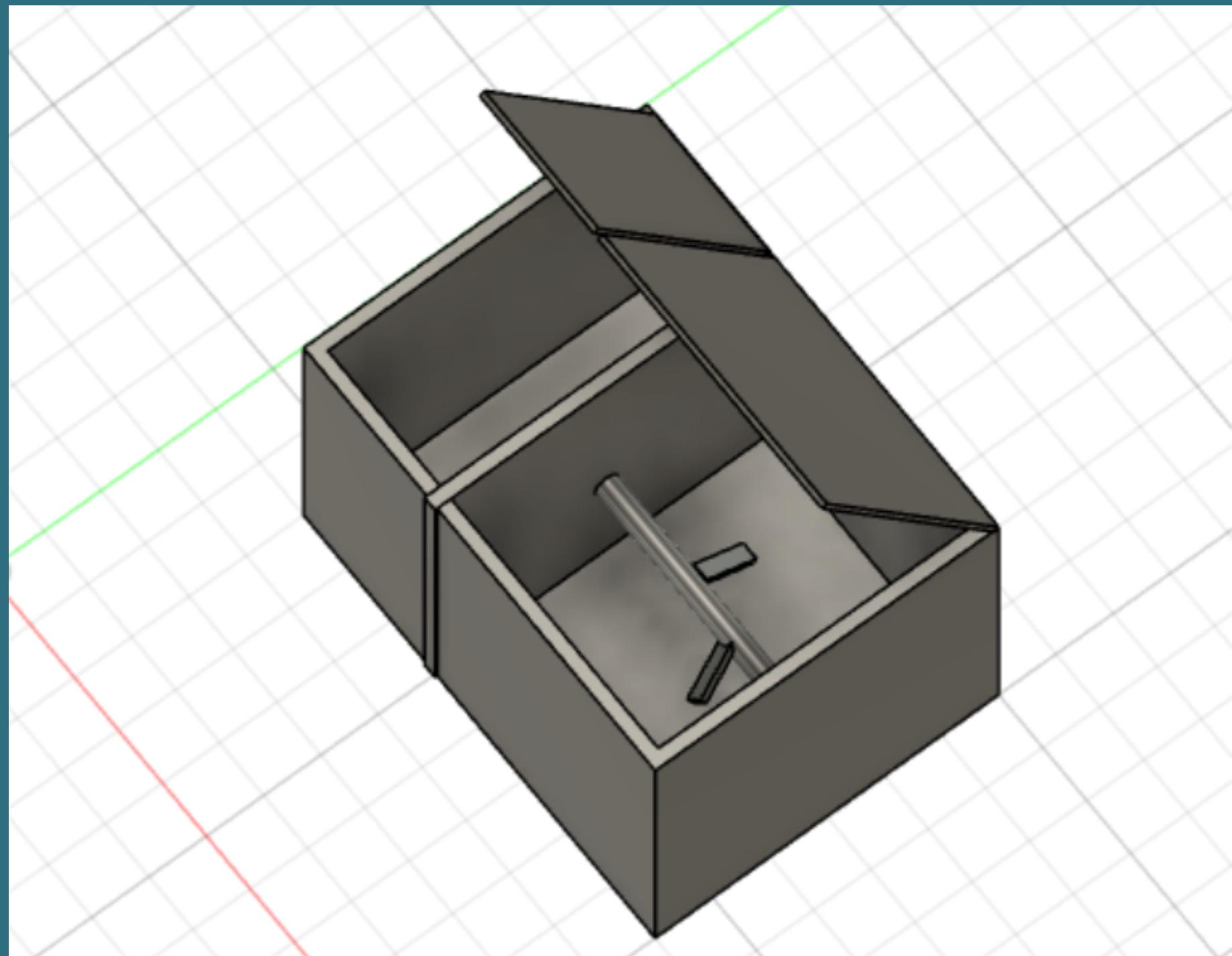
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- Arduino UNO
- Jumper wires
- Soil Moisture
- Servo motor (MG995)
- Gas sensor(MQ2)
- Vector Board
- Lithium-ion ×4(3.7v)
- Water pipe
- Water pump
- Temperature sensor (LM35)
- LCD 16\*2
- Metal sheet
- Motors with high torch

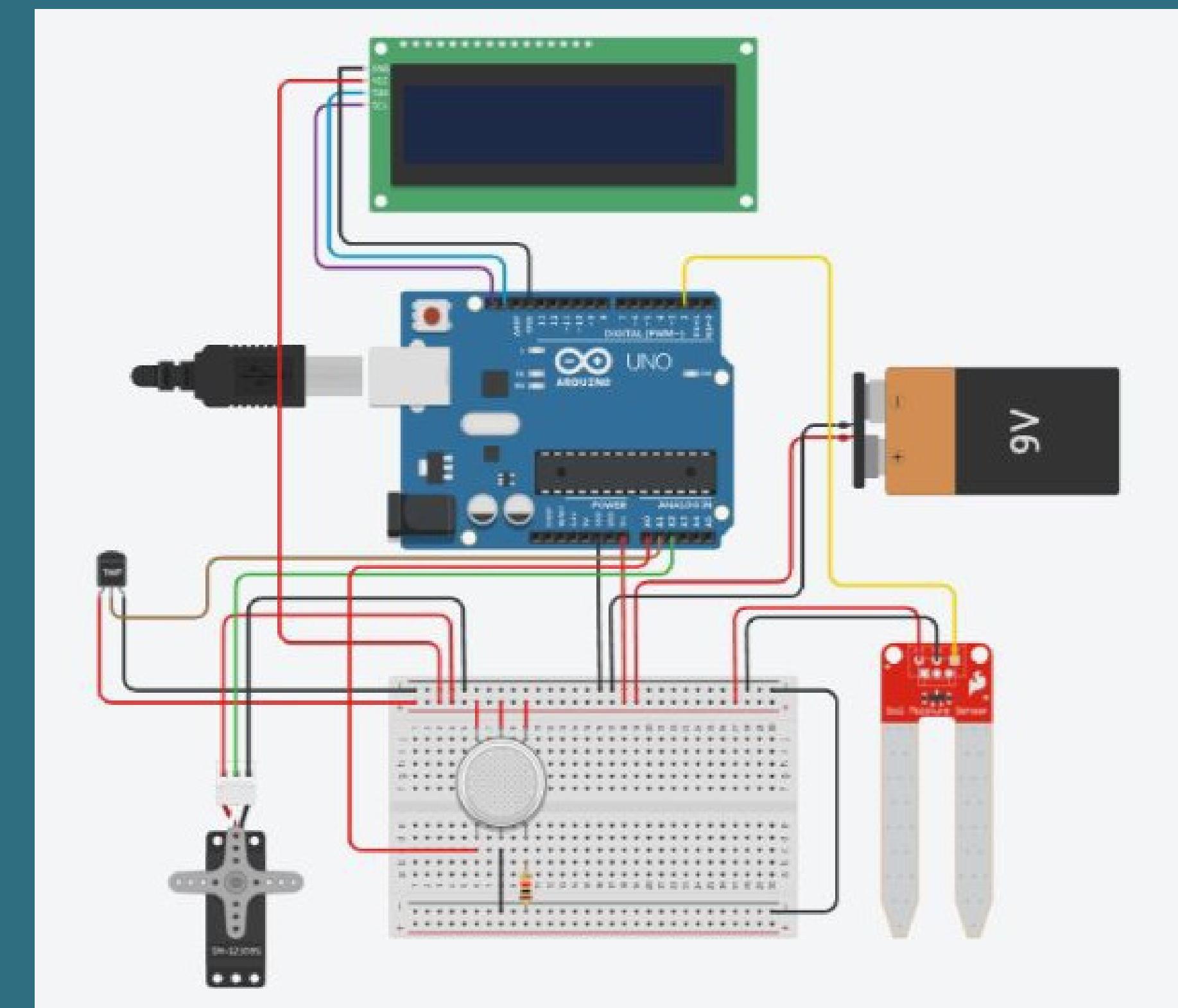


# CAD Design

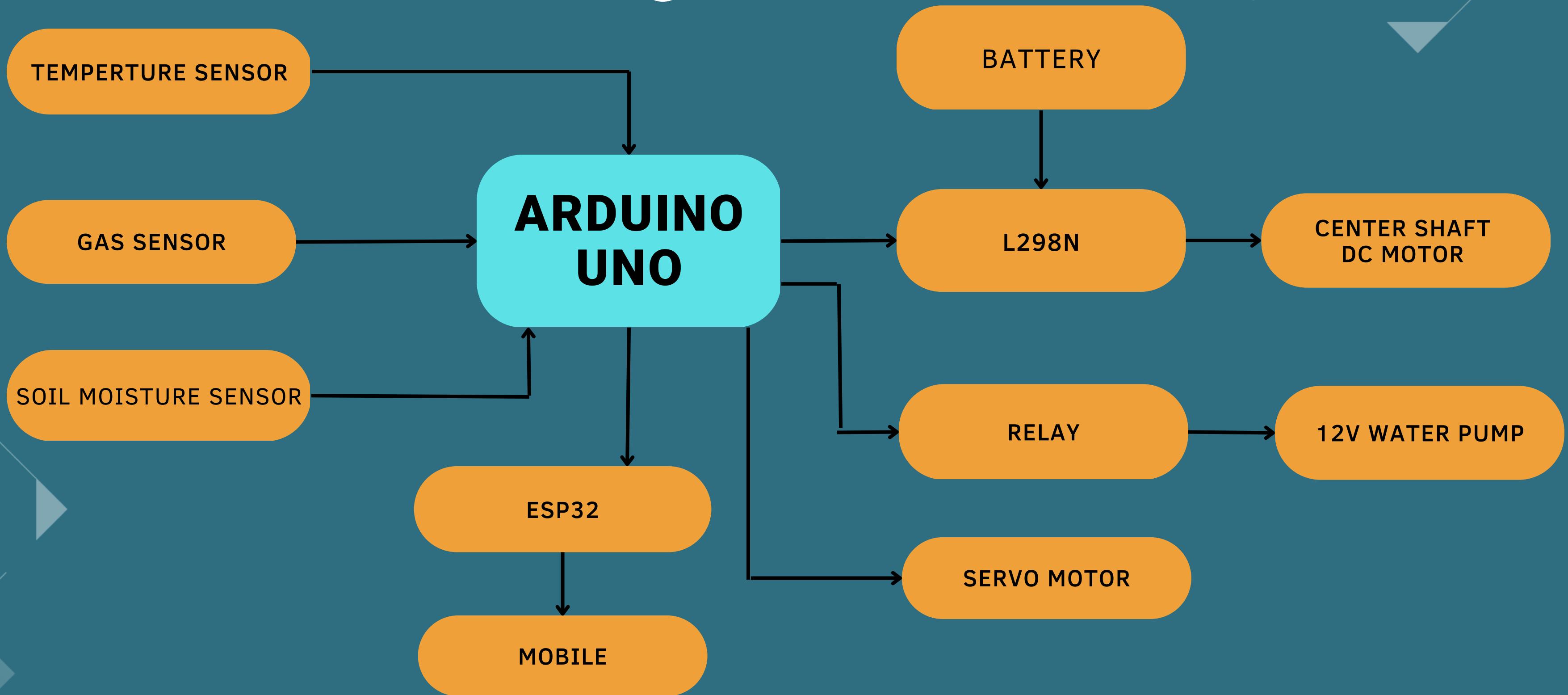
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# Circuit Diagram



# Block Diagram





# Benefits

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- 01** **Regular monitoring through application or through LCD**
- 02** **Easy maintenance and transported from one place to other**
- 03** **Gets fresh and organic products using this manure**

# Future Enhancements

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- **Gases released can be stored and reused again.**
- **Voice assistant can be given for instructing the user**



# OUR TEAM

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# **THANK YOU**