Simple Navigator for LPU

Submitted by:

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Submitted to:

Madam: Ishatpreet Kaur(25692)

In partial fulfillment for the requirements of the award of the degree of

P132:: B. tech(Computer science & Engineering)

" School of Computer science & Engineering"

Lovely Professional University

Phagwara, Punjab.

INTRODUCTION

GPS navigation systems use stored map information for determining optimal route selection based on a shortest path algorithm. This technique is quite successful in getting you to where you want to go in a reasonable time and is fault tolerant in the sense that it can automatically reroute in case of error.

One disadvantage of this approach is that it does not have any memory. It does not automatically remember the actual time it took you to get there nor does it learn from that experience and use the actual measurements to improve future route selection.

A simple method for modifying a GPS navigational system to incorporate a simple learning paradigm using velocity profiles is described. In addition to learning, these velocity profiles can also be used to extract features from the environment which can then be used to further improve the accuracy of optimal route selection.

It is assumed to be completely autonomous which means that it requires no user input or intervention. All of the required information is derived from recording GPS location, date and time.

OBJECTIVES

1. The main objective of this system is to provide easy path that can save time and Energy of the user.

2. By using GPRS the data of buildings/blocks location will send to server.

3. User will have Android application by clicking Find Route Button user can check the possible shortest path among all the possible path.

4.User have to mention the place where he was there and the place he want to reach in the respected blocks given in the Application.

So, User can easily user can find the shortest path to reach his destination without facing any problem

Advantages

- **Less Energy/Fuel is used**

Drivers are directed straight to the path they see. Therefore they waste fewer kilometers driving around in circles looking for the place they need to go.

- **Save money**

Obviously, by driving more efficient when in search of starting path, you will save on fuel waste. Resulting in spending less money on petrol.

- **Save time**

Additionally, by driving fewer kilometers when in search of shortest path, you will save valuable time which can be spent on work, fun or hobbies. Resulting in spending less money on petrol.

- **Lowering individual environmental footprint**

Another benefit of wasting fewer kilometers by searching for a shortest path is that you reduce individual pollution. Fossil fuels, petrol, diesel, and most alternative fuels all produce emissions, especially carbon dioxide (Co2). This pollution will not directly harm human life. However, Co2 is the most significant contributor to greenhouse gases and therefor contributor to climate change.

- **Increase in safety.**

Drivers are less distracted looking around for a path because they know the shortcut to reach in less time. They will have their full attention on the road. By having their eyes on the road, accidents will decrease and safety will increase for themselves, other drivers and pedestrians.

- **Navigator reducing stress while searching for a shortcut**

Driving through the same street over and over again, cars breathing down your neck and long path makes you stay in the same seat for hours and hours. Having uncertainty and pressure to find a shortest path to your destination can be very stressful. With the use of navigator, you know where the shortcut. You can drive straight to your destination fastly , stress-free.

- **Navigator takes away the unpredictability of finding a shortest path**

Not visiting a particular (part of a) city because you do not want the hassle of finding the routes. Knowing you are going to drive around for many minutes and probably are going to find a route far, far away to your destination can be very discouraging. Navigator will allow you to see where you have to drive in with car.

- **Navigator will reduce search for paths on the streets.**

Navigator will make sure there are fewer cars on the streets that drive slowly, circling for ages, looking around for the shortcut. This will benefit traffic flow and will reduce time to find shortcut. Therefore there are fewer traffic jams, and drivers will benefit by having less traffic on the streets.

ROLE OF STUDENTS

1. Myla Srichand - Worked for the code of the program to execute the chatbot and given the idea to implement it better logically and practically.

2.Malepati Suvidh kumar reddy -He also worked for the coding part of the chatbot application with the one member of the group Srichand and implementation of the code in python.

3. Mangal soy- He worked for the writing part of the report file of the Navigator project and mention some important point of the Navigator application.

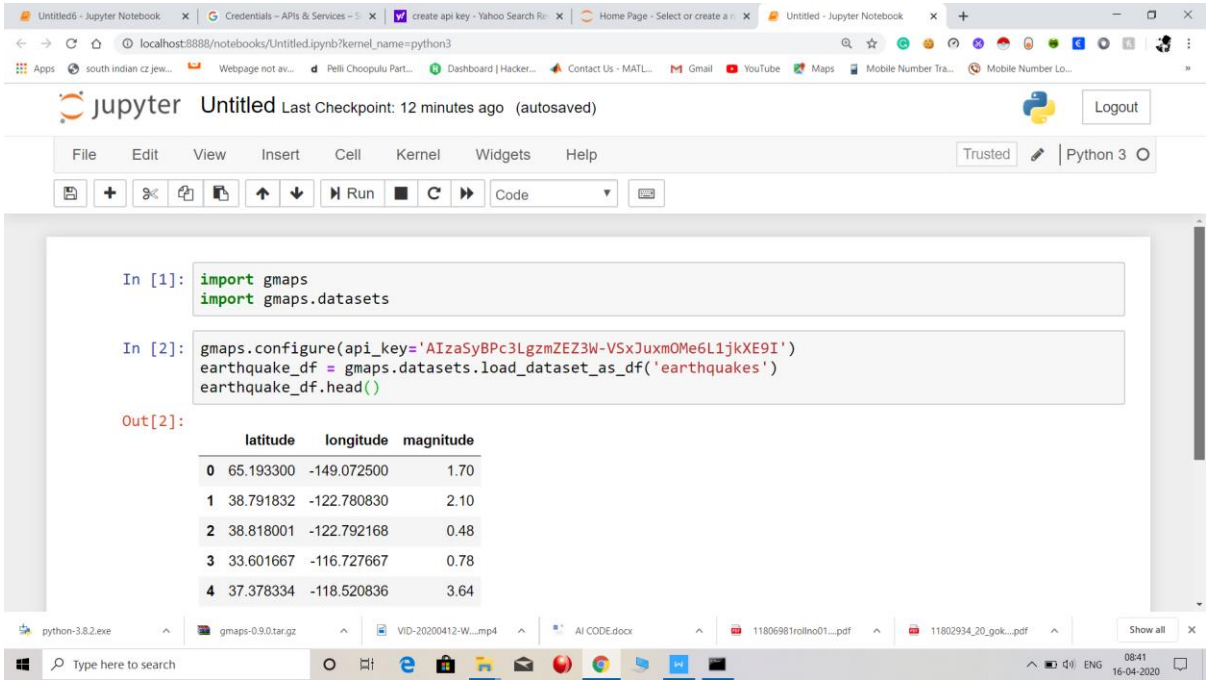
4. Surya devara Akhila - she worked for the writing part of the report file by adding some advantages and benefits of the navigator bot application which used for admissions.

CODE:

```
import gmaps
import gmaps.datasets
gmaps.configure(api_key='AIzaSyBPc3LgzmZEZ3W-VSxJuxmOMe6L1jkXE9I')
earthquake_df = gmaps.datasets.load_dataset_as_df('earthquakes')
earthquake_df.head()
```

```
locations = earthquake_df[['latitude','longitude']]
weights = earthquake_df['magnitude']
fig = gmaps.figure()
fig.add_layer(gmaps.heatmap_layer(locations,weights=weights))
Fig
fig = gmaps.figure(map_type = 'SATELLITE')
Fig
locations = [(51.5,0.1),(51.7,0.2),(51.4,-0.2),(51.49,0.1)]
heatmap_layer = gmaps.heatmap_layer(locations)
fig.add_layer(heatmap_layer)
Fig
india_coordinates = (22.00,77.00)
gmaps.figure(center = india_coordinates, zoom_level = 4,map_type = 'HYBRID')
/*
import urllib.request
import json
endpoint = 'https://maps.googleapis.com/maps/api/directions/json?'
api_key = 'AIzaSyAenkSNnXQ7izH1XwatnwfnlrMecIvfH2A'
origin = input('Where are you ?: ').replace('','+')
destination = input('Where do you want to go ?: ').replace('','+')
nav_request =
'origin{}&destination={}&key={}'.format(origin,destination,api_key)
request = endpoint + nav_request
response = urllib.request.urlopen(request).read()
directions = json.loads(response)
print(directions)
*/
```

Outputs: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jupyter Untitled Last Checkpoint: 12 minutes ago (autosaved)
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code
In [1]:
import gmaps
import gmaps.datasets
In [2]:
gmaps.configure(api_key='AIzaSyBPc3LgzmZEZ3W-VSxJuxmOMe6L1jkXE9I')
earthquake_df = gmaps.datasets.load_dataset_as_df('earthquakes')
earthquake_df.head()
Out[2]:
latitude longitude magnitude
0 65.193300 -149.072500 1.70
1 38.791832 -122.780830 2.10
2 38.818001 -122.792168 0.48
3 33.601667 -116.727667 0.78
4 37.378334 -118.520836 3.64
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ENG
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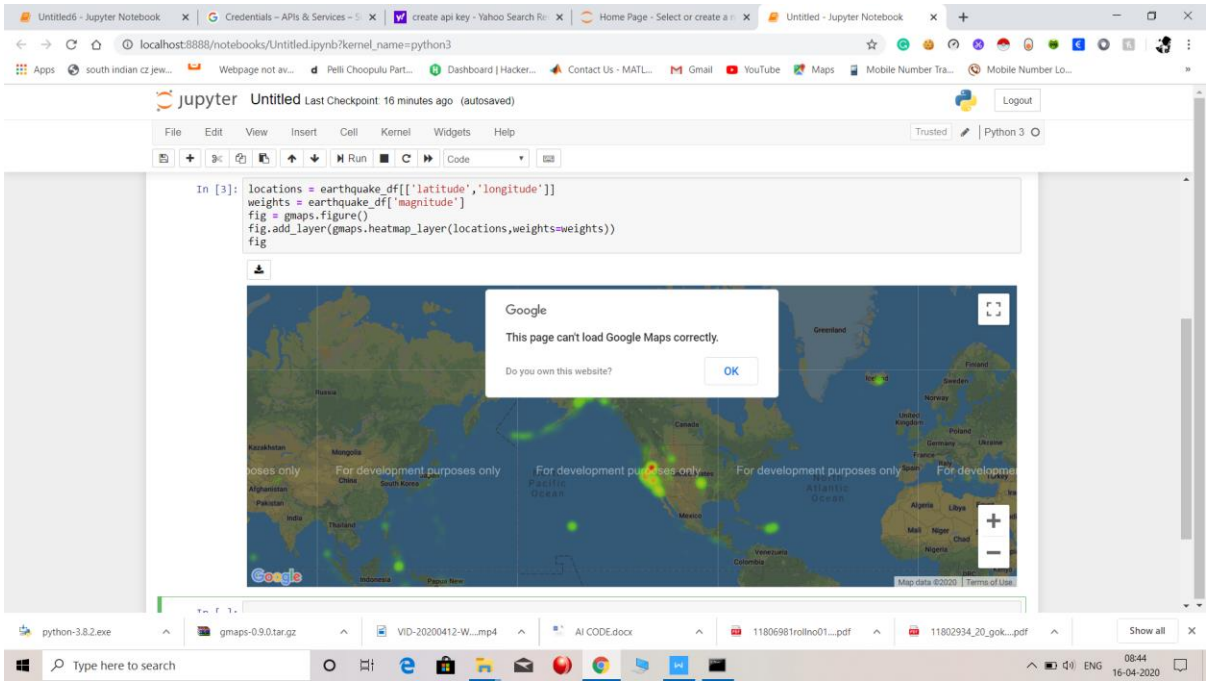
16-04-2020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Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code
In [3]:
locations = earthquake_df[['latitude','longitude']]
weights = earthquake_df['magnitude']
fig = gmaps.figure()
fig.add_layer(gmaps.heatmap_layer(locations,weights=weights))
fig
Google
This page can't load Google Maps correctly.
Do you own this website?
OK
For development purposes only
Map data ©2020
Terms of Use
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ENG
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16-04-2020

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Trusted | Python 3

Run | Code

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In [4]:
```
fig = gmaps.figure()
fig
```

In [ ]:

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Apps | south indian cz jew... | Webpage not av... | Pelli Choopulu Part... | Dashboard | Hacker... | Contact Us - MATL... | Gmail | YouTube | Maps | Mobile Number Tra... | Mobile Number Lo...

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Logout

File Edit View Insert Cell Kernel Widgets Help

Trusted | Python 3

Run | Code

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In [5]:
```
fig = gmaps.figure(map_type = 'SATELLITE')
fig
```

In [ ]:

map (2).png | map (1).png | map.png | python-3.8.2.exe | gmaps-0.9.0.tar.gz | VID-20200412-W....mp4 | Show all

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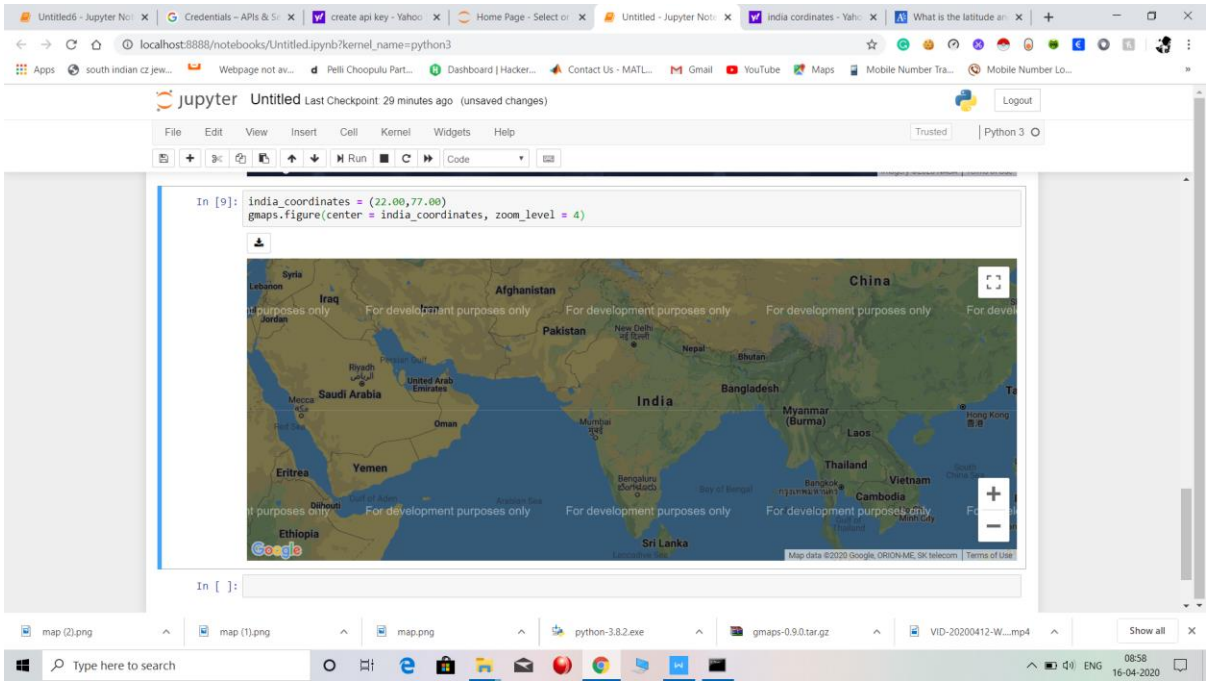
jupyter Untitled Last Checkpoint: 29 minutes ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code
In [9]:
india_coordinates = (22.00,77.00)
gmaps.figure(center = india_coordinates, zoom_level = 4)
China
Afghanistan
Pakistan
India
Nepal
Bhutan
Bangladesh
Myanmar (Burma)
Laos
Thailand
Vietnam
Cambodia
Saudi Arabia
Yemen
Eritrea
Ethiopia
Sri Lanka
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Google
Map data ©2020 Google, ORION-ME, SK telecom
Terms of Use
In [ ]:
map (2).png
map (1).png
map.png
python-3.8.2.exe
gmaps-0.9.0.tar.gz
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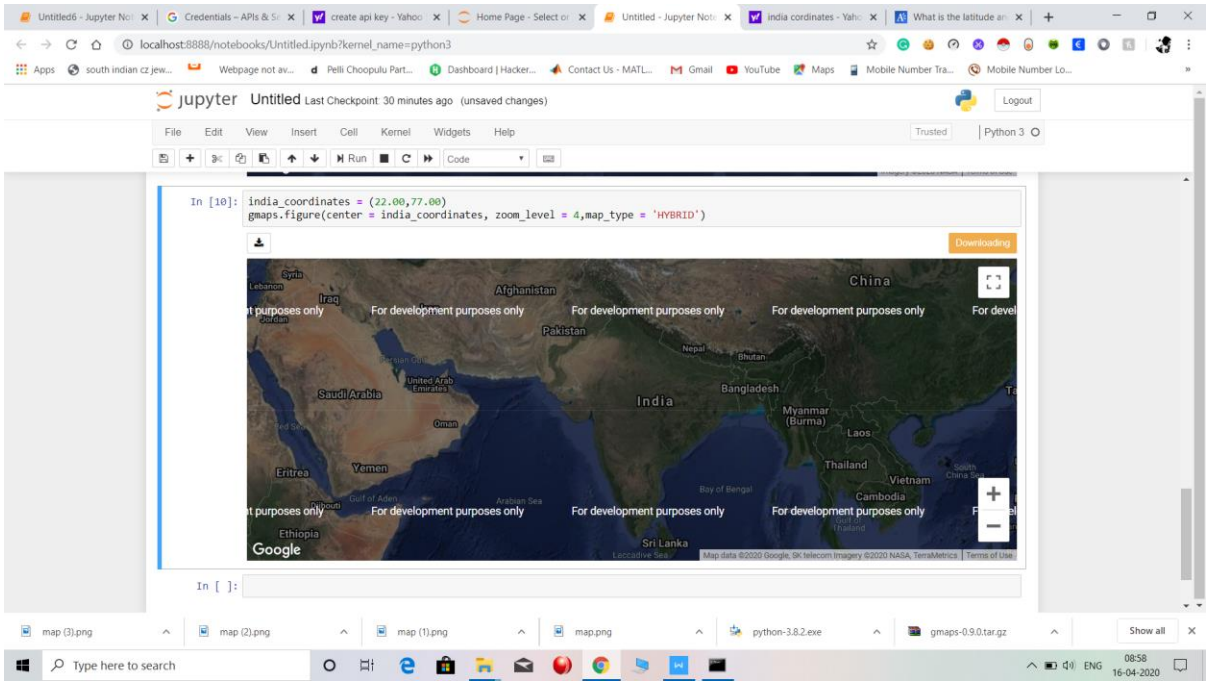
16-04-2020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Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code
In [10]:
india_coordinates = (22.00,77.00)
gmaps.figure(center = india_coordinates, zoom_level = 4,map_type = 'HYBRID')
Downloading
China
Afghanistan
Pakistan
India
Nepal
Bhutan
Bangladesh
Myanmar (Burma)
Laos
Thailand
Vietnam
Cambodia
Saudi Arabia
Yemen
Eritrea
Ethiopia
Sri Lanka
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Google
Map data ©2020 Google, SK telecom Imagery ©2020 NASA, TerraMetrics
Terms of Use
In [ ]:
map (3).png
map (2).png
map (1).png
map.png
python-3.8.2.exe
gmaps-0.9.0.tar.gz
Show all
Type here to search
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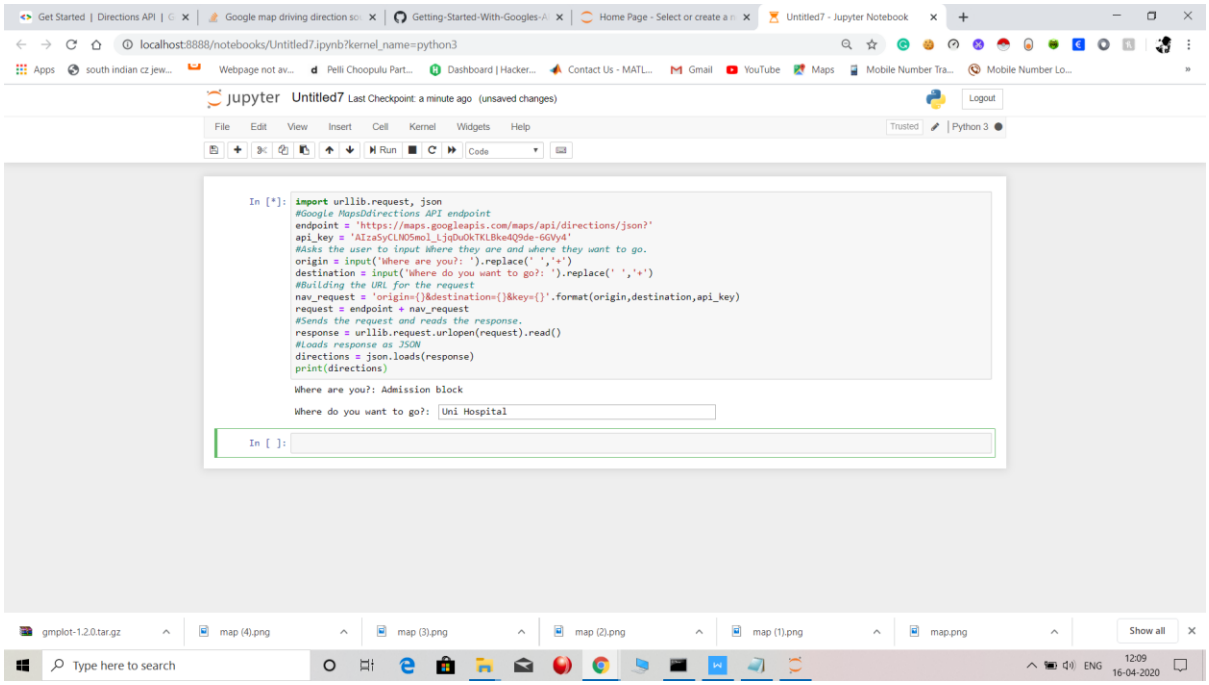
08:58
16-04-2020



API_KEY validity:

API key has to be changed for every 7days we can get it from directions Api credentials in Google developers console

GIT HUB Links:

https://github.com/srichandmyla/Simple-navigator.git