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#include <SPI.h>
#include <RF24.h>
#include <LiquidCrystal.h>
RF24 radio(7, 6); // CE, CSN
const byte address[6] = "00001";
struct Data_Package {
  bool bValue; // Joystick Button
  int yValue; // Y value of joystick
  int val;    // Value of potentiometer
  bool buttonState; // State of push button
  int distance; // Distance sensed by Ultrasonic sensor
};
Data_Package data;
const int joystickPin = A0; // Joystick pin
const int potPin = A1; // Potentiometer pin
const int buttonPin = 2; // Push button pin
const int JoybValue = 3; //Joystick Button
LiquidCrystal lcd(22, 24, 26, 28, 30, 32); // LCD pins
void setup() {
  radio.begin();
  radio.openWritingPipe(address);
  radio.setPALevel(RF24_PA_MIN);
  radio.enableAckPayload(); // Enable ackPayload feature
  radio.enableDynamicPayloads(); // Enable dynamic payload length
  Serial.begin(9600);
  pinMode(buttonPin, INPUT_PULLUP);
  pinMode(JoybValue, INPUT_PULLUP);
  lcd.begin(16, 2); // Initialize the LCD with 16 columns and 2 rows
```

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  lcd.print("Obstacle in "); // Display initial text on the LCD }
void loop() {
  data.yValue = analogRead(joystickPin); // Read joystick Y value
  data.val = map(analogRead(potPin), 0, 1023, 0, 180); // Read and map potentiometer value
  data.buttonState = digitalRead(buttonPin); // Read push button state
  data.bValue = digitalRead(JoybValue); //Read joystick button value
  Serial.print(data.buttonState);
  // Attempt to send data via NRF24L01 and wait for acknowledgment with ackPayload
  bool sent = radio.write(&data, sizeof(Data_Package));
  if (sent) {
    // If data was sent successfully, print acknowledgment (if any)
    if (radio.isAckPayloadAvailable()) {
      radio.read(&data, sizeof(Data_Package));
      // Process acknowledgment data received in ackPayload
      // For example, update LCD display with received distance:
      lcd.setCursor(0, 1);
      if (data.distance < 10) {
        lcd.print("0");
        lcd.print(data.distance);
        lcd.print(" Inches    ");
      } else if (data.distance > 10 && data.distance < 21) {
        lcd.print(data.distance);
        lcd.print(" Inches    ");
      } else {
        lcd.print("Not In Range");     }
    } else {
      Serial.println("Error: Failed to send data."); }}}
```