

컴퓨터네트워크

- HW 02 -

제출일자	2018.09.18.
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```
377: File Edit View VM Tabs Help
1 #!/usr/bin/python3
2 import cgi, cgitb
3 import sys
4 import pygeoip
5 import subprocess
6 import re
7
8 form = cgi.FieldStorage()
9
10 print ("Content-type:text/html")
11 print ()
12 print (<html>)
13 print (<head>)
14 print (<meta charset = "utf-8">)
15 print (<title>Hello World</title>)
16 print (<script type="text/javascript" src="//dapi.kakao.com/v2/maps/sdk.js?appkey=bc87aed3dea5c171d9b2483da79b6021"></script>)
17 print (<script type="text/javascript" src="//dapi.kakao.com/v2/maps/sdk.js?appkey=bc87aed3dea5c171d9b2483da79b6021&libraries=services,clust
  erer,drawing"></script>)
18
19 print (</head>)
20 print (<body>)
21 print (<h2>Traceroute - Visualize on Kakao Map</h2>)
22 print (<form method='get', action='hellohtml.cgi'>)
23 print (<input type='text' name='target' />,<input type='submit' />)
24 print (</form>)
25
26
27 #map content(Daum Maps API)
28 print (<div id='map' style='width:500px;height:400px;'></div>)
29 print (<script>)
30 print ('var container = document.getElementById('map');')
31 print ('var options = {center: new daum.maps.LatLng(33.450701, 126.570667), level: 3};')
32 print ('var map = new daum.maps.Map(container, options);')
33 print (</script>)
34
35 #get value of submit
36 argv_data = form.getvalue('target')
37 print (<h2>Destination: ', argv_data,</h2>)
38
39 #subprocess start
40 proc = subprocess.Popen(["traceroute", argv_data,], stdout = subprocess.PIPE)
41 out, err = proc.communicate()
42
43 #get IP parsing and saved(ip_result)
44 pat = r'(?<=\\.)+2(?=\\.)'
45 ip_result = re.findall(pat, str(out))
46 gi = pygeoip.GeoIP('GeoLiteCity.dat')
47
48
49 lat = list()
50 lng = list()
51
52 #print 'latitude' and 'longitude' && append result to lat,lng(list)
53 for i in range(0, len(ip_result)):
54     result = gi.record_by_addr(ip_result[i])
55     if result == None:
56         print()
57     else:
58         print('(', result['latitude'],') - ', '(', result['longitude'],')')
59         lat.append(result['latitude'])
60         lng.append(result['longitude'])
61         print (<p>)
62
63 #remove same values
64 lat = list(set(lat))
65 lng = list(set(lng))
66
67
68 #marker indication with DaumMaps API
69 print (<script>)
70 print ('var positions = [')
71 for i in range(0, len(lat)):
72     if i != len(lat)-1:
73         print ('{title: ', argv_data, ',')
74         print ('latlng: new daum.maps.LatLng(' , lat[i], ', ', lng[i], ') },')
75     else:
76         print ('{title: ', argv_data, ',')
77         print ('latlng: new daum.maps.LatLng(' , lat[i], ', ', lng[i], ') }')
78 print ('];')
79 print ('var imageSrc = "http://t1.daumcdn.net/localimg/localimages/07/mapapidoc/markerStar.png";')
80 print ('for (var i = 0; i < positions.length; i++) {')
81 print ('var imageSize = new daum.maps.Size(24, 35);')
82 print ('var markerImage = new daum.maps.MarkerImage(imageSrc, imageSize);')
83 print ('var marker = new daum.maps.Marker({')
84 print ('map: map, position: positions[i].latlng, title : positions[i].title,});')
85 print (</script>)
86 print (</body>)
87 print (</html>)
88
89,0-1 Bot
```

16~17라인 : Daum Maps API를 사용하기 위한 라이브러리를 참조했다.

20~24라인 : form을 이용해서 값을 입력받고 그 결과 값을 hellohtml.cgi로 보낸다.

27~33라인 : 지도를 띄울 위치를 정하고 설정을 초기화 해놓는다.

35~37라인 : argv_data 변수에 20~24 라인에서 보낸 값을 저장한다.

39~46라인 : subprocess로 argv_data를 traceoute명령어를 해주고 IP주소를 파싱한다.(저
번 과제에서도 했던 것이므로 자세한 설명은 생략한다.)

49~50라인 : 위도, 경도를 담은 리스트를 생성한다.

52~61라인 : 위도, 경도 값을 print해주고 추가로 49~50 라인에서 설정한 리스트에 append 함수로 담아준다.

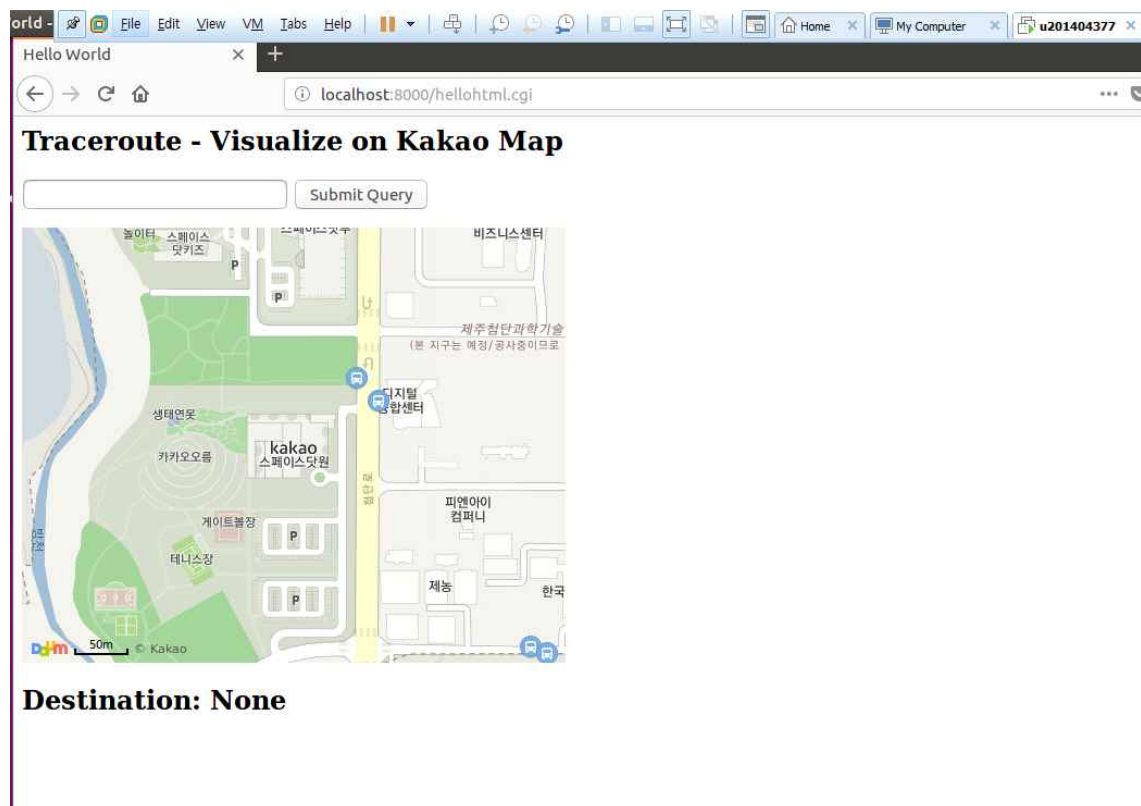
63~65라인 : 리스트에 값이 담겨져있는데 중복된게 있으므로 중복된 값은 하나만 남도록 제거해준다.

68~78라인 : positions에 위에 리스트에서 담아논 리스트값을 latlng에 담아준다. title은 도메인 주소를 담아줬다.

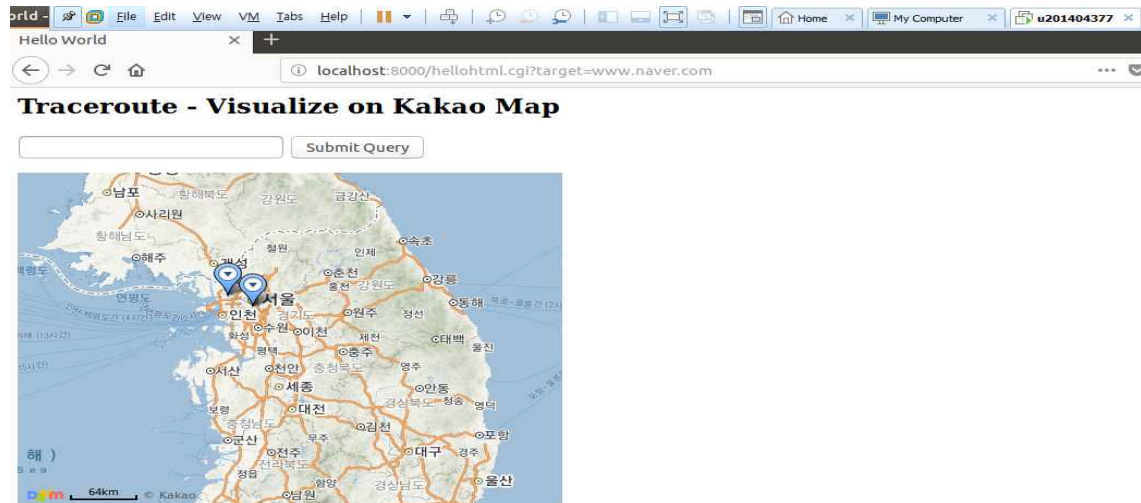
79~85라인 : 마크기능을 생성해준다. (마크위치는 위에서 만든 positions객체를 사용한다.)

<결과화면>

1. 기본화면



2. 네이버



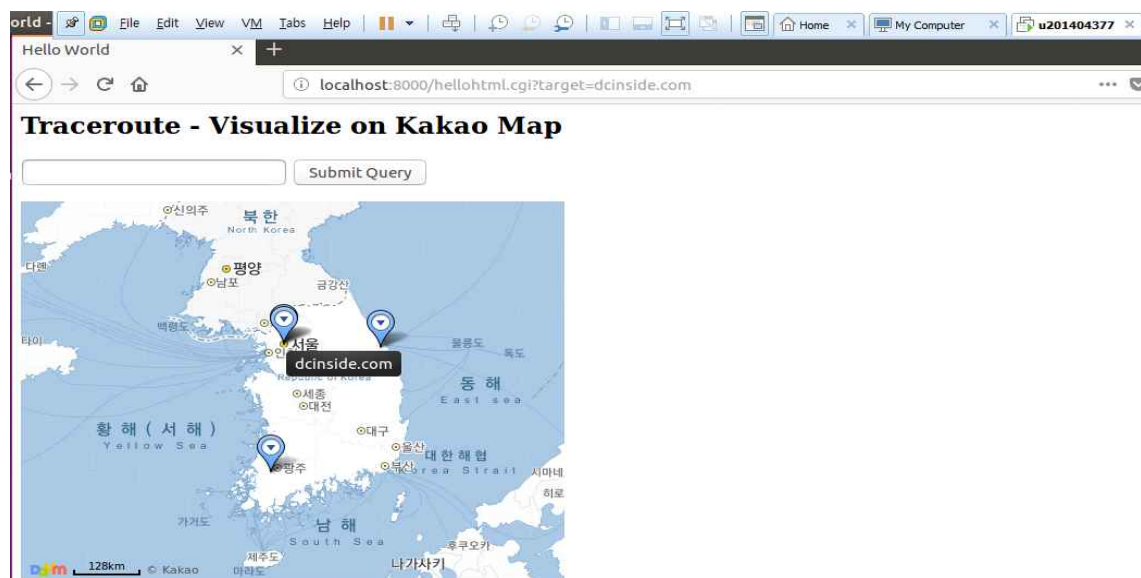
Destination: www.naver.com

(37.5112) - (126.97410000000002)

(37.62360000000001) - (126.7142)

(37.5112) - (126.97410000000002)

3. 디시인사이드



Destination: dcinside.com

(37.5985) - (126.97829999999999)

(37.62360000000001) - (126.7142)

(37.5112) - (126.97410000000002)

javascript:void(0)

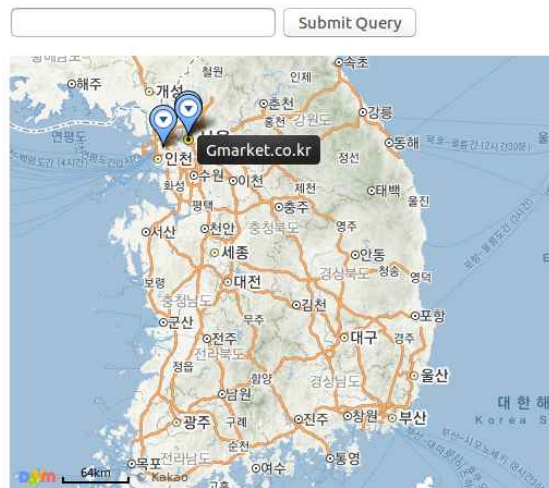
Destination: dcinside.com

```
( 37.5985 ) - ( 126.97829999999999 )
( 37.623600000000001 ) - ( 126.7142 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5985 ) - ( 126.97829999999999 )
( 37.5985 ) - ( 126.97829999999999 )
( 35.1028 ) - ( 129.0403 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5985 ) - ( 126.97829999999999 )
( 37.5112 ) - ( 126.974100000000002 )
( 37.5112 ) - ( 126.974100000000002 )
```

4. G마켓



Traceroute - Visualize on Kakao Map



Destination: Gmarket.co.kr

```
( 37.5985 ) - ( 126.97829999999999 )
( 37.623600000000001 ) - ( 126.7142 )
( 37.5112 ) - ( 126.974100000000002 )
javascript:void(0)
```

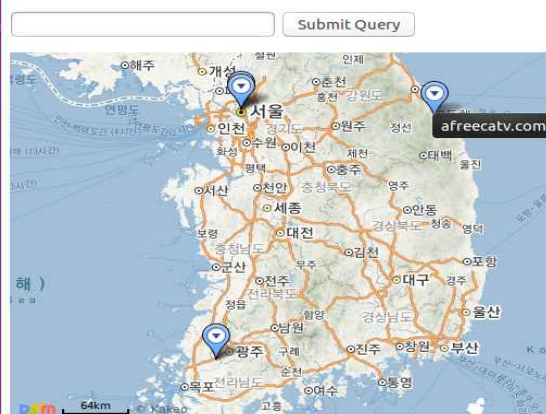

Destination: Gmarket.co.kr

(37.5985) - (126.97829999999999)
(37.623600000000001) - (126.7142)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5985) - (126.97829999999999)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)

5. 아프리카티비



Traceroute - Visualize on Kakao Map



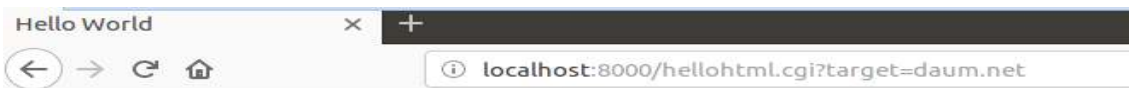
Destination: afreecatv.com

(37.5985) - (126.97829999999999)
(37.623600000000001) - (126.7142)
(37.5112) - (126.974100000000002)
javascript:void(0)

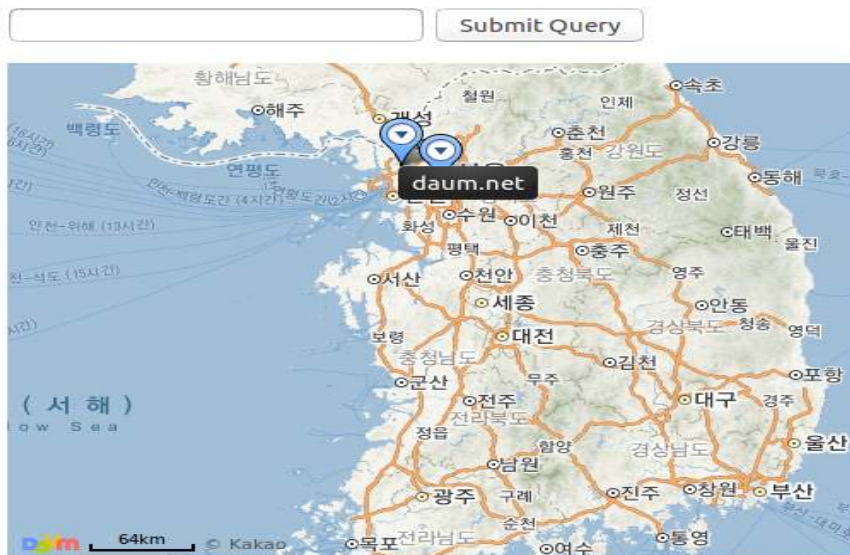
Destination: afreecatv.com

(37.5985) - (126.97829999999999)
(37.623600000000001) - (126.7142)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(37.5112) - (126.974100000000002)
(35.1028) - (129.0403)
(35.1028) - (129.0403)
(37.5112) - (126.974100000000002)

6. 다음



Traceroute - Visualize on Kakao Map



Destination: daum.net

(37.5112) - (126.974100000000002)
(37.623600000000001) - (126.7142)
(37.5112) - (126.974100000000002)
javascript:void(0)