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```
#include <WiFi.h>
#include <HTTPClient.h>
#include <Adafruit_GFX.h>
#include <Adafruit_ILI9341.h>
#include <string.h>

const char* ssid = "Wokwi-GUEST";
const char* password = "";

#define TFT_DC 2
#define TFT_CS 15
Adafruit_ILI9341 tft = Adafruit_ILI9341(TFT_CS, TFT_DC);

String myLocation = "Chennai,IN";
String usualSpeedLimit = "70"; // kmph

int schoolZone = 32;
int hospitalZone = 26;

int uid = 2504;

String getString(char x)
{
    String s(1, x);
    return s;
}

String stringSplitter1(String fullString,char delimiter='$')
{
    String returnString = "";
    for(int i = 0; i<fullString.length();i++) {
        char c = fullString[i];
        if(delimiter==c)
            break;
        returnString+=String(c);
    }
    return(returnString);
}

String stringSplitter2(String fullString,char delimiter='$')
{
    String returnString = "";
    bool flag = false;
    for(int i = 0; i<fullString.length();i++) {
        char c = fullString[i];
        if(flag)
            returnString+=String(c);
```

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      Char c = fullString[i];
      If(flag)
         returnString+=String©;
      if(delimiter==c)
         flag = true;
   }
   Return(returnString);
}

Void rightArrow()
{
```

```
  Int refX = 50;
  Int refY = tft.getCursorY() + 40;

  Tft.fillRect(refX,refY,100,20,ILI9341_RED);
  Tft.fillTriangle(refX+100,refY-30,refX+100,refY+50,refX+40+100,refY+10,ILI9341_RED);
}

Void leftArrow()
{
  Int refX = 50;
  Int refY = tft.getCursorY() + 40;

  Tft.fillRect(refX+40,refY,100,20,ILI9341_RED);
  Tft.fillTriangle(refX+40,refY-30,refX+40,refY+50,refX,refY+10,ILI9341_RED);
}

Void upArrow()
{
  Int refX = 125;
  Int refY = tft.getCursorY() + 30;

  Tft.fillTriangle(refX-40,refY+40,refX+40,refY+40,refX,refY,ILI9341_RED);
  Tft.fillRect(refX-15,refY+40,30,20,ILI9341_RED);
}

String APICall() {
  HTTPClient http;

  String url = https://node-red-nwmrt-2022-11-04.eu-gb.mybluemix.net/getSpeed?;
```

```
url += “location=”+myLocation+”&”;
url += “schoolZone=”+(String)digitalRead(schoolZone)+(String)”&”;
url += “hospitalZone=”+(String)digitalRead(hospitalZone)+(String)”&”;
url += “usualSpeedLimit=”+(String)usualSpeedLimit+(String)”&”;
url += “uid=”+(String)uid;
http.begin(url.c_str());
int httpResponseCode = http.GET();

if (httpResponseCode>0) {
  String payload = http.getString();
  http.end();
  return(payload);
 }
 Else {
  Serial.print(“Error code: “);
  Serial.println(httpResponseCode);
 }
 http.end();
}

Void myPrint(String contents) {
 Tft.fillScreen(ILI9341_BLACK);
 Tft.setCursor(0, 20);
 Tft.setTextSize(4);
 Tft.setTextColor(ILI9341_RED);
 //tft.println(contents);

 Tft.println(stringSplitter1(contents));
 String c2 = stringSplitter2(contents);
```

```
If(c2==”s”) // represents Straight
{
  upArrow();
}
If(c2==”l”) // represents left
{
  leftArrow();
}
If(c2==”r”) // represents right
  {
    rightArrow();
  }
}

Void setup() {
  WiFi.begin(ssid, password, 6);

  Tft.begin();
  Tft.setRotation(1);

  Tft.setTextColor(ILI9341_WHITE);
  Tft.setTextSize(2);
  Tft.print(“Connecting to WiFi”);

  While (WiFi.status() != WL_CONNECTED) {
    Delay(100);
    Tft.print(“.”);
  }
```

```
  Tft.print("\nOK! IP=");
  Tft.println(WiFi.localIP());
}

Void loop() {

  myPrint(APICall());

  delay(100);
}
```