**PHASE III PROJECT**

**PROJECT TITLE :** PUBLIC TRANSPORT OPTIMIZATION

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**SOURCE CODE :**

import time

import serial

import gpsd

from gsmmodem import GsmModem

# Define serial port for GPS communication

gps\_serial = serial.Serial('/dev/ttyUSB0', 9600)

# Initialize GSM modem

modem = GsmModem(port='/dev/ttyUSB1', baudrate=9600)

modem.connect('<your\_pin>', 'your\_gsm\_device')

# Function to send an SMS

def send\_sms(message, recipient):

modem.sendSms(recipient, message)

# Function to get GPS coordinates

def get\_gps\_coordinates():

try:

packet = gpsd.get\_current()

if packet.mode >= 2:

return packet.lat, packet.lon

else:

return None, None

except Exception as e:

print(f"Error reading GPS data: {e}")

return None, None

# Main loop

while True:

try:

command = input("Enter a command: ")

if command == "Track Vehicle":

lat, lon = get\_gps\_coordinates()

if lat is not None and lon is not None:

message = f"Vehicle Tracking Alert:\nYour Vehicle Current Location is:\nLatitude: {lat:.6f}\nLongitude: {lon:.6f}\nGoogle Maps Link: https://www.google.com/maps/@{lat},{lon},14z"

recipient = '850xxxxxxx' # Replace with the actual phone number

send\_sms(message, recipient)

print("SMS Sent")

else:

print("No GPS Fix")

else:

print("Invalid command")

except KeyboardInterrupt:

print("Exiting")

break

# Disconnect GSM modem

modem.close()