

SPRINT 2

ALGORITHM:

- Import Packages
- Create 'myConfig' location
- Implement the wiotp.sdk.device.DeviceClient
- Run a while Loop
- Finally set the latitude and longitude range
- Desired result Obtained

Modified Version of Code according to main project:

```
import json
import wiotp.sdk.device
import time
myConfig={
    "identity":{
        "orgId": "hj5fmy", "typeid": "NodeMCU",
        "deviceId": "12345"
    },
    "auth": {
        "token": "12345678"
```

```

    }
}

client = wiotp.sdk.device.DeviceClient (config=myConfig, logHandlers=None)

client.connect()

while True:

    name= "Smartbridge"

    #in area location

    #latitude- 17.4225176 longitude 78.5450842

    #out area location

    latitude = 17.4219272

    longitude =70.5400783

    myData = {'name':name, 'lat':latitude, 'lon': longitude}

    client.publishEvent (eventId="Status", msgformat="json", data=myData,
        qos=0, onPublish=None)

    print ("Data published to IM IoT platfrom: ",myData)

    time.sleep(5)

client.disconnect()

```

Reference Code:

```

import time

def stopwatch(seconds,d,lspoint):

    start = time.time()

    time.clock()

    elapsed = 0

    flag = False

```

```

num = 0
while elapsed < seconds:
    elapsed = time.time() - start
    print "%02d" % elapsed
    if elapsed > d[num] and elapsed < d[num+1] and flag == False:
        x = lspoint[num][0]
        y = lspoint[num][1]
        createpoint(x,y)
        flag = True
        print "Shot Taken"
        print point_in_poly(x,y,polygon)
    if elapsed > d[num+1]:
        print "Shot Taken"
        flag == False
        num = num+1
        x = lspoint[num][0]
        y = lspoint[num][1]
        createpoint(x,y)
        print point_in_poly(x,y,polygon)
    time.sleep(1)

```

```

def createpoint(x,y):
    crs = "point?crs=epsg:27700&field=id:integer"
    layer = QgsVectorLayer(crs, 'points' , "memory")
    pr = layer.dataProvider()
    pt = QgsFeature()

```

```
point1 = QgsPoint(x,y)
pt.setGeometry(QgsGeometry.fromPoint(point1))
pr.addFeatures([pt])
    layer.updateExtents()
pt = QgsFeature()
QgsMapLayerRegistry.instance().addMapLayers([layer])
```

```
def point_in_poly(x,y,poly):
```

```
    n = len(poly)
```

```
    inside = False
```

```
    p1x,p1y = poly[0]
```

```
    for i in range(n+1):
```

```
        p2x,p2y = poly[i % n]
```

```
        if y > min(p1y,p2y):
```

```
            if y <= max(p1y,p2y):
```

```
                if x <= max(p1x,p2x):
```

```
                    if p1y != p2y:
```

```
                        xints = (y-p1y)*(p2x-p1x)/(p2y-p1y)+p1x
```

```
                    if p1x == p2x or x <= xints:
```

```
                        inside = not inside
```

```
                p1x,p1y = p2x,p2y
```

```
    return inside
```

```
polygon =
```

```
[(512882.78819722467,120811.83924772343),(512960.84437170526,120809.
```

```
7007223952),(512960.84437170526,120809.7007223952),(512959.775109041  
13,120754.09906386107),(512882.78819722467,120756.2375891893)]
```

```
time_seconds = 70
```

```
x = 512915
```

```
y = 120728
```

```
intervals = int(time_seconds / 10)
```

```
lspoint = []
```

```
for i in range(0,intervals+1):
```

```
    y1 = y + (i*12.5)
```

```
    lspoint.append([x,y1])
```

```
f = 10
```

```
a = 0
```

```
b = intervals+1
```

```
d = [x * f for x in range(a, b)]
```

```
stopwatch(time_seconds,d,lspoint)
```