

# Project development phase

## Sprint-1

Team ID : PNT2022TMID11493

Outputs:

```
3 import weather
4 from datetime import datetime as dt
5 # IMPORT SECTION ENDS
6 # -----
7 # UTILITY LOGIC SECTION STARTS
8 def processConditions(myLocation,APIKEY,LocalityInfo):
9     weatherData = weather.get(myLocation,APIKEY)
10     finalSpeed = LocalityInfo["usualSpeedLimit"] if "rain" not in weatherData else LocalityInfo["usualSpeedLimit"]/2
11     finalSpeed = finalSpeed if weatherData["visibility"]>35 else finalSpeed/2
12     if(LocalityInfo["hospitalsNearby"]):
13         # hospital zone
14         doNotHonk = True
15     else:
16         if(LocalityInfo["schools"]["schoolZone"]==False):
17             # neither school nor hospital zone
18             doNotHonk = False
19         else:
20             # school zone
21             now = [dt.now().hour,dt.now().minute]
22             activeTime = [list(map(int,_.split(":"))) for _ in LocalityInfo["schools"]["activeTime"]]
23             doNotHonk = activeTime[0][0]<=now[0]<=activeTime[1][0] and activeTime[0][1]<=now[1]<=activeTime[1][1]
24     return{
25         "speed" : finalSpeed,
26         "doNotHonk" : doNotHonk
27     }
28 # UTILITY LOGIC SECTION ENDS
```

```
1 # Python code
2 import requests as reqs
3
4
5 def get(myLocation, APIKEY):
6     apiURL = f"https://api.openweathermap.org/data/2.5/weather?q={myLocation}&appid={APIKEY}"
7     responseJSON = (reqs.get(apiURL)).json()
8     responseObject = {
9         "temperature":
10             responseJSON['main']['temp'] - 273.15,
11         "weather": [
12             responseJSON['weather'][_]['main'].lower()
13             for _ in range(len(responseJSON['weather']))
14         ],
15         "visibility":
16             responseJSON['visibility'] /
17             100, # visibility in percentage where 10km is 100% and 0km is 0%
18     }
19     if ("rain" in responseJSON):
20         responseObject["rain"] = [
21             responseJSON["rain"][key] for key in responseJSON["rain"]
22         ]
23     return (responseObject)
24
```

```
File Edit Selection View Go Run Terminal Help
main.py - Sprint-1 - Visual Studio Code

EXPLORER
SPRINT-1
  __pycache__
  brain.py
  main.py
  weather.py

main.py > ...
1 # Python code
2 # IMPORT SECTION STARTS
3 import brain
4 # IMPORT SECTION ENDS
5 # -----
6 # USER INPUT SECTION STARTS
7 myLocation = "Chennai,IN"
8 APIKEY = "c7388b7d0d823ee0ee0be65c6fd40411"
9 localityInfo = {

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
Python + - [ ] [ ] [ ] [ ] [ ]

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PS C:\Users\Admin\Desktop\Sprint-1> & c:/Python/Python37/python.exe c:/Users/Admin/Desktop/Sprint-1/main.py
{'speed': 20.0, 'doNotHonk': True}
PS C:\Users\Admin\Desktop\Sprint-1>
```

```
File Edit Selection View Go Run Terminal Help
main.py - Sprint-1 - Visual Studio Code

EXPLORER
SPRINT-1
  __pycache__
  brain.py
  main.py
  weather.py

main.py > ...
1 # Python code
2 # IMPORT SECTION STARTS
3 import brain
4 # IMPORT SECTION ENDS
5 # -----
6 # USER INPUT SECTION STARTS
7 myLocation = "Chennai,IN"
8 APIKEY = "c7388b7d0d823ee0ee0be65c6fd40411"
9 localityInfo = {
10 "schools": {
11 "schoolZone": True,
12 "activeTime": ["7:00", "17:30"] # schools active from 7 AM till 5:30 PM
13 },
14 "hospitalsNearby": False,
15 "usualSpeedLimit": 40 # in km/hr
16 }
17 # USER INPUT SECTION ENDS
18 # -----
19 # MICRO-CONTROLLER CODE STARTS
20 print(brain.processConditions(myLocation, APIKEY, localityInfo))

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
Python + - [ ] [ ] [ ] [ ] [ ]

Windows PowerShell
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```