Survive In Bangalore

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ABSTRACT:

This Project is based on Foursquare API, folium map and little bit data collection and analysis. For those who like to explore new places have a better opportunity to explore through python coding rather than exploring using the mobile to locate your desired places.

Introduction/Business Problem:

Suppose I have completed my Post Graduation in Statistics from Bhubaneswar, Odisha and moving to Bangalore for higher studies in Data science. Although you have much idea to survive in new places, asking to neighbour hood friends and your instructors also room-mate. But what if you have not been to Bangalore prior to this, also you dont have bike to explore the new place. So dont worry about it, we have our friendly app foursquare to help us in our journey.

Using the Developer option we can gather data from all over the BTM Layout Area of Bangaluru, and use the relevant data for our decision making purpose.

Right after Deciding Where to Study:
. Search for Nearby ATM to Collect cash.
. Search for Nearby PG.
. Search for Hotels, Cafe near your location.

Data Collection:

First of all we need the latitude and longitude of the place "BTM LAYOUT"
Then Decide the range of 2 km, from the ExcelR Solutions

Place Name:
Place Category:
Place distance from BTM Layout center:
Place Longitude, Latitude:
Place Like:
Place Ratings:

Data can be collected using foursquare developer facilities

Data Collection Procedure:

Here we define our location Address as **address** and locate the longitude and latitude of the place where we are going to search for our P.G.

```
address = '1st Stage, BTM Layout'
geolocator = Nominatim(user_agent="foursquare_agent")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print(latitude, longitude)
```

Using my Client Id and Client Secret, I can Access the data from foursquareAPI

```
search_query = 'atm,pg'
radius = 2000
```
Radious is 2000 for 2 km of radious.
```
url = 'https://api.foursquare.com/v2/venues/search?client_id={}&client_secret={}&ll={},{}&v={}&query={}&radius={}&limit={}'.format(CLIENT_ID, CLIENT_SECRET, latitude, longitude, VERSION, search_query, radius, LIMIT)
```
Now we can get the result using
```
results = requests.get(url).json()
results
```

Data Cleaning:

venues = results['response']['venues']

Here we normalize the json data to Data frame for exploration purpose.

```
dataframe = json_normalize(venues)
dataframe
```

Now keep only columns that include venue name, and anything that is associated with location

```
filtered_columns = ['name', 'categories'] + [col for col in dataframe.columns if col.startswith('location.')] + ['id']
dataframe_filtered = dataframe.loc[:, filtered_columns]
```
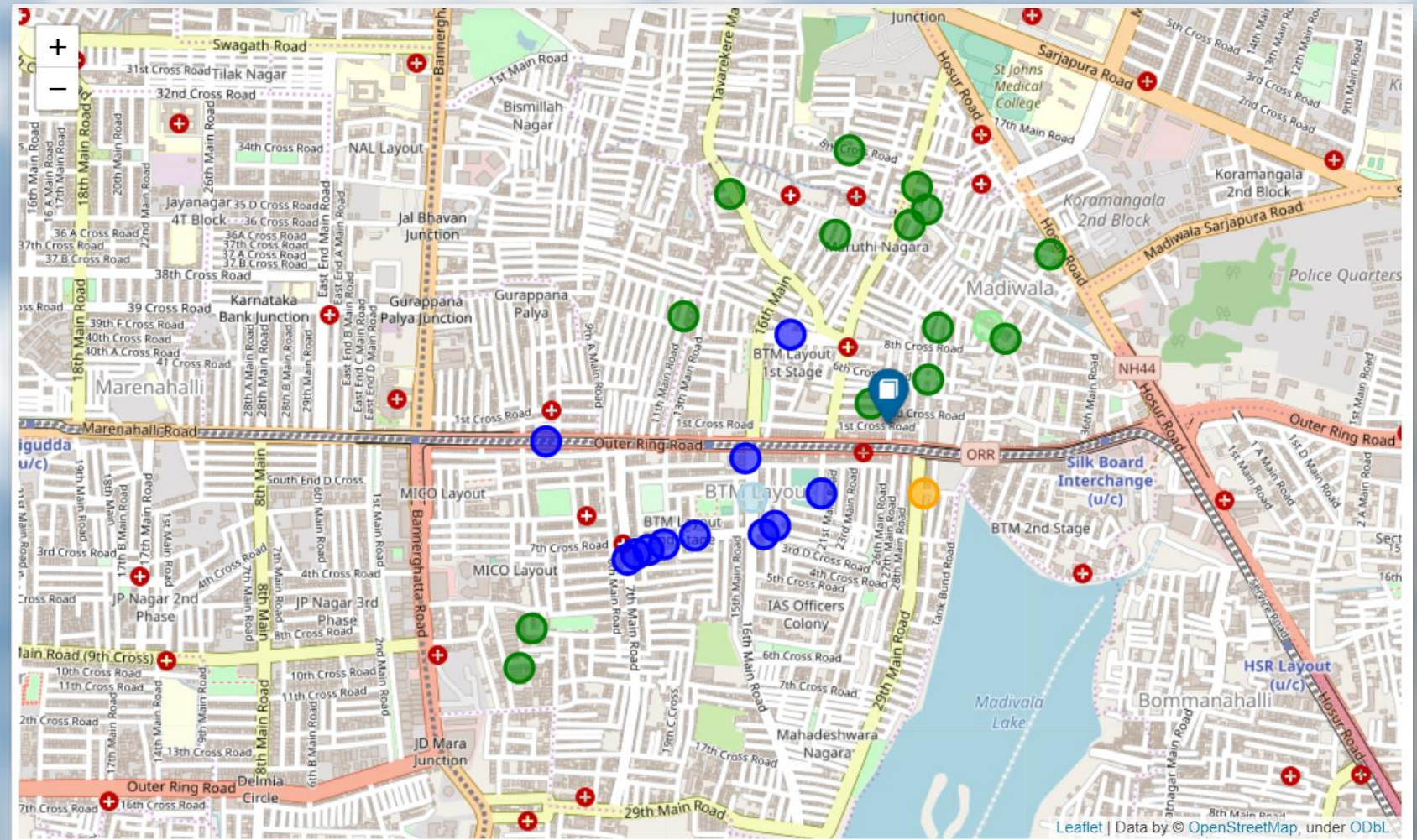
Filter the category column :

```
def get_category_type(row):
    try:
        categories_list = row['categories']
    except:
        categories_list = row['venue.categories']

    if len(categories_list) == 0:
        return None
    else:
        return categories_list[0]['name']
dataframe_filtered['categories'] = dataframe_filtered.apply(get_category_type, axis=1)
```
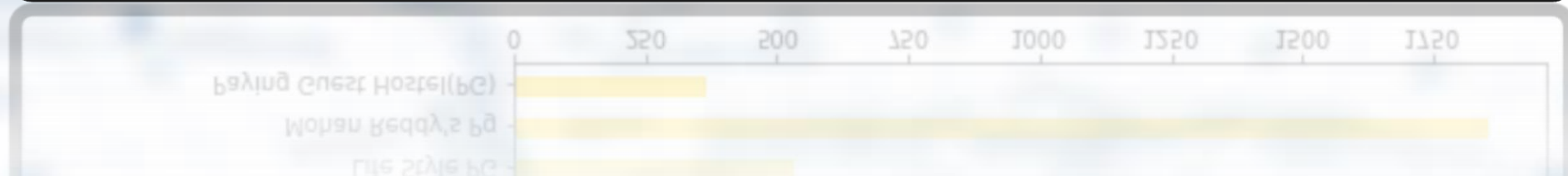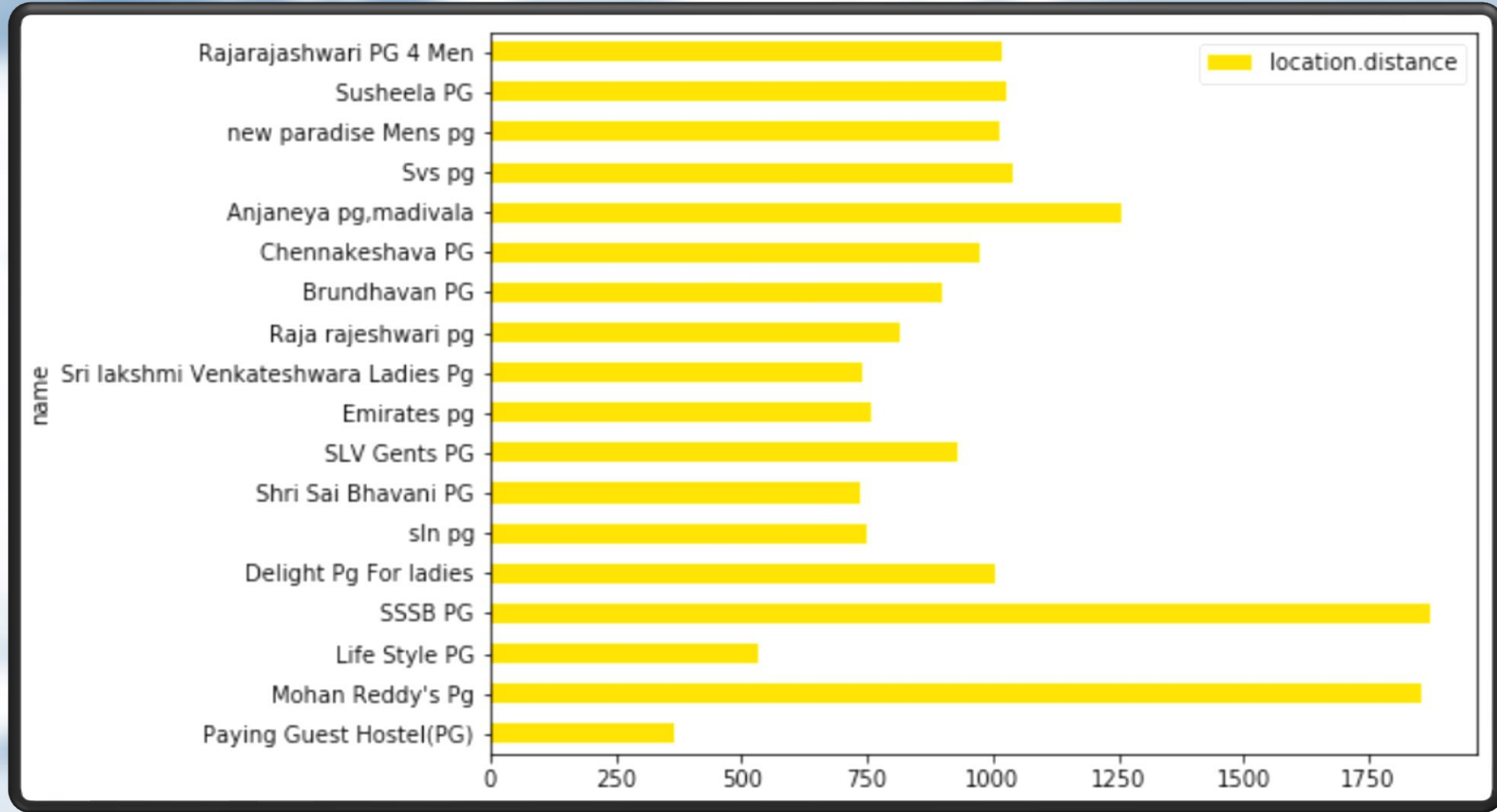
	name		location_address					
0	Kotak Mahindra Bank - ATM	Bank	Shop No. 5 Ground Floor,Akshay Complex No. 1,PID No. 65-27-1 16th Main Road B.T.M. 2nd Stage 1st Phase Extension	165	12.9161261	77.60987626	560076	4fb283a27bebc1fb6507015d
1	Paying Guest Hostel(PG)	Residential Building (Apartment / Condo)	Maruthi Layout	366	12.92038155	77.60798645		4fc377c4e4b06a3981d13063
2	Axis Bank ATM	ATM	No 1214, Near Dominos Pizza Road	281	12.91497993	77.61006165	560029	5c2b49aaacc5f5002c581306
3	Mohan Reddy's Pg	Assisted Living	Sg Palya	1857	12.93381327	77.6073801		50604726e4b0d9a2f221902c
4	Life Style PG	Residential Building (Apartment / Condo)		535	12.917783	77.6137		56d69117498e82920b369d03
5	Allahabad Bank Atm	Bank		409	12.91387089	77.61043017		518490e0498edeecfbbaadfc
6	SSSB PG	Residential Building (Apartment / Condo)	16, Venkateswara Layout	1873	12.93396049	77.60740883		557412e2498e17b865efe712
7	Delight Pg For ladies	Residential Building (Apartment / Condo)		1005	12.923537	77.615398		574b231c498e18aea0804c05
8	sln pg	Assisted Living		749	12.92279053	77.61263275		5221dde4498e569a0b14fbd3
9	Shri Sai Bhavani PG	Residential Building (Apartment / Condo)	61/1	737	12.9185	77.615463	560068	5880f589084be55c00a77fdb
10	SLV Gents PG	Assisted Living		932	12.9230938	77.61490631		52d7da58498e9d11a54660c6
11	Emirates pg	Assisted Living	Tavarekere	759	12.923989	77.609385	560029	53a6d2d0498e56d9917a0d8b
12	Sri lakshmi Venkateshwara Ladies Pg	Hostel	Plot No. 16 , 30th Main ,	743	12.91508943	77.61531449	560076	5625bf3a498e48241b098cbd
13	Raja rajeshwari pg		btm,madiwala	817	12.92004961	77.61574529		525acb41498e3976736b12f9
14	HDFC Bank ATM	Bank	1224, 17Th Main, 8Th Cross, Btm 1St Stage Maruthinagar Main Road Near Gangotri Bar & Restarunt	396	12.91984	77.611248		5303a0d411d2eac30b632836
15	Brundhavan PG	Assisted Living		900	12.9110899	77.60335541		53889843498e264f18c0be2c
16	Canara Bank ATM	Bank		403	12.91412522	77.61078825		50cc7f6ce4b0881a7314b7a5
17	Sbi Atm	Bank		376	12.91383925	77.60832966		4e7586c27d8b9176031d6de9
18	HDFC Bank ATM	Bank	No, 397, 7Th Cross, 9Th Main, Mico Layout, Btm 2Nd Stage. Behind Shopers Stop	427	12.913606	77.607388		5303a0df11d2eac30b648457
19	Citibank ATM	Bank	BTM Layout	433	12.91509555	77.6121702	560029	4c28ecb4ed0ac9b654fe60aa
20	Chennakeshava PG	Housing Development		974	12.92008305	77.61727905		4fc58935e4b0035511cfad38
21	Anjaneya pg,madivala	Residential Building (Apartment / Condo)		1257	12.92221752	77.619186		53909437498e57a5dc08d085
22	ICICI ATM	Bank	100 Feet Outer Ring Road	547	12.91663691	77.60379431		50f40a58e4b06080d312dbf3
23	HDFC Bank ATM	Bank	70, Shop No 2, Adarsha, 100Ft Road Btm Layout 2Nd Stage Near Jaydeva Flyover Next To Icici Bank	526	12.91314846	77.6062842		5303a0d411d2eac30b632628
24	HSBC ATM	Bank	BTM Layout	469	12.913409	77.606892	560029	4c1fa330eac020a1ee644bc2
25	Svs pg			1039	12.92422439	77.61510582		52f7b43d11d28d688c3ab23f
26	new paradise Mens pg	Residential Building (Apartment / Condo)		1013	12.92530622	77.61303181		530c14ad498e6f99f1a0ed8a
27	Susheela PG	Assisted Living		1028	12.909909	77.602962		536ee5dc498e6848bddec519
28	maharashtra bank atm	Bank		499	12.9133	77.6065		4f2fe0d9e4b0b0d0865e516b
29	Rajarajashwari PG 4 Men	Residential Building (Apartment / Condo)	Madiwala	1017	12.9197044	77.61781592		4e3ed22d52b1a04aff2a3788

- The Location With Book Mark in blue color is representing the ExcelR Solution, Place Where We are Doing our higher Studies.
- Blue Marks are Bank and ATM
- Green are PG, Hostels, Rooms, Hotels.

Data Exploration:

Conclusion:

Finally due to inadequate data, so we have concluded that
The place Shri Sai Bhabani P.G. will be best place to live.