

# IBM PROJECT CODE

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PROJECT NAME: SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY

## CODE:

```
#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
        ng
        s(1,
        x);
        retu
        rn
        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);
        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
  APICa
  ll()
{
  HTTPC
  lient
  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))+((St
ring)"&"); url +=
"usualSpeedLimit="+((String)usualSpeedLimit)+((String)
"&");url += "uid="+((String)uid);

http.begin(url.c_str());

int httpStatusCode = http.GET();

if (httpStatusCode>0) {

  String payload =
  http.getString();
  http.end();

  return(payload);

}

else {

  Serial.print("Error
code: ");

```

```

        Serial.println(httpRes
        ponseCode);
    }
    http.end();
}

void myPrint(String
    contents) {
    tft.fillScreen(ILI9
    341_BLACK);
    tft.setCursor(0,
    20);
    tft.setTextSize(4);
    tft.setTextColor(IL
    I9341_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(  
        n();  
        tft.setRotation(  
            1);  
  
        tft.setTextColor(ILI9  
            341_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);  
    }  
}
```