PROJECT DEVELOPMENT PHASE SPRINT-3

Project Title: Smart Solution for Railways **Team ID**: PNT2022TMID14632

- This project presents its first ever digital event dedicated to rail transport, the “Smart Mobility Experience” which will take place on March 24th. This event will be the occasion for clients and partners of the rail ecosystem, to discover new products and major innovations, as well as to exchange about the digitalization and future of rail.
- for improved service performance and energy efficiency, and to boost the attractiveness for users.
- It helps transporting passengers safely, and with best possible experience, supervises operations with accurate situation awareness, and optimizes transport service efficiency.
- Using digital technologies such as IoT, cloud and web IT, data analytics , it designs innovative solutions such as digital signalling, train autonomy, mobile ticketing, passenger flow analytics, data driven operation control, smart maintenance, which will drastically impact the way we all travel.
- Provide real-time passenger density insights to public transport operators
- The solution helps alleviate crowding by reducing busy times, and consequently enhances overall passenger safety, comfort, and travel experience.
- The targeted performances of density accuracy are above 90%.

In Hand’s Connectivity Solution for Rail Transit:

MAIN:

```
importwiotp.sdk.device
importtime
importrandom
myConfig={
"identity":{
"orgId":"gagtey",
"typeId":"GPS",
"deviceId":"12345"
},
"auth":{
"token":"12345678"
}
}
defmyCommandcallback(cmd):
print("messagereceivedfromIBMIOTPlatform:%s"%cmd.data['command'])
m=cmd.data['command']
client=wiotp.sdk.device.deviceclient(config=myConfig,logHandlers=None)
client.connect()
defpub(data):
client.publishEvent(eventId="status",msgFormat="json",data=mydata,qos=0,
print("publishedatasuccessfully:%s",mydata)
whileTrue:
mydata={'name':'Train1','lat':17.6387448,'lon':78.4754336)
pub(myData)
time.sleep(3)
#mydata={'name':'Train2','lat':17.6387448,'lon':78.4754336)
#pub(myData)
#time.sleep(3)
mydata={'name':'Train1','lat':17.6341908,'lon':78.4744722)
pub(myData)
time.sleep(3)
mydata={'name':'Train1','lat':17.6340889,'lon':78.4745052)
```

```
pub(myData)
time.sleep(3)
mydata={'name':'Train1','lat':17.6248626,'lon':78.4720259)
pub(myData)
time.sleep(3)
mydata={'name':'Train1','lat':17.6188577,'lon':78.4698726)
pub(myData)
time.sleep(3)
mydata={'name':'Train1','lat':17.6132382,'lon':78.4707318)
pub(myData)
time.sleep(3)
client.commandCallback=mycommanCallbak
client.disconnect()
```

PROGRAM:

```
importcv2
importnumpyasnp
importtime
importpyzbar.pyzbaraspuzbar
fromibmcloudant.cloudant_v1importcloudantv1
fromibmcloudantimportcouchDbsessionAuthenticator
fromibm_cloud_sdk_core.AuthenticatorsimportBasicAuhtenticator
authenticator=BasicAuthenticator('apikey-v2-
16u3crmdpkghhxefdikvpssoh5fwezrmuup5fv5g3ubz','b0ab119f45d3e6255eabb978)
service=cloudantv1(authenticator=authenticator)
service.set_service_url('https://apikey-v2-
16u3crmdpkghhxefdikvpssoh5fwezrmuup5fv5g3ubz:b0ab119f45d3e6255eabb978
cap=cv2.videoCapture(0)
font=cv2.FONT_HERSHEY_PLAIN
whileTrue:
_,frame=cap.read(0)
decodeObjects=pyzbar.decode(frame)
```

```
forobjindecodeObjects:
#print("Data",obj.data)
a=obj.data.decode('UTF-8')
cv2.putText(frame,"Ticket",(50,50),font,2,(255,0,0),3)
#print(a)
try:
responce=service.get_document(db='booking',doc_id=a).get_result()
print(response)
time.sleep(5)
exceptExceptionase:
print("NotvalidTicket")
time.sleep(5)
cap.imshow("Frame",frame)
ifcv2.waitKey{1}&0XFF==ord('q'):
break
cap.release()
cv2.destroyAllWindows()
client.disconnect()
```