SPRINT-II

DEVELOP AN PYTHON CODE

DATE	**04 NOVEMBER 2022**
TEAM ID	**PNT2022TMID49507**
PROJECT NAME	**PROJECT-IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION.**

PYTHON CODE: FOR TO DETECT THE CHILD SUITATION USING GEO-FENCING AND PIE-CAMERA TO CAPTURE IMAGE OF CHILD

```
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(xy,
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)
defcreatepoint(x,
y):
crs="point?crs=ep
sg:27700&field=id
:integer"
layer=QgsVectorLa
yer(crs, 'points'
, "memory")
pr=layer.dataProv
ider()
pt = QgsFeature()
point1=QgsPoint(x
,y)

pt.setGeometry(Qg
sGeometry.fromPoi
nt(point1))

pr.addFeatures([p
t])
    # update
extent of the
layer

layer.updateExten
ts()
    # add the
second point
    pt =
QgsFeature()

QgsMapLayerRegist
ry.instance().add
```

```
MapLayers([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 =
[(512882.78819722
467,120811.839247
72343),(512960.84
437170526,120809.
7007223952),(5129
```

```
60.84437170526,12
0809.7007223952),
(512959.775109041
13,120754.0990638
6107),(512882.788
19722467,120756.2
375891893)]
x = 512915
y = 120728
intervals =
int(time_seconds
/ 10)
lspoint = []
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_se
conds,d,lspoint)
```

PIE-CAMERA :

```
import picamera
from time import sleep

#create object for PiCamera class
camera = picamera.PiCamera()
#set resolution
camera.resolution = (1024, 768)
camera.brightness = 60
camera.start_preview()
#add text on image
camera.annotate_text = 'IMAGE DETECTED”
sleep(5)
#store image
camera.capture('image1.jpeg')
camera.stop_preview()
```