**Arduino Code:**

#include <TinyGPS++.h>

#include <SoftwareSerial.h>

///\* Create object named bt of the class SoftwareSerial \*/

SoftwareSerial GPS\_SoftSerial(4,3);/\* (Rx, Tx) \*/

/\* Create an object named gps of the class TinyGPSPlus \*/

TinyGPSPlus gps;

volatile float minutes, seconds;

volatile int degree, secs, mins;

const int MQ3AOUTpin= 0; //the AOUT pin of the CO sensor goes into analog pin A0 of the arduino

const int MQ3DOUTpin= 8; //the DOUT pin of the CO sensor goes into analog pin A0 of the arduino

int value;

void setup()

{

Serial.begin(57600); /\* Define baud rate for serial communication \*/

GPS\_SoftSerial.begin(9600); /\* Define baud rate for software serial communication \*/

pinMode(MQ3AOUTpin, INPUT); //sets the pin as an input to the arduino

pinMode(MQ3DOUTpin, INPUT); //sets the pin as an input to the arduino

}

void loop() {

smartDelay(1000); /\* Generate precise delay of 1ms \*/

unsigned long start;

double lat\_val, lng\_val, alt\_m\_val;

uint8\_t hr\_val, min\_val, sec\_val;

bool loc\_valid, alt\_valid, time\_valid;

lat\_val = gps.location.lat(); /\* Get latitude data \*/

loc\_valid = gps.location.isValid(); /\* Check if valid location data is available \*/

lng\_val = gps.location.lng(); /\* Get longtitude data \*/

alt\_m\_val = gps.altitude.meters(); /\* Get altitude data in meters \*/

alt\_valid = gps.altitude.isValid(); /\* Check if valid altitude data is available \*/

hr\_val = gps.time.hour(); /\* Get hour \*/

min\_val = gps.time.minute(); /\* Get minutes \*/

sec\_val = gps.time.second(); /\* Get seconds \*/

time\_valid = gps.time.isValid(); /\* Check if valid time data is available \*/

value= analogRead(MQ3AOUTpin); //reads the analaog value from the sensor's AOUT pin

Serial.print("\nal value ");

Serial.print( value); //prints the sensor value of alcohol

if (!loc\_valid)

{

Serial.print("Latitude : ");

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

Serial.print("Longitude : ");

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

}

else

{

DegMinSec(lat\_val);

Serial.print(" Latitude ");

Serial.print(lat\_val, 6);

DegMinSec(lng\_val); /\* Convert the decimal degree value into degrees minutes seconds form \*/

Serial.print(" Longitude ");

Serial.print(lng\_val, 6);

}

}

static void smartDelay(unsigned long ms)

{

unsigned long start = millis();

do

{

while (GPS\_SoftSerial.available()) /\* Encode data read from GPS while data is available on serial port \*/

gps.encode(GPS\_SoftSerial.read());

/\* Encode basically is used to parse the string received by the GPS and to store it in a buffer so that information can be extracted from it \*/

} while (millis() - start < ms);

}

void DegMinSec( double tot\_val) /\* Convert data in decimal degrees into degrees minutes seconds form \*/

{

degree = (int)tot\_val;

minutes = tot\_val - degree;

seconds = 60 \* minutes;

minutes = (int)seconds;

mins = (int)minutes;

seconds = seconds - minutes;

seconds = 60 \* seconds;

secs = (int)seconds;

}

**JSON Code: for above flow**

[{"id":"2f168d7.3ae5972","type":"function","z":"86dd3d53.4d71e","name":"longitude","func":"var abc1=msg.payload;\nvar abc2=abc1.split(\" \");\nif(abc2[5]=='Longitude')\n{\n msg.payload=abc2[6];\n return msg;\n}\nconsole.log(abc2[5]);\nconsole.log(abc2[6]);","outputs":1,"noerr":0,"x":221,"y":68,"wires":[["4a7f3593.56bf7c","be0c6923.643b78","6cdf913c.e70ef"]]},{"id":"86a992b5.b58d1","type":"worldmap","z":"86dd3d53.4d71e","name":"","lat":"","lon":"","zoom":"","layer":"OSM grey","cluster":"1","maxage":"15","usermenu":"show","panit":"false","x":258,"y":119,"wires":[]},{"id":"de4971da.13f71","type":"serial in","z":"86dd3d53.4d71e","name":"","serial":"82b8797f.03eac8","x":55,"y":243,"wires":[["7a549037.b1186","2e17cf14.e8a54","2f168d7.3ae5972","549c9eae.829cd","a87bf8c1.a29fd8"]]},{"id":"8d02c3fd.f0266","type":"debug","z":"86dd3d53.4d71e","name":"","active":true,"console":"false","complete":"payload","x":381,"y":355,"wires":[]},{"id":"2efe6f86.fb3e4","type":"ui\_text","z":"86dd3d53.4d71e","group":"d75988.66ee0678","order":0,"width":"0","height":"0","name":"Alcohol value is:","label":"Alcohol Readings","format":"{{msg.payload}}","layout":"col-center","x":712,"y":274,"wires":[]},{"id":"7a549037.b1186","type":"function","z":"86dd3d53.4d71e","name":"THRESHOLD","func":"var abc1=msg.payload;\nvar abc2=abc1.split(\" \");\n\n if( abc2[0]=='al'){\n if(abc2[2]<=400){\n \n msg.payload = \"Alcohol value is low\"\n console.log(msg.payload);\n return msg; \n }\n\n\nelse if(abc2[2]>400 && abc2[2]<=600)\n{\n msg.payload = \"driver is drinking\";\n console.log(msg.payload);\n return msg;\n}\nelse\n{\n msg.payload = \"Alcohol value is high\";\n console.log(msg.payload);\n return msg;\n}\n\n}\n \n\n","outputs":1,"noerr":0,"x":265,"y":283,"wires":[["8d02c3fd.f0266","2efe6f86.fb3e4","e5b75c75.aa5a5","4e631555.1a523c"]]},{"id":"fd8f0f50.a84cf","type":"ThingspeakSendSimple","z":"86dd3d53.4d71e","name":"","writekey":"9T6BGQ29QX2U60DH","fieldid":"3","x":701,"y":156,"wires":[]},{"id":"2e17cf14.e8a54","type":"function","z":"86dd3d53.4d71e","name":"alcohol sensor","func":"var abc1=msg.payload;\nvar abc2=abc1.split(\" \");\nif(abc2[0]=='al')\n{\n msg.payload=abc2[2];\n return msg;\n}\nconsole.log(abc2[0]);\nconsole.log(abc2[2]);","outputs":1,"noerr":0,"x":267,"y":197,"wires":[["fd8f0f50.a84cf","4f97634b.64686c","c4c22e06.efadd"]]},{"id":"4f97634b.64686c","type":"ui\_chart","z":"86dd3d53.4d71e","name":"","group":"d75988.66ee0678","order":0,"width":"0","height":"0","label":"mq3","chartType":"line","legend":"false","xformat":"HH:mm:ss","interpolate":"linear","nodata":"","dot":false,"ymin":"","ymax":"","removeOlder":1,"removeOlderPoints":"","removeOlderUnit":"3600","cutout":0,"useOneColor":false,"colors":["#1f77b4","#aec7e8","#ff7f0e","#2ca02c","#98df8a","#d62728","#ff9896","#9467bd","#c5b0d5"],"x":704,"y":205,"wires":[[],[]]},{"id":"c4c22e06.efadd","type":"ui\_gauge","z":"86dd3d53.4d71e","name":"gauge","group":"d75988.66ee0678","order":0,"width":"12","height":"4","gtype":"wave","title":"mq3 Gauge","label":"degress","format":"{{value}}","min":0,"max":"100","colors":["#00ff00","#e6e600","#ca3838"],"seg1":"","seg2":"","x":513,"y":242,"wires":[]},{"id":"e5b75c75.aa5a5","type":"ui\_toast","z":"86dd3d53.4d71e","position":"top right","displayTime":"3","highlight":"","outputs":0,"ok":"OK","cancel":"","topic":"","name":"","x":717,"y":334,"wires":[]},{"id":"4a7f3593.56bf7c","type":"debug","z":"86dd3d53.4d71e","name":"","active":true,"console":"false","complete":"payload","x":541,"y":32,"wires":[]},{"id":"be0c6923.643b78","type":"ThingspeakSendSimple","z":"86dd3d53.4d71e","name":"","writekey":"9T6BGQ29QX2U60DH","fieldid":"2","x":672,"y":80,"wires":[]},{"id":"e55f9f0d.0a9a9","type":"debug","z":"86dd3d53.4d71e","name":"","active":true,"console":"false","complete":"payload","x":610,"y":391,"wires":[]},{"id":"e7319556.6c2c28","type":"ThingspeakSendSimple","z":"86dd3d53.4d71e","name":"","writekey":"9T6BGQ29QX2U60DH","fieldid":"1","x":672,"y":451,"wires":[]},{"id":"549c9eae.829cd","type":"function","z":"86dd3d53.4d71e","name":"latitude","func":"var abc1=msg.payload;\nvar abc2=abc1.split(\" \");\nif(abc2[3]=='Latitude')\n{\n msg.payload=abc2[4];\n return msg;\n}\nconsole.log(abc2[3]);\nconsole.log(abc2[4]);","outputs":1,"noerr":0,"x":209,"y":399,"wires":[["e7319556.6c2c28","e55f9f0d.0a9a9","7191478d.612ea8"]]},{"id":"6cdf913c.e70ef","type":"ui\_chart","z":"86dd3d53.4d71e","name":"","group":"d75988.66ee0678","order":0,"width":"0","height":"0","label":"longitude","chartType":"line","legend":"false","xformat":"HH:mm:ss","interpolate":"linear","nodata":"","dot":false,"ymin":"0","ymax":"200","removeOlder":1,"removeOlderPoints":"","removeOlderUnit":"3600","cutout":0,"useOneColor":false,"colors":["#1f77b4","#aec7e8","#ff7f0e","#2ca02c","#98df8a","#d62728","#ff9896","#9467bd","#c5b0d5"],"x":465,"y":126,"wires":[[],[]]},{"id":"7191478d.612ea8","type":"ui\_chart","z":"86dd3d53.4d71e","name":"","group":"d75988.66ee0678","order":0,"width":"0","height":"0","label":"latitude","chartType":"line","legend":"false","xformat":"HH:mm:ss","interpolate":"linear","nodata":"","dot":false,"ymin":"0","ymax":"200","removeOlder":1,"removeOlderPoints":"","removeOlderUnit":"3600","cutout":0,"useOneColor":false,"colors":["#1f77b4","#aec7e8","#ff7f0e","#2ca02c","#98df8a","#d62728","#ff9896","#9467bd","#c5b0d5"],"x":415,"y":492,"wires":[[],[]]},{"id":"4e631555.1a523c","type":"ui\_audio","z":"86dd3d53.4d71e","name":"audio","group":"69fcd3aa.acf83c","voice":"0","always":false,"x":75,"y":427,"wires":[]},{"id":"a87bf8c1.a29fd8","type":"function","z":"86dd3d53.4d71e","name":"","func":"var abc1=msg.payload;\nvar abc2=abc1.split(\" \");\nif(abc2[0]=='al')\n{\n msg.payload.commmand={\n name:\"mq3\",\n lat:abc2[4],\n lon:abc2[6],\n \n }\n return msg;\n}\nconsole.log(abc2[0]);\nconsole.log(abc2[2]);","outputs":1,"noerr":0,"x":106,"y":166,"wires":[["86a992b5.b58d1"]]},{"id":"82b8797f.03eac8","type":"serial-port","z":"86dd3d53.4d71e","serialport":"COM4","serialbaud":"57600","databits":"8","parity":"none","stopbits":"1","newline":"\\n","bin":"false","out":"char","addchar":false},{"id":"d75988.66ee0678","type":"ui\_group","z":"","name":"Default","tab":"ec542290.f17e4","disp":true,"width":"12"},{"id":"69fcd3aa.acf83c","type":"ui\_group","z":"86dd3d53.4d71e","name":"alcohol","tab":"53b88c91.5cabb4","disp":true,"width":"9"},{"id":"ec542290.f17e4","type":"ui\_tab","z":"","name":"Home","icon":"dashboard"},{"id":"53b88c91.5cabb4","type":"ui\_tab","z":"86dd3d53.4d71e","name":"Home","icon":"dashboard"}]

HTML Code:

<!DOCTYPE html>

<html>

<head>

<title>ESP12E, Thingspeak, GPS and Google Map</title>

<meta name="viewport" content="initial-scale=1.0, user-scalable=no">

<meta charset="utf-8">

<style>

/\* Always set the map height explicitly to define the size of the div

\* element that contains the map. \*/

#map {

height: 100%;

}

/\* Optional: Makes the sample page fill the window. \*/

html, body {

height: 100%;

margin: 0;

padding: 0;

}

</style>

<script src="https://maps.googleapis.com/maps/api/js?key= \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"></script>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.1.1/jquery.min.js"></script>

<script>

var map;

var x;

function loadmaps(){

$.getJSON(<https://api.thingspeak.com/channels/334952/fields/1/last.json?api_key=>\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*", function(result){

var m = result;

x=Number(m.field1);

//alert(x);

});

$.getJSON("https://api.thingspeak.com/channels/334952/fields/2/last.json?api\_key=\*\*\*\*\*\*\*\*\*\*\*", function(result){

var m = result;

y=Number(m.field2);

}).done(function() {

initialize();

});

}

window.setInterval(function(){

loadmaps();

}, 9000);

function initialize() {

//alert(y);

var mapOptions = {

zoom: 18,

center: {lat: x, lng: y}

};

map = new google.maps.Map(document.getElementById('map'),

mapOptions);

var marker = new google.maps.Marker({

position: {lat: x, lng: y},

map: map

});

var infowindow = new google.maps.InfoWindow({

content: '<p>Marker Location:' + marker.getPosition() + '</p>'

});

google.maps.event.addListener(marker, 'click', function() {

infowindow.open(map, marker);

});

}

google.maps.event.addDomListener(window, 'load', initialize);

</script>

</head>

<body>

<div id="map"></div>

</body>

</html>