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AroundME!

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Introduction

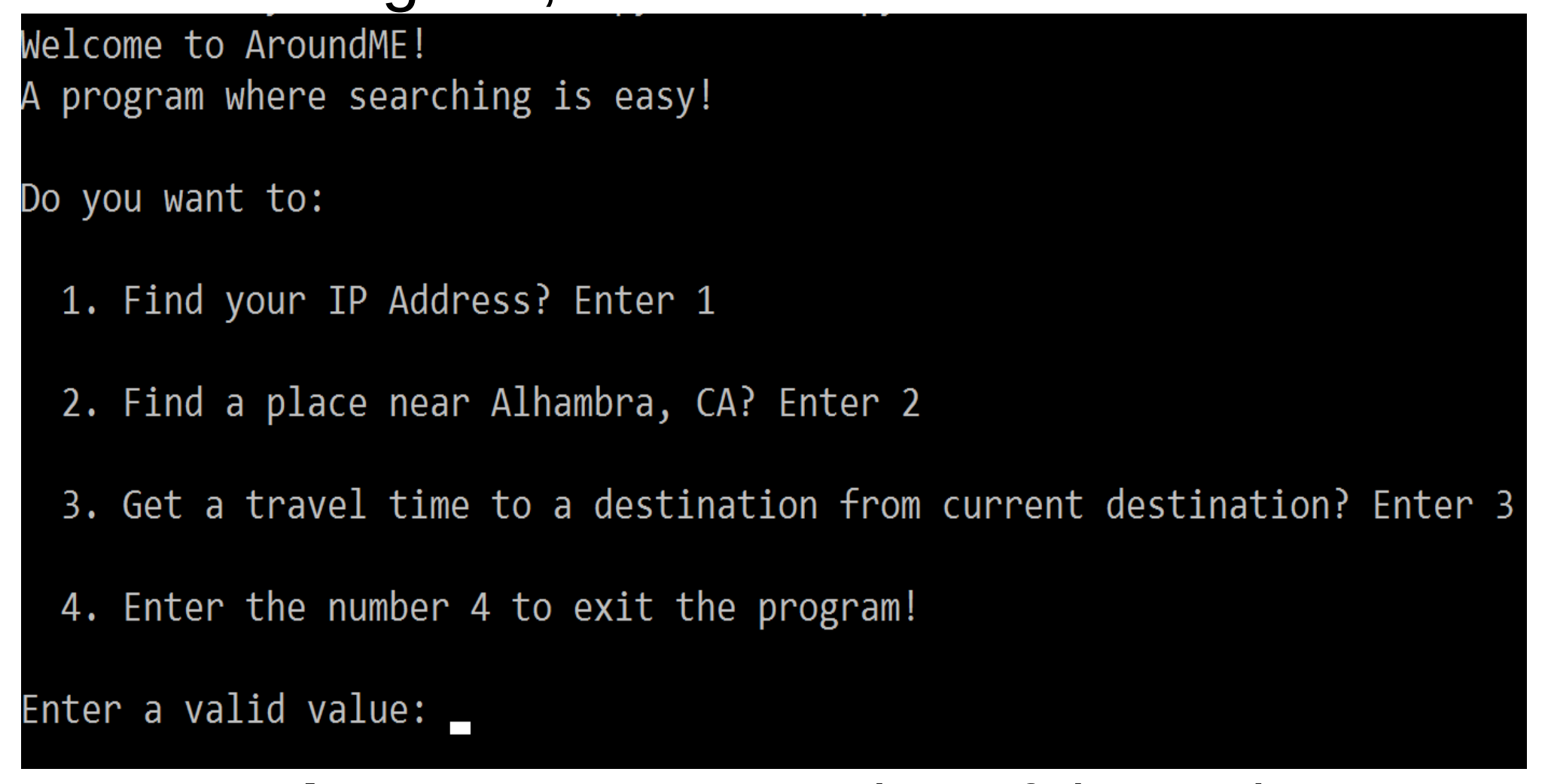
AroundME! is a Google Places and Google Maps API client which provides a list of places around the user. This Google Places client eases the use of Google Places for the user and allows them the basic functions of Google Places. It is user friendly and easy to understand and best of all: no coding required!

Hypothesis

What brought around this project is the need for a simple, easy to use Python client in which Google Places can be used. This is something which beside the Google documentation not much else could be found. Several attempts were made to find other documentation for this kind of project in Python but only two other wrappers could be found. These wrappers were terrific but still lacked the ease of use for users. They were made for developers not users who did not know code or have minimal knowledge. Thus, I set out on a quest to develop a simple easy to use client built in Python for the average everyday user.

Experimental Method

Initially, I had difficulty finding much documentation on Google Places for Python API. The only real documentation that I used was the documentation Google provided. It was simple to read yet, did not have much if any troubleshooting solutions or examples. Instead, parsing through the JSON files and obtaining the results had to be done without much help. However, this was overcome by the JSON documentation which assisted me greatly. I was able to obtain search results however, I had to find a way to obtain nearby search results without the user inputting their location. So I looked for API's on how to get a user's location with using their IP address. I was able to get the user's location immediately along with this I was also able to obtain the user's IP address which gave the application additional functionality. Through and through, although problems existed they were challenging but in the long run, I was able to overcome them.

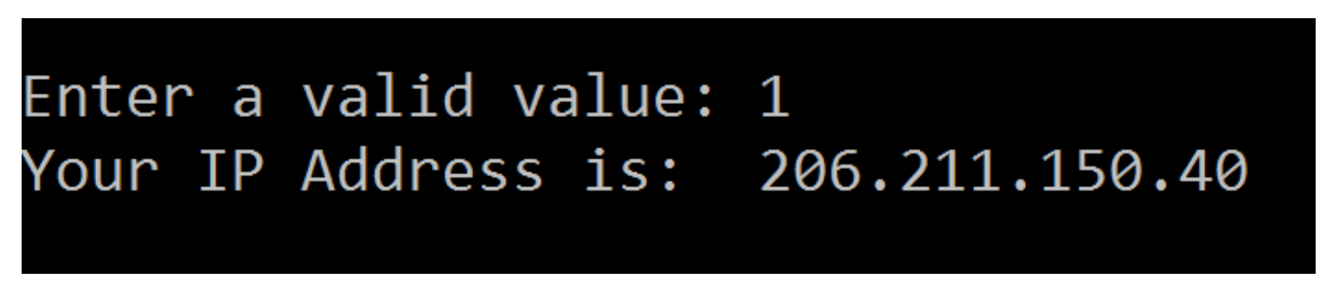


```
Welcome to AroundME!
A program where searching is easy!

Do you want to:

  1. Find your IP Address? Enter 1

  2. Find a place near Alhambra, CA? Enter 2

  3. Get a travel time to a destination from current destination? Enter 3

  4. Enter the number 4 to exit the program!

Enter a valid value: _
```

Figure 1. A screenshot of the main menu in AroundME!

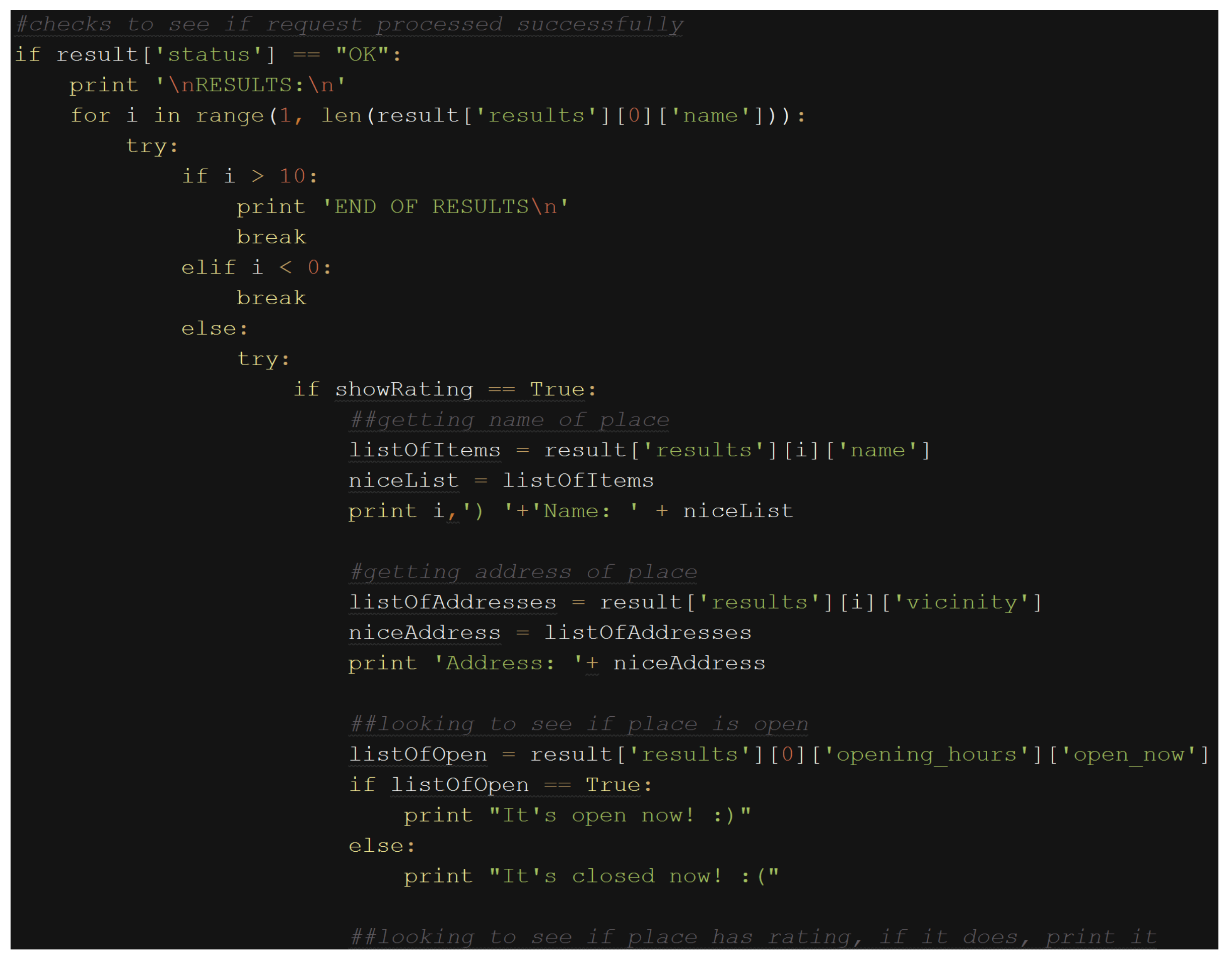
Results

The expected results were that it would be easy to use, easy to understand and most of all not use any coding whatsoever. These results were achieved. However, not without limitation. I found, through experimentation of human testers that this program is not easy to use for those without a precursor understanding of the technology and how to use it. For some, the command line looks intimidating and difficult to use. For others the command line interface made them feel much smarter than usual because they do not typically use this interface.



```
Enter a valid value: 1
Your IP Address is:  206.211.150.40
```

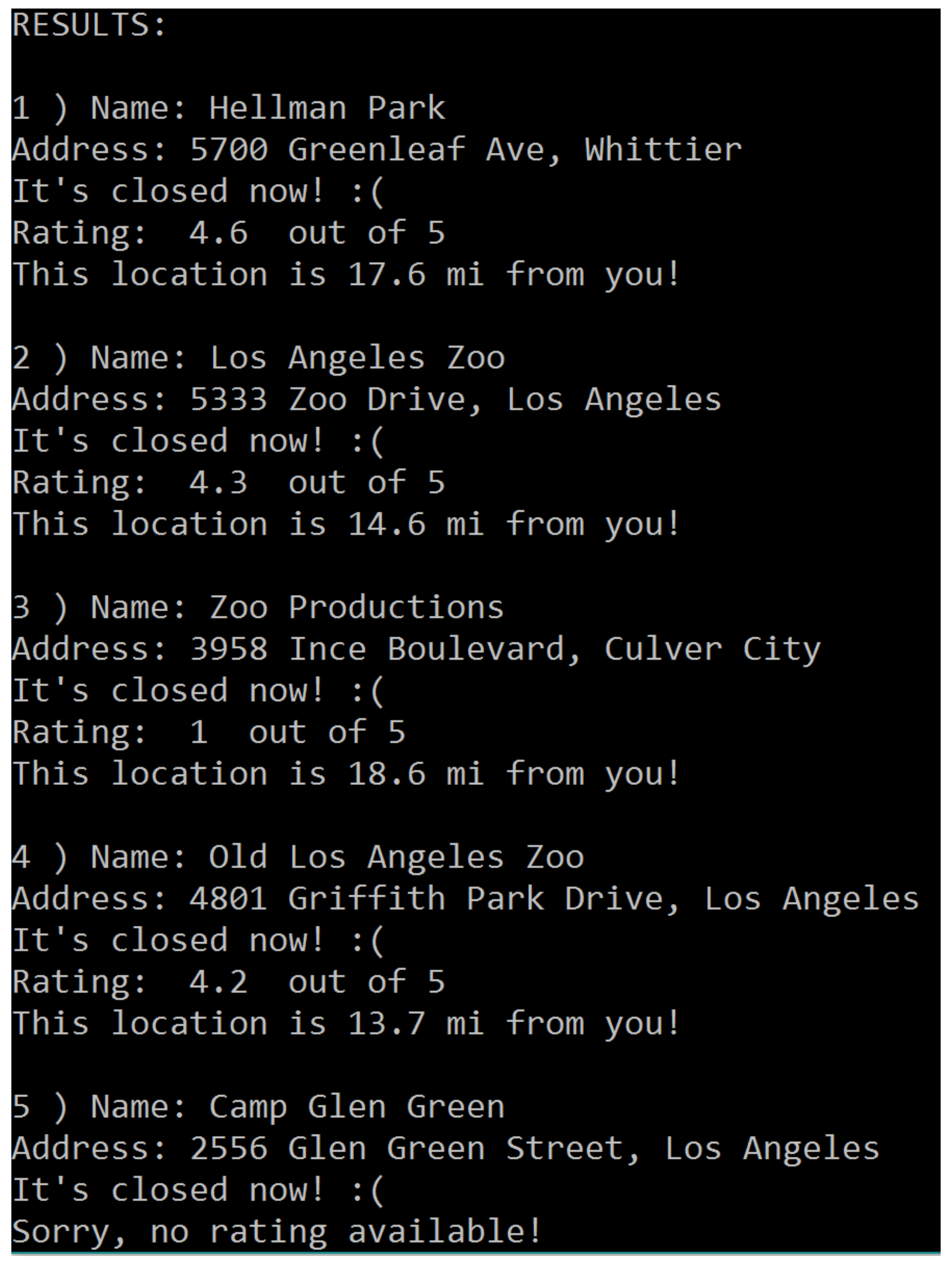
Figure 2. Results from choosing option 1



```
#checks to see if request processed successfully
if result['status'] == "OK":
    print '\nRESULTS:\n'
    for i in range(1, len(result['results'][0]['name'])):
        try:
            if i > 10:
                print 'END OF RESULTS\n'
                break
            elif i < 0:
                break
            else:
                try:
                    if showRating == True:
                        ##getting name of place
                        listOfItems = result['results'][i]['name']
                        niceList = listOfItems
                        print i,') '+'Name: ' + niceList

                        #getting address of place
                        listOfAddresses = result['results'][i]['vicinity']
                        niceAddress = listOfAddresses
                        print 'Address: '+ niceAddress

                        ##looking to see if place is open
                        listOfOpen = result['results'][0]['opening_hours']['open_now']
                        if listOfOpen == True:
                            print "It's open now! :)"
                        else:
                            print "It's closed now! :("

                        ##looking to see if place has rating, if it does, print it
```

Figure 4. Results of ending the program by choosing option 3

The testing that I found to be most difficult was those subjects without any previous knowledge of code, APIs or the command line. These subjects found it more difficult than the normal Google Places interface and did not think it was easy to use. Whereas the others who did have a previous knowledge of APIs or computer programming in general did find it simple to use and kind of a cool application for the command line. They thought it would be a useful tool for those users who may have an older computer and may not be able to run JavaScript or the Google Places web application on their computer.



```
RESULTS:

1 ) Name: Hellman Park
Address: 5700 Greenleaf Ave, Whittier
It's closed now! :(
Rating:  4.6  out of 5
This location is 17.6 mi from you!

2 ) Name: Los Angeles Zoo
Address: 5333 Zoo Drive, Los Angeles
It's closed now! :(
Rating:  4.3  out of 5
This location is 14.6 mi from you!

3 ) Name: Zoo Productions
Address: 3958 Ince Boulevard, Culver City
It's closed now! :(
Rating:  1  out of 5
This location is 18.6 mi from you!

4 ) Name: Old Los Angeles Zoo
Address: 4801 Griffith Park Drive, Los Angeles
It's closed now! :(
Rating:  4.2  out of 5
This location is 13.7 mi from you!

5 ) Name: Camp Glen Green
Address: 2556 Glen Green Street, Los Angeles
It's closed now! :(
Sorry, no rating available!
```

Figure 3. Results from choosing type zoo around Alhambra, CA by choosing option 2 and show ratings

Conclusions

The conclusions found were simple. The usefulness of this program is key. The ability to find places around a user who may not have immediate access to a capable computer is essential. The simplicity of the program as well as the complexity behind the scenes is easy to see. The ability to find a place as well as see the address, rating and name is crucial to anyone living in todays society.

Through running the program and testing it with users I have found that the program is easy for those to use with slight computer knowledge and more difficult for those without. Although this program is easy to use and simple enough to understand it the first time around it may take an inexperienced user once or twice to get the hang of the program before experiencing full usability.

Conclusions (continued)

Through using python, the Google Places API, the freegeoip.com API, JSON and http requests I was able to create a program that allows users to have an easy to use client for Google Places in the command line interface. The problem of not having many other options is gone and now a useful application for those without a capable computer or for those that just prefer the command line user interface. The client has many capabilities such as finding the IP address, getting names and addresses of places nearby the user and quitting the program.

Future Research

The future research in this project could be the following:

- A possible program could be to implement a GUI and allow a broader audience of users that can access this.
- Another possible program could be to implement possibly more functionality in search types. Apply a machine learning algorithm to learn similarities within the types and allow the user search for anything similar to the types.
- Lastly another possible program could be to implement directions to allow the user to get to the location using them.

Acknowledgements

I would like to acknowledge all the resources used in creating this application. They are as follows: the Google Places API, the Google Distance Matrix API, geofreeip.net location API, Regex, Python 2.7, Googlemaps and JSON.

References

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2. Google Places Matrix API documentation
3. Google Places Python GitHub Client
4. GeoFreeIP.net API Documentation
5. JSON Documentatin
6. Python2.7 Documentation