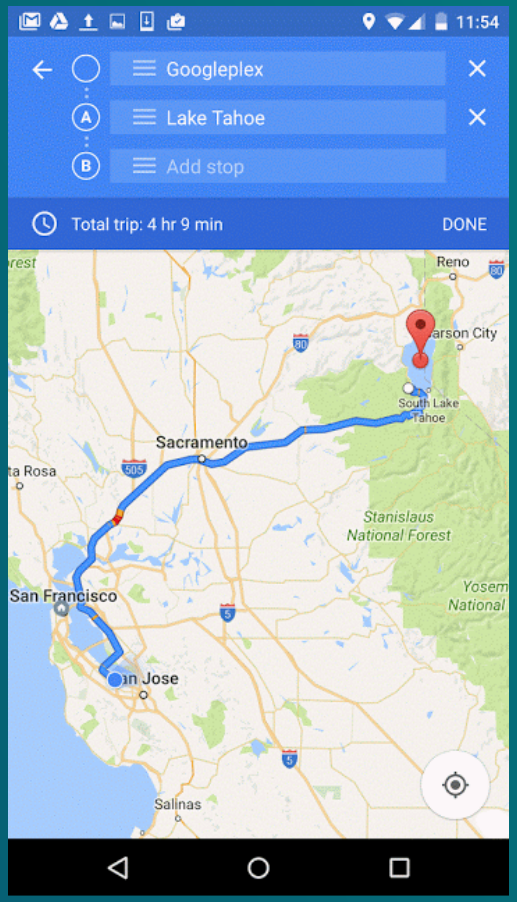
Internet Of Things



GPS

Where am I now?

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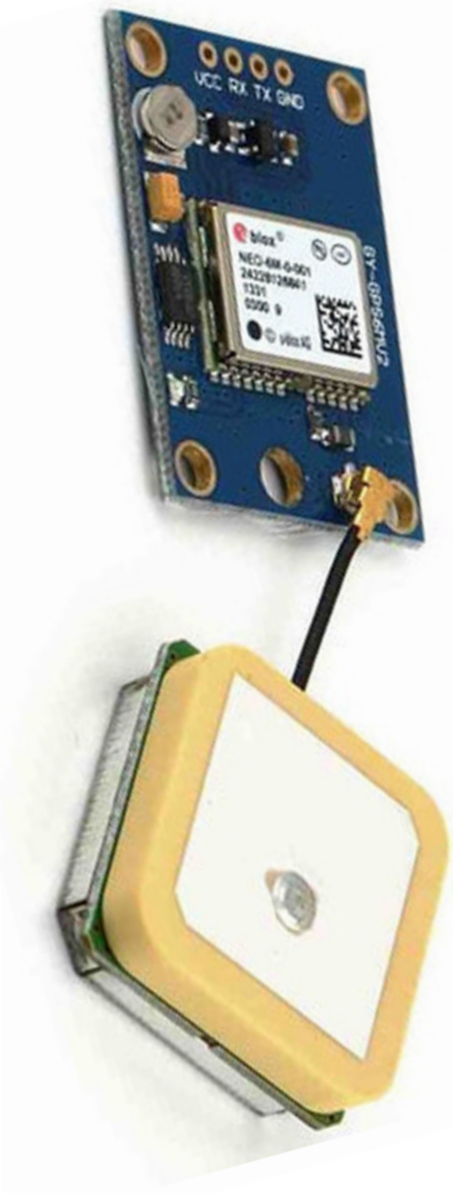
GPS *global positioning system*

- The Global Positioning System (GPS), originally Navstar GPS, is a space-based radionavigation system owned by the United States government and operated by the United States Air Force since 60's. It is a global navigation satellite system that provides geolocation and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.

- There are also the Russian Global Navigation Satellite System (GLONASS), the European Union Galileo positioning system, China's BeiDou Navigation Satellite System and India's NAVIC.

Ublox NEO6MV2



Receiver type 50 Channels
GPS L1 frequency, C/A Code
SBAS: WAAS, EGNOS, MSAS
Tracking & Navigation -161 dBm
Reacquisition -160 dBm
Maximum Navigation update rate 5Hz
Horizontal position accuracy GPS 2.5 m
SBAS 2.0 m
SBAS + PPP7 < 1 m (2D, R50)
SBAS + PPP7 < 2 m (3D, R50)
Accuracy for Timepulse signal RMS 30 ns
99% < 60 ns
Granularity 21 ns
Compensated 15 ns
Velocity accuracy 0.1m/s
Heading accuracy 0.5 degrees
Dynamics 4 g
Altitude10 50,000 m
Velocity10 500 m/s

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1. `#include <TinyGPS.h>`
2. `ss.begin(9600);`
3. `Example → TinyGPS → test_gps`

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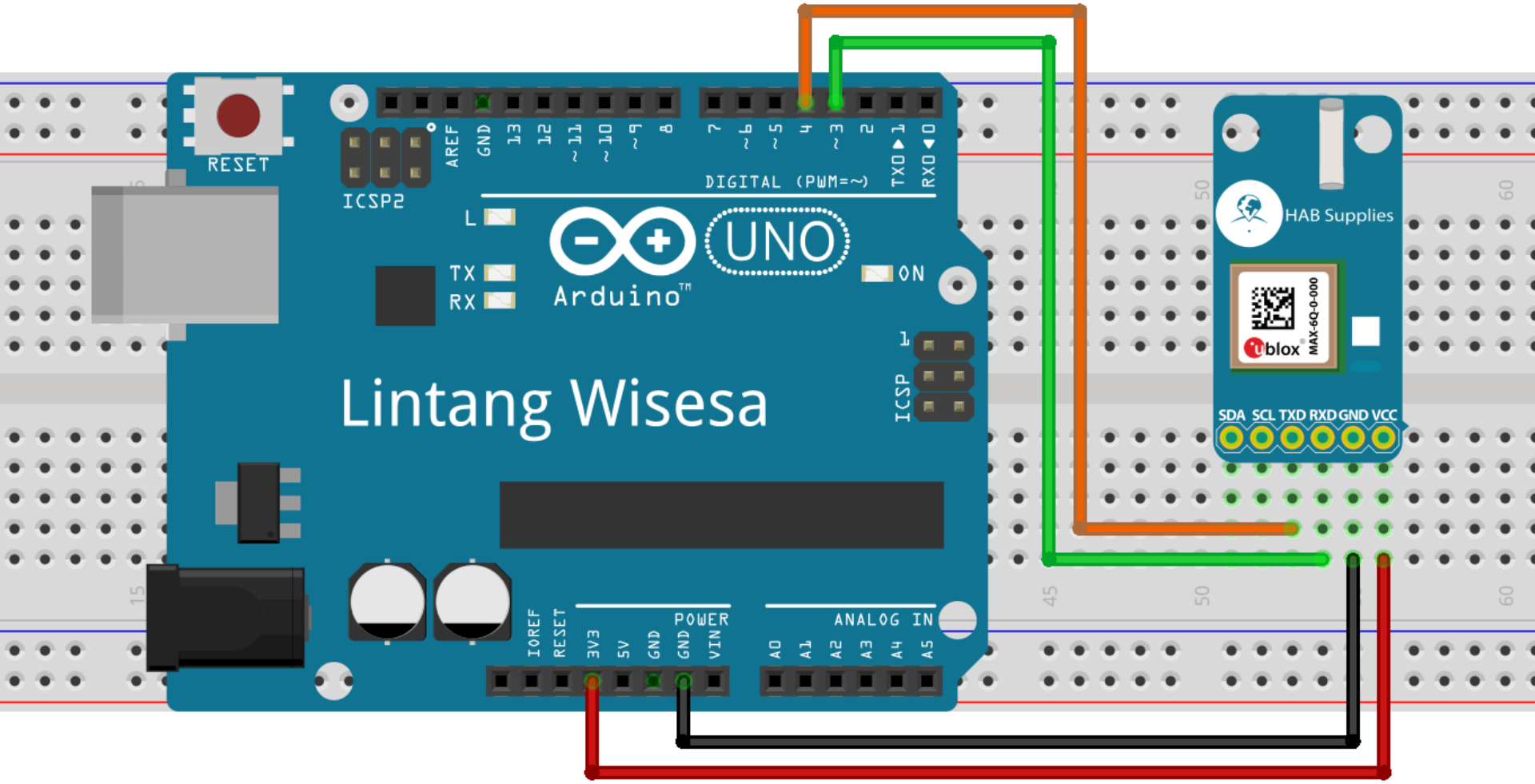

https://www.google.com/maps/?q=-7.5625278(lat),110.7479502(long)

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```
#include <SoftwareSerial.h>
#include <TinyGPS.h>
TinyGPS gps;
SoftwareSerial gpsSerial(4, 3);
//Rx gps ke pin 3, Tx gps ke 4, vcc ke 3v3, gnd ke gnd

void setup() {
Serial.begin(115200);
gpsSerial.begin(9600);}

void loop() {
float latitude, longitude;
if (gpsSerial.available()){
    int kar = gpsSerial.read();
    if (gps.encode(kar))
     {gps.f_get_position(&latitude, &longitude);
      Serial.print("Lat(lintang), Long(bujur): ");
      Serial.print(latitude, 7);
      Serial.print(",");
      Serial.println(longitude, 7);
      delay(1000);}}}
```

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