CANNULA (DRIP) MONITORING SYSTEM

Cannula (drip) monitoring system

What you need to know ?

- Theme of the project
- Purpose of the project
- Materials required

THEME OF THE PROJECT

To monitor the time at which the liquid in the drip is emptied. When the liquid is emptied it gives an indication or alert to the device that is connected with the system (present in the drip)

PURPOSE OF THE PROJECT

This project helps to avoid the risk of air embolism when the IV bag is empty.

Can you let an IV bag run dry?

The pressurized IV fluid bag can force the air present in the IV fluid bag into the IV tubing when the fluid runs out. This can potentially cause air embolism. Finally, undetected dry IV bags can disrupt fluid flow through the catheter into the patient, allowing blood to pool around the catheter.

Materials Required

1) ESP32/ ESP8266
2) ULTRASONIC SENSOR
3) POWER BOARD
4) POWER ADAPTOR
5) SALINE BOTTLE
6) DRIP SYSTEM

Drip system

Saline bottle

Component

Injection Site
Connector
Needle
PVC tube
Roller Clamp
Solution Filter
Air Vent
Drip Chamber
Spike

WHAT IS ESP8266 ?

* The ESP8266 Wi Fi Module is a self-contained SoC (System on a Chip) with integrated TCP/IP (Transmission Control Protocol/Internet Protocol) protocol stack that can give any microcontroller access to your Wi Fi network.
* In other words, it is a highly integrated chip with full internet connectivity in a small package.

WHAT IS ULTRASONIC SENSOR ?

An ultrasonic sensor is an electronic device that measures the distance of a target object by emitting ultrasonic sound waves, and converts the reflected sound into an electrical signal. Ultrasonic waves travel faster than the speed of audible sound(i.e. the sound that humans can hear).
Ultrasonic sensors have two main components:
1.Transmitter
2. Receiver

WHY ULTRASONIC SENSOR IS BETTER THAN IR SENSOR?

Ultrasonic sensors work using sound waves, detecting obstacles is not affected by as many factors. If reliability is an important factor in your sensor selection, ultrasonic sensors are more reliable than IR sensors. If you're willing to compromise reliability for cost, infrared sensors are ideal for your application.

THANK YOU

Hope you learned something new.