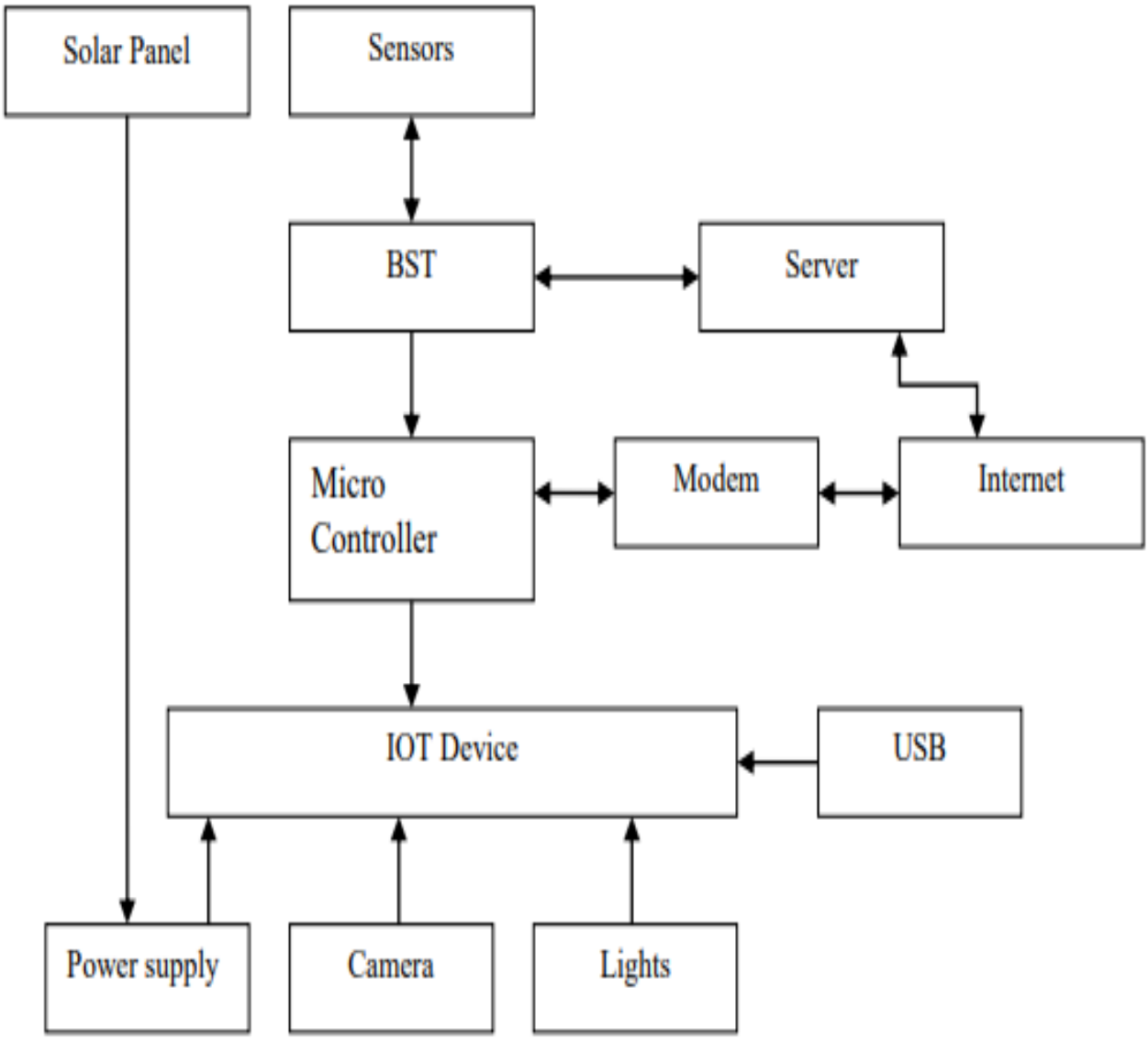
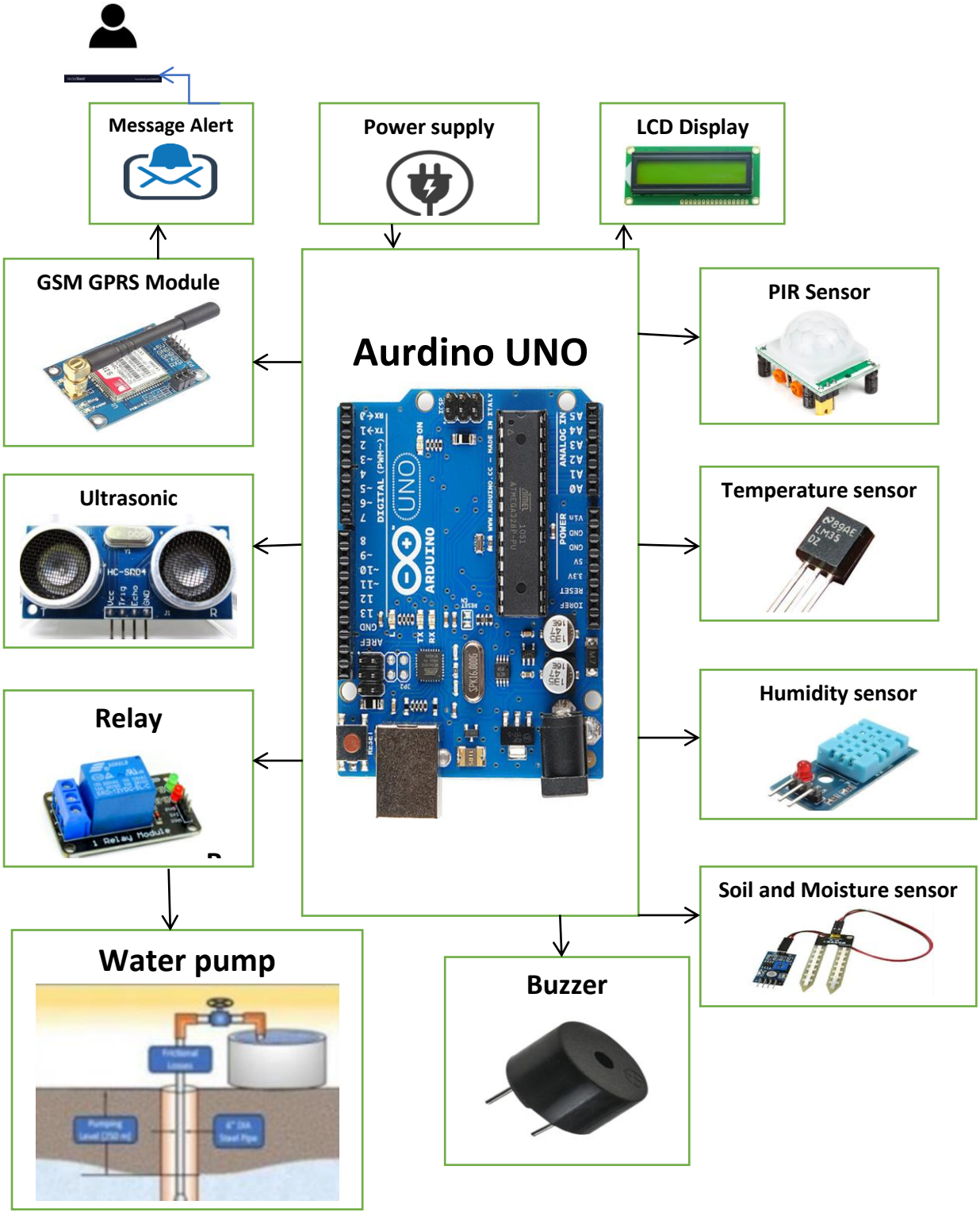
Project Design Phase-I
Solution Architecture

Date	10 October 2022
Team ID	PNT2022TMID51110
Project Name	Project - IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

Solution Architecture:





Sensor:

The DHT 11 Humidity & Temperature Sensor, PIR Sensor, Ultrasonic Sensor, Soil Moisture Sensor.

The PIR Sensor Switch can detect infrared rays released by people and animals as well as physical movement within the detection area (14 metres) and automatically start the load-light.

Ultrasonic Device Functioning:

The pin expressions for the 4-pin entity known as the HC-SR04 are Vcc, Trigger, Echo, and Ground. This ultrasonic sensor is a very intelligent tool utilised in many applications where measuring distance or identifying objects is necessary. The device operates using the unreliable capability formula, which is Distance = Speed time. An ultrasonic wave is transmitted from the ultrasonic source and travels through the air before being copied nearby by a certain material. This copied wave is sensed by the ultrasonic receiver module included in the design. Now that we had improved knowledge of the Speed and time, we could examine the distance using the methods mentioned above.

Soil Moisture:

When there is a water deficit, the phase output from the soil moisture sensor is at an extreme level; otherwise, the output is at a low level. By ingestion, one can unquestionably marine the flowering plant, and in certain additional areas, any other plant life that requires irrigation performance. The elements can be sensitively altered. It is configured with a consistent bolt gap. The degree of a threshold can be shaped**.**

LDR sensor:

For automatic light management in agricultural fields, the LDR system is preferred.

ARDINUO UNO:

The Arduino Uno is an open-source microcontroller board created by Arduino.cc and first made available in 2010. It is based on the Microchip ATmega328P microprocessor. A variety of expansion boards and other circuits can be interfaced with the board's sets of digital and analogue input/output pins.