**Creating a Sonar Radar System using NodeMCU, a Servo motor, and an Ultrasonic sensor (HC-SR04) can be a fun project. This system will use the Ultrasonic sensor to measure distances and a Servo motor to rotate the sensor, creating a radar-like effect. Below is a basic example code to get you started.**

* **Components Needed:**
* NodeMCU (ESP8266)
* Ultrasonic Sensor (HC-SR04)
* Servo Motor
* Jumper Wires
* Power Source for NodeMCU

**Wiring:**

* Connect the VCC and GND of the Ultrasonic sensor to the 5V and GND on the NodeMCU, respectively.
* Connect the TRIG and ECHO pins of the Ultrasonic sensor to any two GPIO pins on the NodeMCU.
* Connect the VCC and GND of the Servo motor to the 5V and GND on the NodeMCU, respectively.
* Connect the signal (control) pin of the Servo motor to any PWM-enabled GPIO pin on the NodeMCU.

**Code :** [**download**](https://github.com/vishal-ravi/projects/blob/main/Rader)

**#include <Servo.h>**

**#define TRIG\_PIN D1**

**#define ECHO\_PIN D2**

**#define SERVO\_PIN D3**

**Servo myservo;**

**void setup() {**

**Serial.begin(115200);**

**pinMode(TRIG\_PIN, OUTPUT);**

**pinMode(ECHO\_PIN, INPUT);**

**myservo.attach(SERVO\_PIN);**

**}**

**void loop() {**

**for (int angle = 0; angle <= 180; angle += 30) {**

**moveServo(angle);**

**delay(500);**

**float distance = measureDistance();**

**Serial.print("Angle: ");**

**Serial.print(angle);**

**Serial.print(" degrees, Distance: ");**

**Serial.print(distance);**

**Serial.println(" cm");**

**}**

**}**

**void moveServo(int angle) {**

**myservo.write(angle);**

**delay(500);**

**}**

**float measureDistance() {**

**digitalWrite(TRIG\_PIN, LOW);**

**delayMicroseconds(2);**

**digitalWrite(TRIG\_PIN, HIGH);**

**delayMicroseconds(10);**

**digitalWrite(TRIG\_PIN, LOW);**

**float duration = pulseIn(ECHO\_PIN, HIGH);**

**// Speed of sound is 343 m/s or 0.0343 cm/µs**

**return (duration \* 0.0343) / 2;**

**}**