

Exploring the Restaurant scenario in the Neighbourhood of Jaipur

Applied Data Science capstone project for IBM/Coursera

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Introduction

Jaipur is the capital and the largest city of the Indian state of Rajasthan. As of 2011, the city had a population of 3.1 million, making it the tenth most populous city in the country. Jaipur is also known as the Pink City, due to the dominant colour scheme of its buildings.] It is located 268 km (167 miles) from the national capital New Delhi. Jaipur is a popular tourist destination in India and forms a part of the west Golden Triangle tourist circuit along with Delhi and Agra (240 km, 149 mi). It also serves as a gateway to other tourist destinations in Rajasthan such as Jodhpur (348 km, 216 mi), Jaisalmer (571 km, 355 mi), Udaipur (421 km, 262 mi), Kota (252 km, 156 mi) and Mount Abu (520 km, 323 mi). Jaipur is located 616km from Shimla.





The aim of the project is to identify venues in Jaipur, India based on their rating and average prices. In this notebook, we will identify various venues in the city of Jaipur, India, using Foursquare API and Zomato API, to help visitors select the restaurants that suit them the best.

Whenever a user is visiting a city they start looking for places to visit during their stay. They primarily look for places based on the venue ratings across all venues and the average prices such that the locations fits in their budget.

Here, we'll identify places that are fit for various individuals based on the information collected from the two APIs and Data Science. Once we have the plot with the venues, any company can launch an application using the same data and suggest users such information.

Target Audience

The target audience for such a project is twofold. Firstly, any person who is visiting Jaipur, The Pink City of Rajasthan. India can use the plots and maps from this project to quickly select places that suit their budget and rating preferences. Secondly, an entrepreneur who want to open new restaurants in Jaipur can use this information to create a website or a mobile application, which is updated on a regular basis, to allow individuals to the city or even expand same functionality to other places. We will use the data science tools and techniques to understand or weigh in the pros and cons of a location. We provide an analysis for the stakeholders to take a data driven decision to choose the best category/location/price range in the city about most promising and viable option.

Jaipur is the capital and the largest city of the Indian state of Rajasthan. As of 2011, the city had a population of 3.1 million, making it the tenth most populous city in the country. Jaipur is also known as the Pink City, due to the dominant colour scheme of its buildings.] It is located 268 km (167 miles) from the national capital New Delhi.

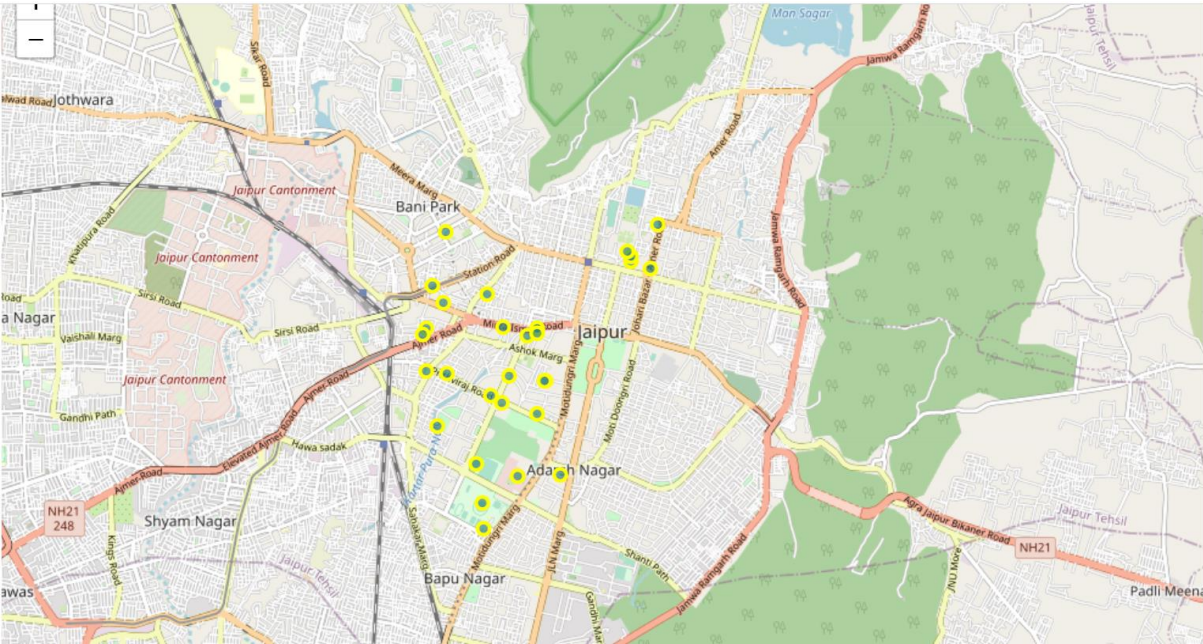
From Foursquare API (<https://api.foursquare.com/v2/venues/>) ,
retrieved the following for each venue:

- Name: The name of the venue.
- Category: The category type as defined by the API.
- Latitude: The latitude value of the venue.
- Longitude: The longitude value of the venue.
-

This is separate from the IPykernel package so we can avoid doing imports until

Out[287]:

	venue.id	venue.location.lat	venue.location.lng	venue.name	venue.categories
0	50cde2b4e4b0881a7ce5c480	26.905663	75.811182	Tapri - The Tea House & Jizo	Tea Room
1	4c7940de20bb199cd3ee0d29	26.915537	75.809862	Raj Mandir Theatre	Indie Movie Theater
2	4bc7875893bdeee12e7c37ae	26.897931	75.808390	Rambagh Palace Hotel	Hotel
3	54fc3d16498edf0d9bf04cce	26.919589	75.797884	Moustache Hostel	Hostel
4	4bb594102f70c9b668628430	26.924867	75.824342	Jantar Mantar	Historic Site



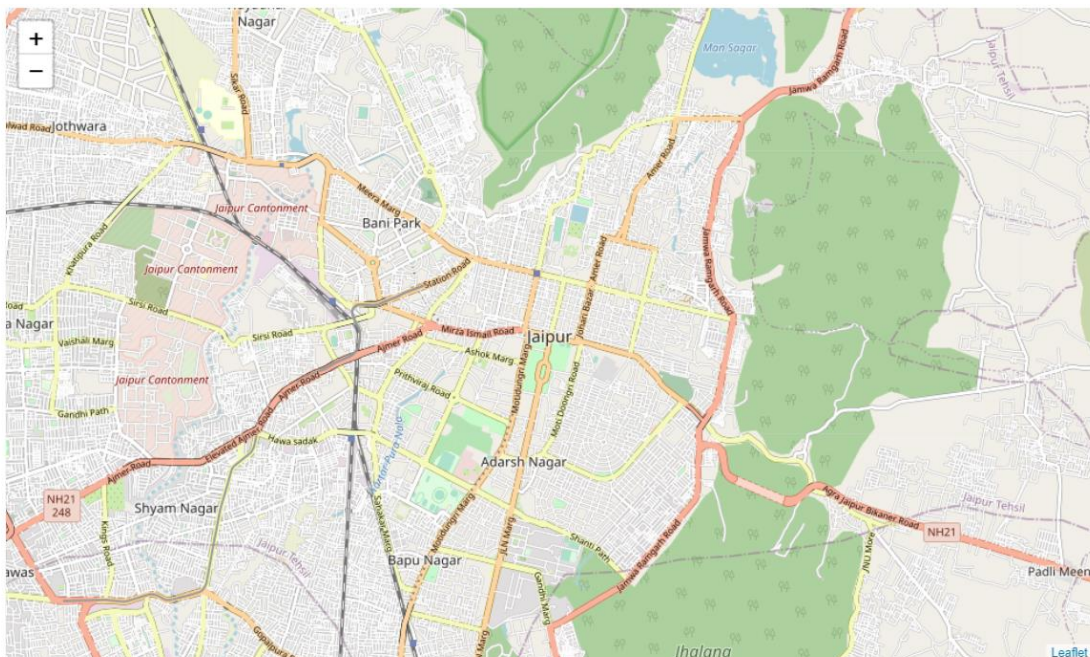
From Zomato API (<https://developers.zomato.com/api>), I retrieved the following for each venue:

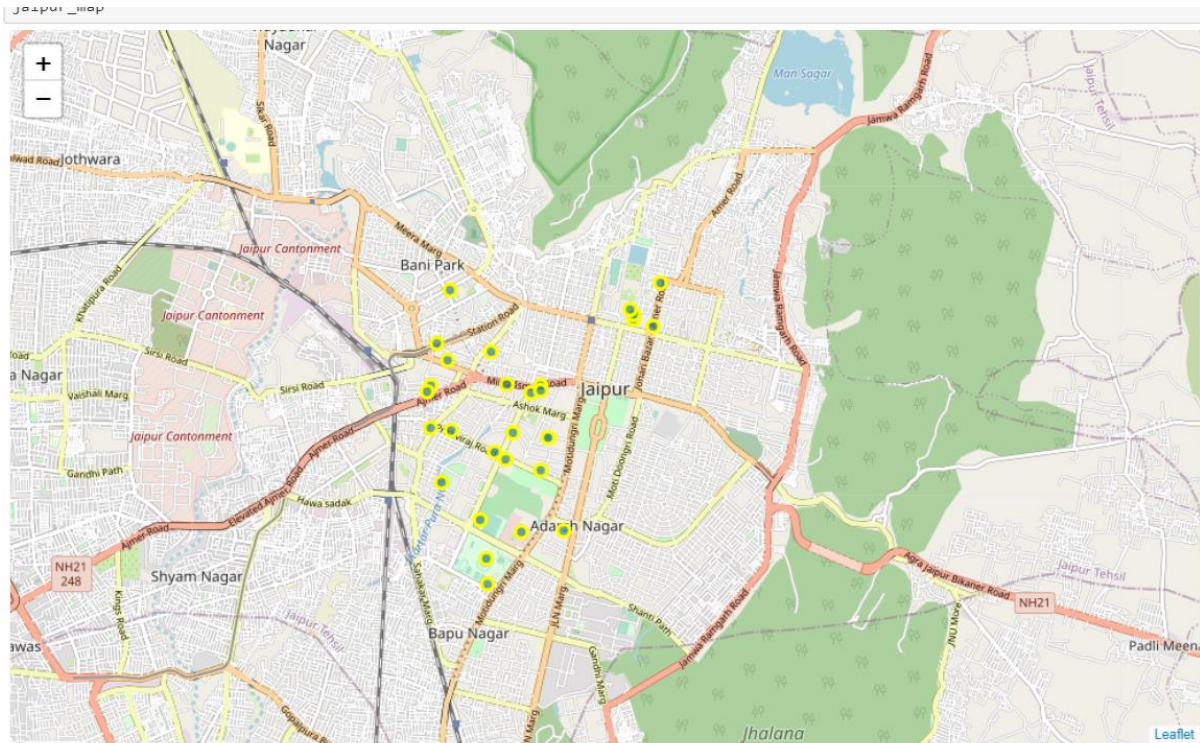
- Venue Name: The name of the venue.
- Address: The complete address of the venue.
- Rating: The ratings as provided by many users.
- Price range: The price range the venue belongs to as defined by Zomato.
- Price for two: The average cost for two people dining at the place.
- Latitude: The latitude value of the venue.
- Longitude: The longitude value of the venue.
- Cuisines: Cuisines of the venue

Out[291]:

	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines
0	Tapri Central	26.8913840424	75.8036034554	800.0	2.0	4.6	B4 E, 3rd Floor, Surana Jewellers, Opposite Ce...	Cafe, Fast Food, Street Food
1	Tapri Pratham	26.8914007876	75.8036768809	800.0	2.0	4.4	43, Everest Colony, Near Punjab National Bank ...	Cafe, Fast Food, Street Food, Beverages
2	Tapri Ashram	26.8411881683	75.7960641012	800.0	2.0	4.4	Shopping Arcade, Jaipur Marriott Hotel, Ashram...	Cafe, Fast Food, Street Food, Beverages
3	The Yellow House - The Robot Restaurant	26.9152631473	75.8097038046	700.0	2.0	3.6	Silver Square Mall, Near Rajmandir Cinema, C S...	North Indian, Chinese, Italian, Mexican
4	Tea Tradition	26.9113571934	75.8024071902	450.0	1.0	3.8	D 29-A, Chandra Niwas, Subhash Marg, C Scheme,...	Cafe, Fast Food

Out[293]:



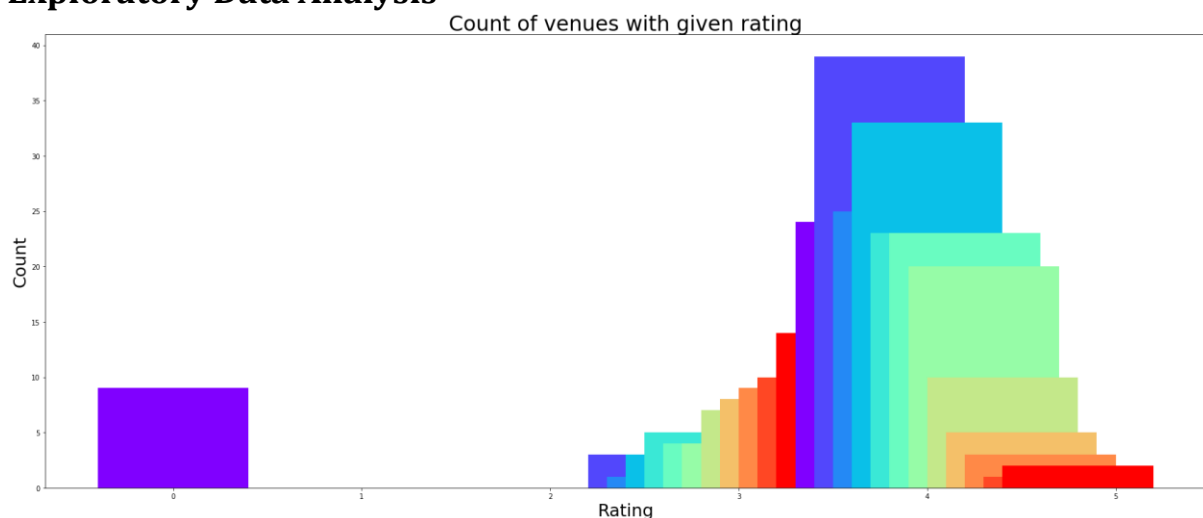


Methodology

In this project we will try to propose various profiles of restaurants around a defined central location, based on the ratings, price range and distance from the central location of the City. .We have selected a central location i.e NTR circle as the central location.

First we get all the locations from foursquare api, than get all the restaurants with user ratings, passing the venues of four square api as an input after that calculate distance from the defined central location to each of the restaurants, clustering based on ratings, distance,price range within 3 kms range from the central location for profiling the restaurants.

Exploratory Data Analysis

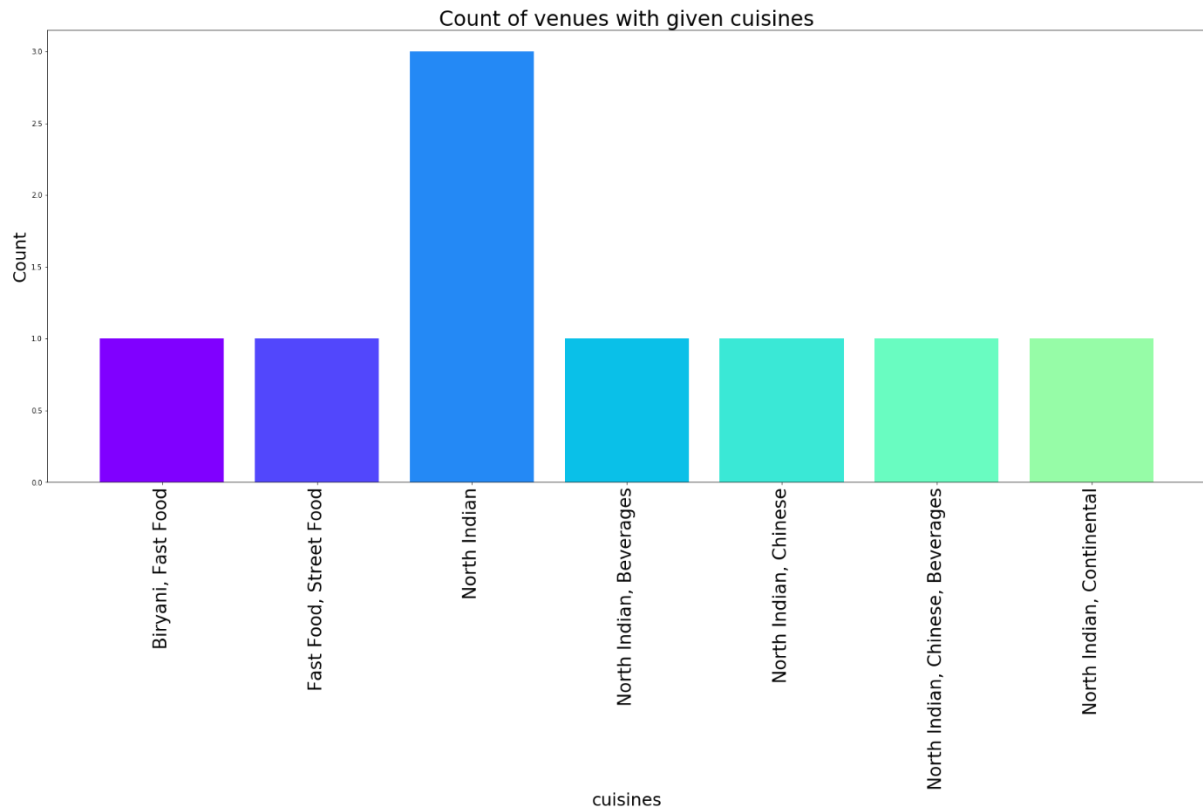


Rating

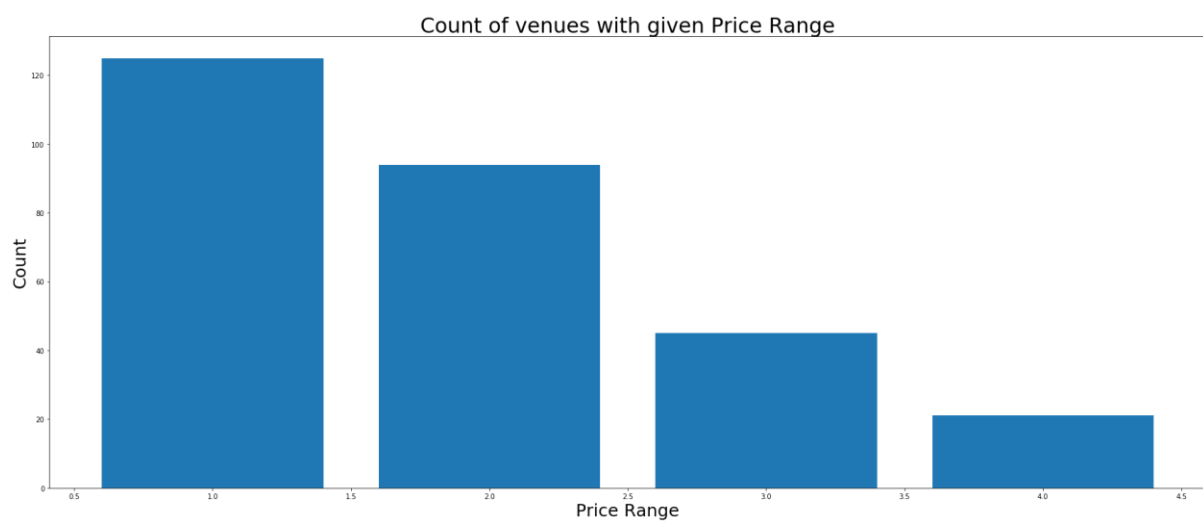
We will explore the data based on the rating.

From the above plots we can understand that the ratings of the restaurants are highly ranging from 2.5 to 5. About 20 restaurants has the rating '0'. Lets explore the subset of the dataset which has poor rating of 0.

Rating as per Cuisines

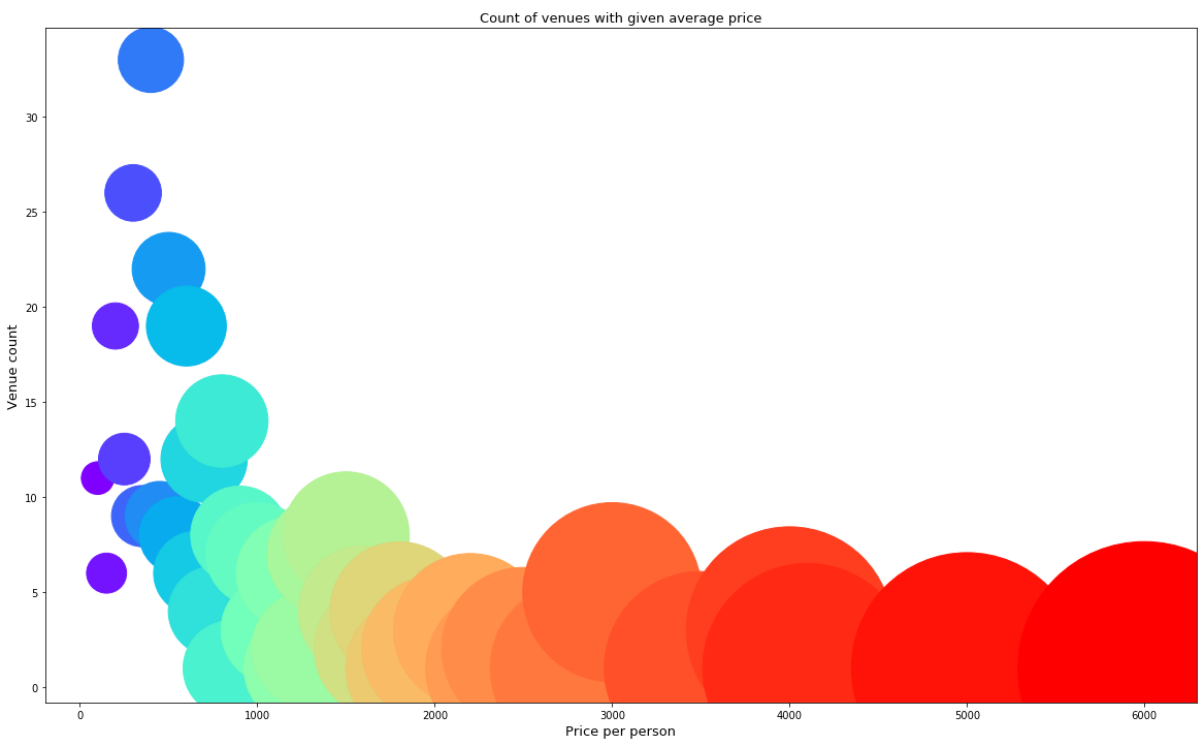


Rating as per price range



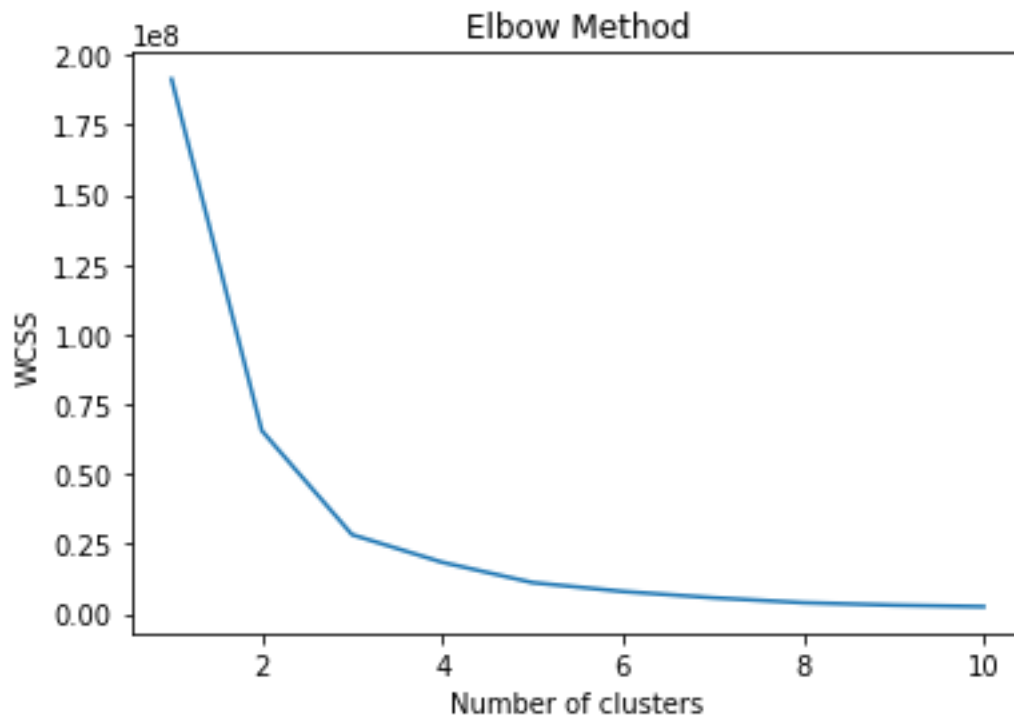
From the above plot we can understand that restaurants providing more or less same kind of cuisines have 0 rating. We can't assess which cuisine/category in particular has poor rating from the above plot.

price range for the distribution is pocket friendly in the city of Jaipur. Zomato Price_range explains cost range from 1 to 4(1 being the pocket friendly to 4 being expensive)



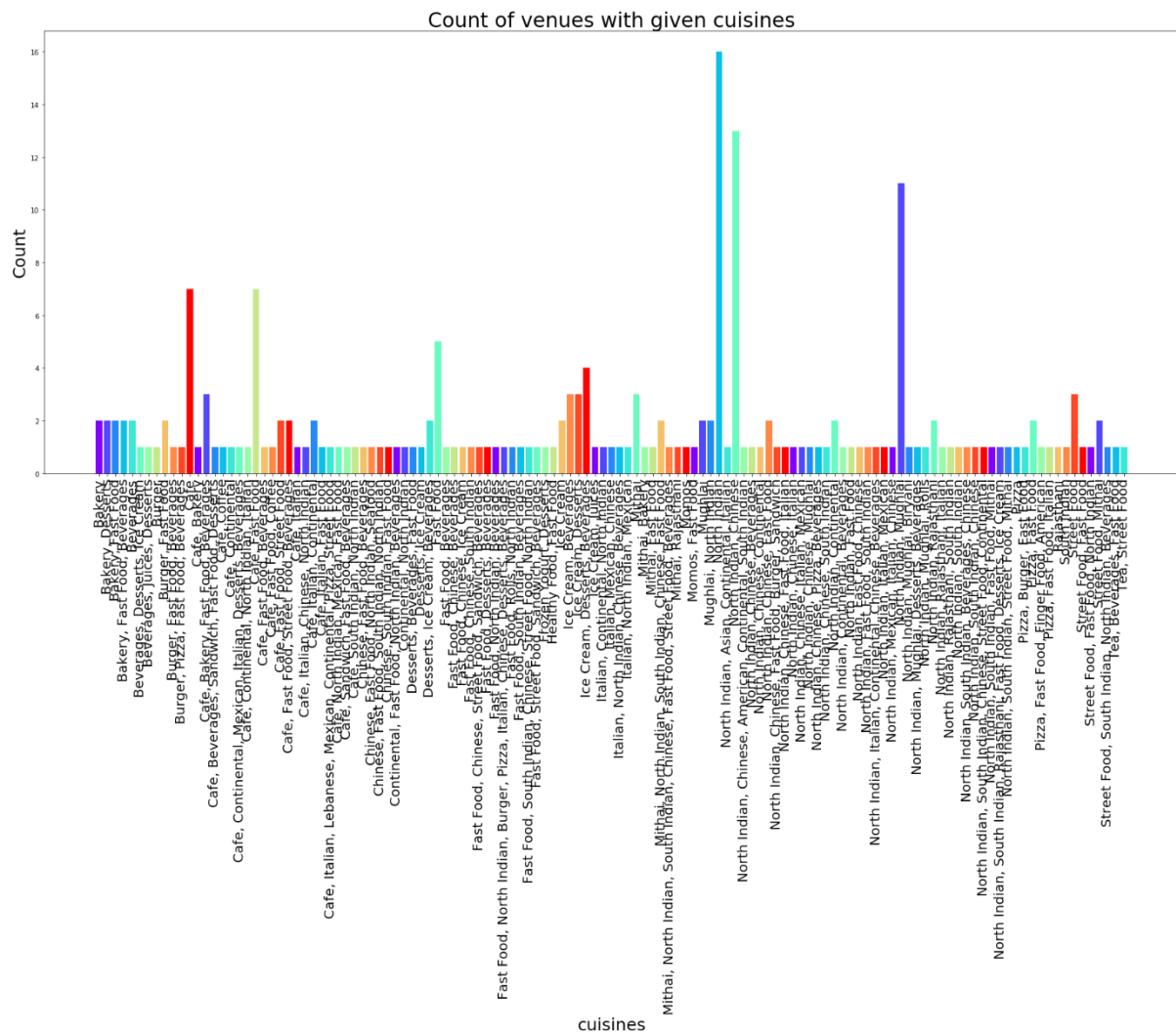
Out[303]:

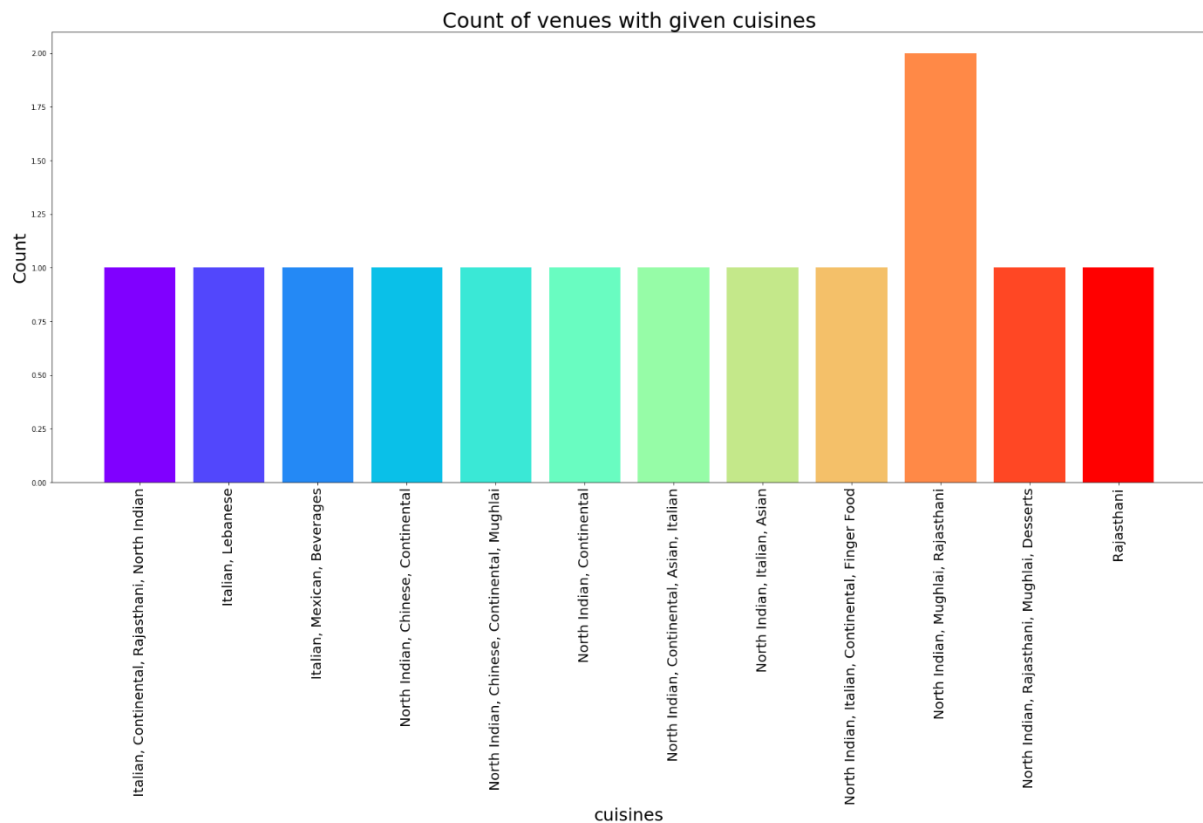
	latitude	longitude	price_for_two	price_range	rating	distance
0	26.891384	75.803603	800.0	2.0	4.6	2.84
1	26.891401	75.803677	800.0	2.0	4.4	2.84
2	26.841188	75.796064	800.0	2.0	4.4	7.94
3	26.915263	75.809704	700.0	2.0	3.6	2.25
4	26.911357	75.802407	450.0	1.0	3.8	1.51



Out[308]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
0	0	Tapri Central	26.891384	75.803603	800.0	2.0	4.6	B4 E, 3rd Floor, Surana Jewellers, Opposite Ce...	Cafe, Fast Food, Street Food	2.84
1	0	Tapri Pratham	26.891401	75.803677	800.0	2.0	4.4	43, Everest Colony, Near Punjab National Bank ...	Cafe, Fast Food, Street Food, Beverages	2.84
2	0	Tapri Ashram	26.841188	75.796064	800.0	2.0	4.4	Shopping Arcade, Jaipur Marriott Hotel, Ashram...	Cafe, Fast Food, Street Food, Beverages	7.94
3	0	The Yellow House - The Robot Restaurant	26.915263	75.809704	700.0	2.0	3.6	Silver Square Mall, Near Rajmandir Cinema, C S...	North Indian, Chinese, Italian, Mexican	2.25
4	0	Tea Tradition	26.911357	75.802407	450.0	1.0	3.8	D 29-A, Chandra Niwas, Subhash Marg, C Scheme,...	Cafe, Fast Food	1.51



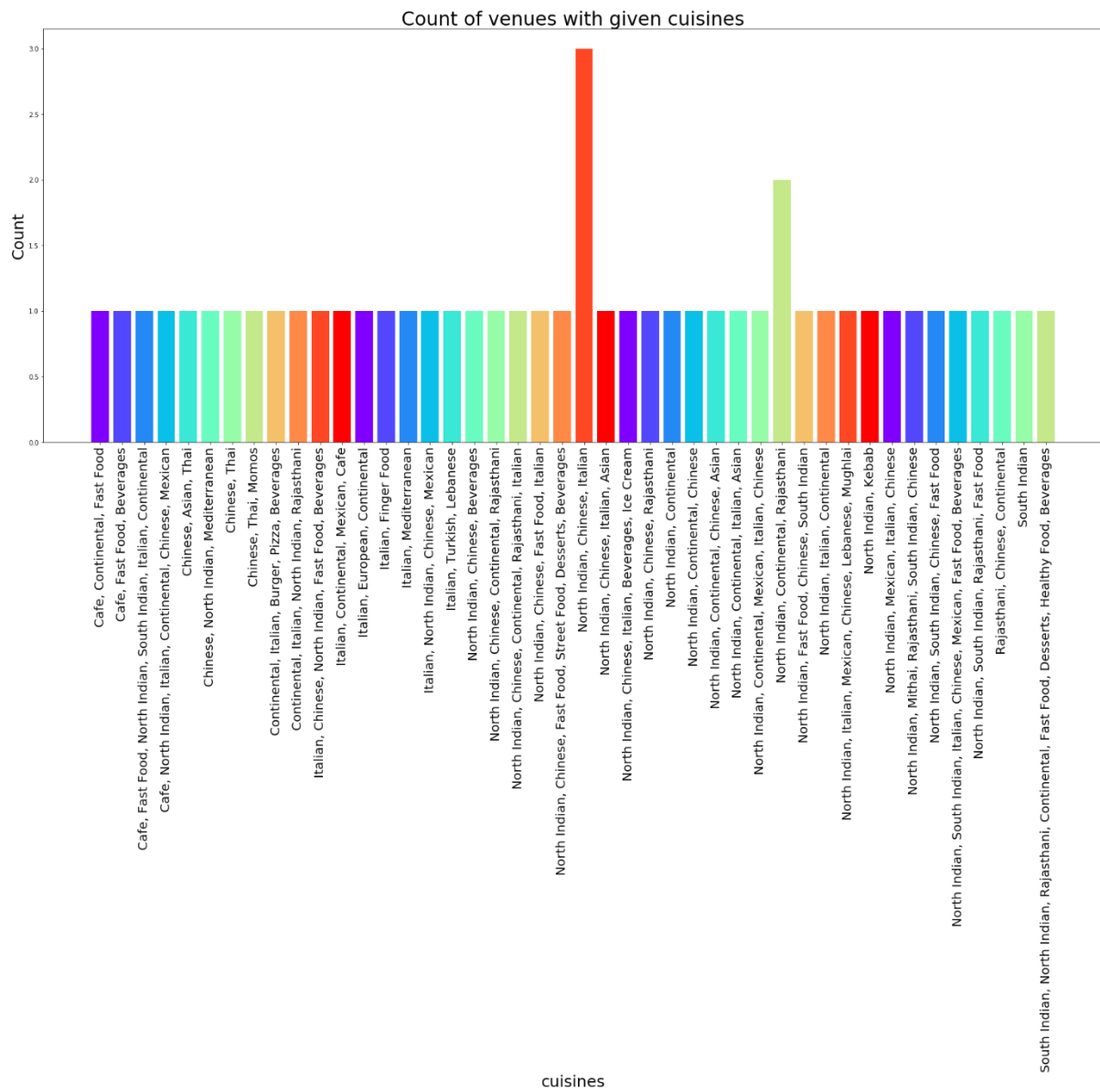


In [313]: cluster_1

Out[313]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
40	1	Steam - Rambagh Palace	26.898109	75.806150	2800.0	4.0	4.8	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	Italian, Lebanese	2.61
46	1	Peshawri - ITC Rajputana Hotel	26.918853	75.791835	3000.0	4.0	4.6	ITC Rajputana Hotel, Palace Road, Gopalbari, J...	North Indian, Rajasthani, Mughlai, Desserts	0.85
47	1	Jai Mahal - ITC Rajputana Hotel	26.918855	75.791823	3500.0	4.0	4.2	ITC Rajputana Hotel, Palace Road, Gopalbari, J...	North Indian, Chinese, Continental	0.84
49	1	Blackout Club & Terrace	26.914006	75.805721	2200.0	4.0	4.2	Hotel Golden Oak 9th Floor, Ahinsa Circle, La...	North Indian, Italian, Continental, Finger Food	1.84
58	1	Baradari - City Palace	26.926636	75.824898	2200.0	4.0	3.9	The City Palace, Gate 2, Jaleb Chowk, Pink Cit...	Italian, Continental, Rajasthani, North Indian	4.05
151	1	1135 AD	26.986758	75.850630	2500.0	4.0	4.1	Level 2, Jaleb Chowk, Near Sheela Mata Temple,...	North Indian, Mughlai, Rajasthani	10.36
166	1	Little Italy	26.910798	75.798409	2400.0	4.0	4.2	C 11, KK Square, C Scheme, Jaipur	Italian, Mexican, Beverages	1.12
215	1	Niros	26.916332	75.811452	2200.0	4.0	4.1	319, Panch Batti, MI Road, Jaipur	North Indian, Chinese, Continental, Mughlai	2.44
273	1	Chaandi - Hilton Jaipur	26.901296	75.783818	3000.0	4.0	4.3	Hilton Jaipur, 42, Geeggarh House, Hawa Sadak,...	North Indian, Mughlai, Rajasthani	1.28
274	1	Aurum - Hilton Jaipur	26.901297	75.783793	3000.0	4.0	3.8	Hilton Jaipur, 42, Geeggarh House, Hawa Sadak,...	North Indian, Italian, Asian	1.28
280	1	Jai Mahal- Trident Jaipur	26.956786	75.843221	2500.0	4.0	3.9	Trident Jaipur, Opposite Jai Mahal, Amer Road,...	North Indian, Continental	7.42
282	1	24/7 Restaurant- The LaLIT Jaipur	26.840935	75.807506	3000.0	4.0	4.0	The LaLIT Jaipur, Jagatpura Road, Malviya Naga...	North Indian, Continental, Asian, Italian	8.17
369	1	Swam Mahal-Virasat Heritage Restaurant	26.899544	75.793017	3000.0	4.0	3.0	Virasat Heritage Restaurant, Plot B, Sahkar Ma...	Rajasthani	1.53

In [314]: cluster_2 = cluster_1[['venue', 'latitude', 'longitude', 'price_for_two', 'price_range', 'rating', 'address', 'cuisines', 'distance']]

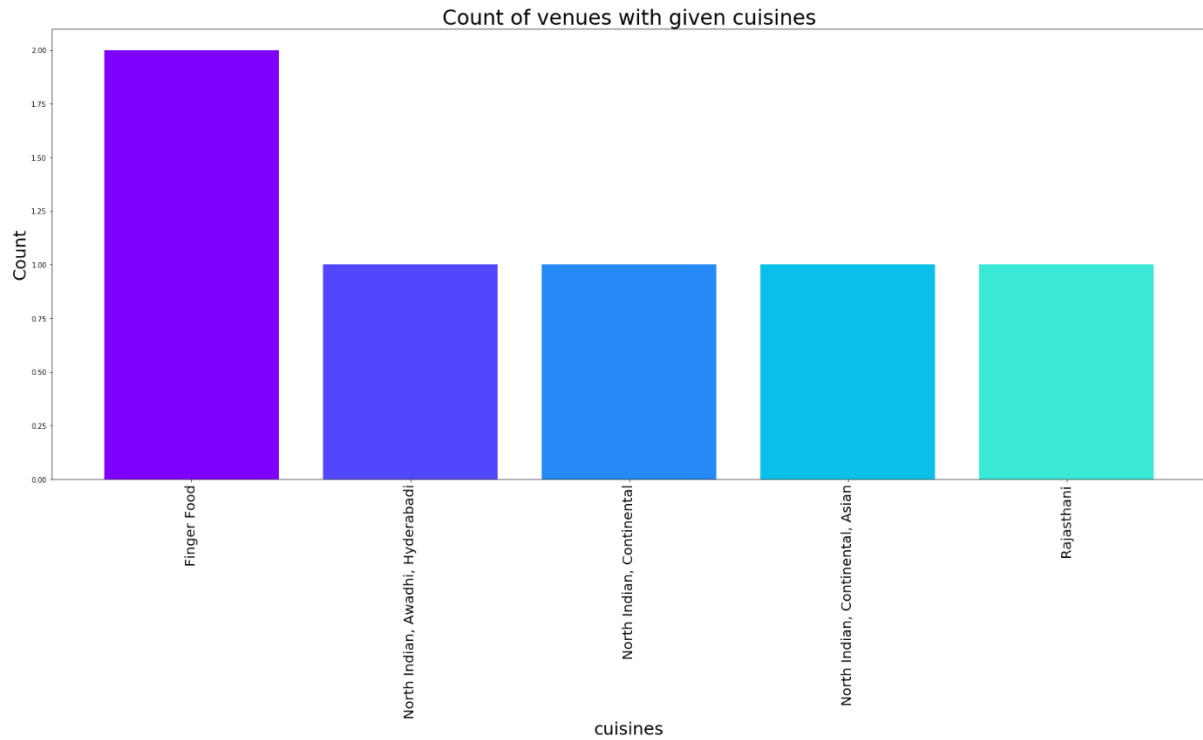


In [316]: cluster_2

Out[316]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
6	2	On The House	26.905337	75.794570	1500.0	3.0	4.4	E 145, Ramesh Marg, Behind Talwalkars, C Scheme, Jaipur	Italian, Continental, Mexican, Cafe	1.06
9	2	Corner House	26.907390	75.795520	1200.0	3.0	4.0	F 31, Azad Marg, Ashok Nagar, C Scheme, Jaipur	North Indian, Chinese, Italian, Beverages, Ice...	0.99
21	2	Thali and More	26.910818	75.805427	1100.0	3.0	4.5	C-46 B, Sarojini Marg, Above Punjab National B...	North Indian, South Indian, Chinese, Fast Food	1.81
30	2	Laxmi Mishthan Bhandar	26.896717	75.815396	1000.0	3.0	3.3	A/65, JLN Marg, Near Soni Hospital, Raja Park, ...	North Indian, Mithai, Rajasthani, South Indian...	3.29
48	2	La Palma Cafe and Lounge Bar	26.914026	75.804732	1400.0	3.0	3.9	The Hotel Garden View, Subhash Marg, Near Ahin...	Italian, European, Continental	1.74
50	2	Jaipur Pavilion - ITC Rajputana Hotel	26.918846	75.791836	1800.0	3.0	4.1	ITC Rajputana Hotel, Palace Road, Gopalbari, J...	South Indian, North Indian, Rajasthani, Contin...	0.84
52	2	Sammy Singh's Rooftop	26.914005	75.804734	1700.0	3.0	3.7	Hotel Garden View, Subhash Marg, C Scheme, Jaipur	North Indian, Chinese, Fast Food, Italian	1.74
54	2	Rangreza	26.921679	75.794560	1200.0	3.0	4.0	Hotel Nirbana Palace, Main D Villa Building, K...	North Indian, Mexican, Italian, Chinese	1.26
55	2	Bartoss Bar & Lounge	26.920704	75.789163	1600.0	3.0	3.8	Hotel Chitra Palace, Opposite Jaipur Junction, ...	North Indian, Italian, Continental	0.94
59	2	Bar Palladio Jaipur	26.898860	75.814172	1800.0	3.0	4.0	Hotel Narain Niwas, Kanota Bagh, Narayan Singh...	Italian, Finger Food	3.06
68	2	Shikaar Bagh	26.898863	75.814160	2000.0	4.0	4.0	Hotel Narain Niwas, Kanota Bagh, Narayan Singh...	Continental, Italian, North Indian, Rajasthani	3.06
71	2	Mohan Bagh - Hotel Narain Niwas	26.898849	75.814160	1500.0	3.0	2.6	Hotel Narain Niwas, Kanota Bagh, Narayan Singh...	North Indian, Continental, Rajasthani	3.06
74	2	The Dining Hall - Hotel Narain Niwas	26.898868	75.814157	1500.0	3.0	2.7	Hotel Narain Niwas, Kanota Bagh, Narayan Singh...	North Indian, Continental, Rajasthani	3.06
77	2	Gulabi Nagari	26.929396	75.788572	1400.0	3.0	4.3	C-13, Shiv Niwas, Sawai Jai Singh Road, Bani P...	North Indian, Chinese, Beverages	1.89
89	2	Dasaprakash	26.916413	75.808080	1000.0	3.0	4.3	5, Kamal Mansion, Opposite Tanishq Jewellery, ...	South Indian	2.11
106	2	Kalyan Rooftop And Indoor Restaurant	26.916201	75.795812	1200.0	3.0	3.4	59, Hathroi Fort, Ajmer Road, Gopalbari, Jaipur	North Indian, South Indian, Italian, Chinese, ...	0.94
109	2	Social Vibes	26.915559	75.808909	1600.0	3.0	4.3	6th Floor, Mall 21, Bhagwandas Road, Opposite ...	North Indian, Continental, Chinese	2.17
110	2	Retreat	26.915379	75.806339	1400.0	3.0	4.2	C 94, 8th Floor, Fortune Heights, Subhash Marg...	North Indian, Continental, Italian, Mexican, C...	1.92
113	2	Jaipur Darbar - The Rooftop Lounge	26.897583	75.825108	1500.0	3.0	3.6	11/1, Govind Marg, Raja Park, Jaipur	North Indian, Chinese, Italian	4.10
114	2	LOL	26.913243	75.802926	1200.0	3.0	3.4	8th Floor, Ambition Tower, Agrasen Circle, C S...	Italian, North Indian, Chinese, Mexican	1.55
116	2	Kloud - Royal Orchid Central	26.924596	75.793444	1800.0	3.0	4.4	Royal Orchid Central, A-26, A/2, Level 9, Jais...	North Indian, Chinese, Italian, Asian	1.48
117	2	Revolving Restaurant	26.917792	75.799704	1400.0	3.0	2.6	Hotel Om Tower, Church Road, MI Road, Jaipur	North Indian, Chinese, Rajasthani	1.37
118	2	Govindam Retreat	26.928920	75.825540	1000.0	3.0	4.2	Kanwar Nagar, Near Govind Devji Temple, Pink C...	North Indian, South Indian, Rajasthani, Fast Food	4.22
119	2	Skyfall By Replay	26.892302	75.806870	1500.0	3.0	4.3	SB 57, 5th Floor, Ridhi Tower, Opposite SMS St...	North Indian, Chinese, Italian	2.96
147	2	Decked Up By Garden Cafe	26.913624	75.752904	1200.0	3.0	4.1	320, Queens Road, Opposite Jharkhand Mahadev T...	Cafe, Fast Food, North Indian, South Indian, I...	3.42
168	2	The TownHouse	26.915862	75.809765	1400.0	3.0	3.8	Golcha Point, Panch Batti, MI Road, Jaipur	North Indian, Italian, Mexican, Chinese, Leban...	2.26
174	2	Masala Ministry	26.911828	75.797307	1100.0	3.0	4.1	Man Upasna Mall, Chomu House, C Scheme, Jaipur	North Indian, Chinese, Fast Food, Street Food, ...	1.00
175	2	The Eclectica	26.892119	75.769187	1250.0	3.0	4.3	New Sanganer Road, Opposite Metro Pillar-100, ...	Cafe, North Indian, Italian, Continental, Chin...	2.88
201	2	Coffee Break	26.909180	75.738471	1100.0	3.0	4.1	Shop 9, Plot 112, Jagdamba Colony, K...	Cafe, Fast Food, Beverages	4.86

213	2	Home Café by Mr Beans	26.905040	75.794050	1000.0	3.0	4.2	E 141 A, Sardar Patel Marg, C Scheme, Jaipur	Cafe, Continental, Fast Food	1.06
214	2	Fat Lulu's	26.899642	75.794617	1300.0	3.0	4.3	Plot 9, Bhawani Singh Lane, Sahakar Marg, C Sc...	Continental, Italian, Burger, Pizza, Beverages	1.59
216	2	Surya Mahal Restaurant	26.916365	75.811299	1000.0	3.0	4.1	Mirza Ismail Road, Near Panch Batti, MI Road, ...	North Indian, Fast Food, Chinese, South Indian	2.42
222	2	OTB - On The Bar B-Q	26.856151	75.806774	1200.0	3.0	4.2	6th Floor, Crystal Court Mall, Malviya Nagar, ...	Italian, Chinese, North Indian, Fast Food, Bev...	6.53
224	2	Barbeque Nation	26.916452	75.809869	1400.0	3.0	4.8	1st Floor, E2 Khandelwal Mansion, Paanch Batti...	North Indian, Continental	2.29
230	2	Ten Twisters	26.914034	75.805669	1800.0	3.0	3.8	4th Floor, The Landmark, Ahinsa Circle, C Sche...	North Indian, Continental, Chinese, Asian	1.83
243	2	Caffe Palladio Jaipur	26.899728	75.815982	2000.0	4.0	3.6	100, Near Trimurti Circle, J LN. Marg, Santha ...	Italian, Turkish, Lebanese	3.18
264	2	Jaipur Modern Kitchen	26.913973	75.798844	1600.0	3.0	4.0	51, Sardar Patel Marg, Dhuleshwar Garden Cross...	Italian, Mediterranean	1.16
267	2	Monarch Restaurant - Holiday Inn Jaipur City C...	26.902867	75.793023	1900.0	3.0	3.8	Holiday Inn Jaipur City Centre, Commercial Plo...	North Indian, Chinese, Continental, Rajasthani	1.20
269	2	Chao Chinese Bistro - Holiday Inn Jaipur City ...	26.902858	75.793011	1500.0	3.0	4.1	Holiday Inn Jaipur City Centre, Commercial Plo...	Chinese, Asian, Thai	1.20
272	2	Jaipur Jungle	26.899894	75.834296	1300.0	3.0	3.5	6th Floor, UDB Tower, Baraf Khana, Adarsh Naga...	North Indian, Chinese, Italian	4.87
335	2	Kebabs & Curries Company	26.898832	75.738786	1000.0	3.0	4.1	6/33, Chitrakoot Marg, Near Chitrakoot Stadium...	North Indian, Kebab	5.05
416	2	Bazaar - Zone by the Park	26.933081	75.793962	1600.0	3.0	3.8	Zone by the Park, D 65A, Madho Singh Road, Sin...	North Indian, Chinese, Continental, Rajasthani...	2.39
420	2	Playa - Zone By The Park	26.933090	75.793942	1700.0	3.0	3.0	Zone By The Park, D65A, Madho Singh Road, Sind...	Chinese, North Indian, Mediterranean	2.39
427	2	Inchin	26.929324	75.785963	1500.0	3.0	4.0	D 253 A, Near Sahapura Guest House, Devi Marg, ...	Chinese, Thai, Momos	1.88



In [319]: cluster_3

Out[319]:

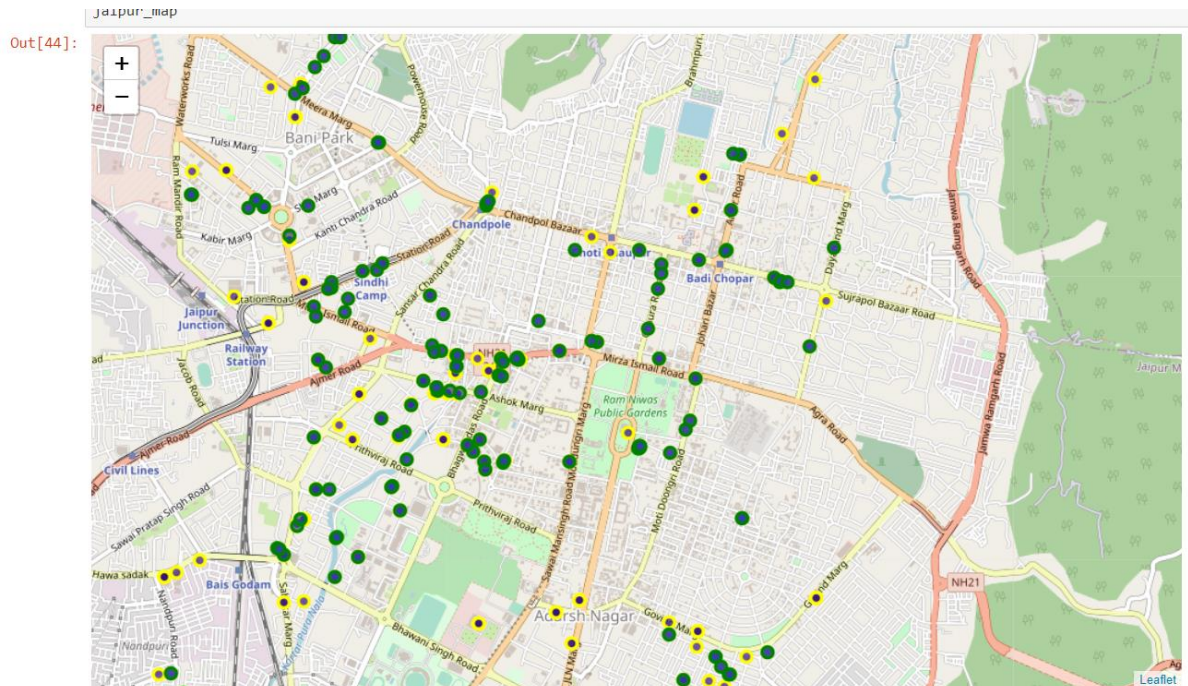
	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
41	3	Suvarna Mahal - Rambagh Palace	26.898109	75.808150	5000.0	4.0	4.3	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	North Indian, Awadhi, Hyderabadi	2.61
42	3	The Rajput Room - Rambagh Palace	26.898109	75.808150	4000.0	4.0	4.2	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	North Indian, Continental, Asian	2.61
43	3	The Verandah - Rambagh Palace	26.898109	75.808150	4000.0	4.0	4.1	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	North Indian, Continental	2.61
44	3	The Polo Bar - Rambagh Palace	26.898109	75.808150	4100.0	4.0	4.0	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	Finger Food	2.61
364	3	Sheesh Mahal Bar - ITC Rajputana Hotel	26.918842	75.791834	4000.0	4.0	3.8	ITC Rajputana Hotel, Palace Road, Gopalbari, J...	Finger Food	0.84
370	3	Sheesh Mahal-Virasat Heritage Restaurant	26.899535	75.793017	6000.0	4.0	2.9	Virasat Heritage Restaurant, Plot B, Sahkar Ma...	Rajasthani	1.53

In [320]: cluster_0=clustered_df[clustered_df['cluster_labels']==0]

In [320]: cluster_0=clustered_df[clustered_df['cluster_labels']==0]
cluster_0.head()

Out[320]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
0	0	Tapri Central	26.891384	75.803603	800.0	2.0	4.6	B4 E, 3rd Floor, Surana Jewellers, Opposite Ce...	Cafe, Fast Food, Street Food	2.84
1	0	Tapri Pratham	26.891401	75.803677	800.0	2.0	4.4	43, Everest Colony, Near Punjab National Bank ...	Cafe, Fast Food, Street Food, Beverages	2.84
2	0	Tapri Ashram	26.841188	75.796064	800.0	2.0	4.4	Shopping Arcade, Jaipur Marriott Hotel, Ashram...	Cafe, Fast Food, Street Food, Beverages	7.94
3	0	The Yellow House - The Robot Restaurant	26.915263	75.809704	700.0	2.0	3.6	Silver Square Mall, Near Rajmandir Cinema, C S...	North Indian, Chinese, Italian, Mexican	2.25
4	0	Tea Tradition	26.911357	75.802407	450.0	1.0	3.8	D 29-A, Chandra Niwas, Subhash Marg, C Scheme, ...	Cafe, Fast Food	1.51



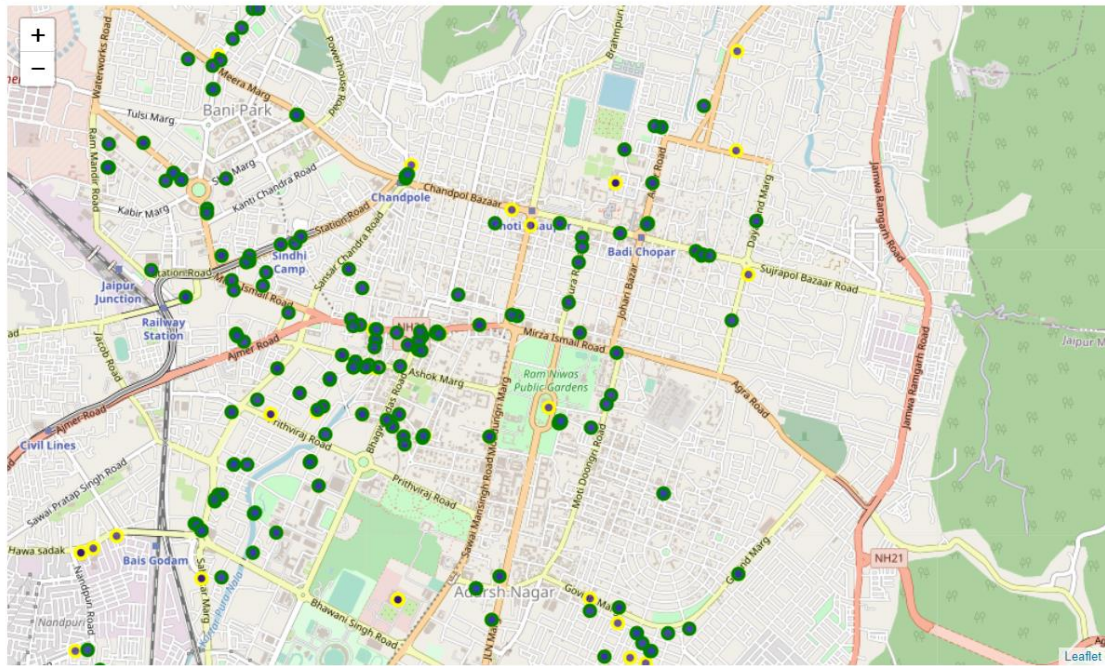
```
In [45]: cluster_1=clustered_df[clustered_df['cluster_labels']==1]
cluster_1.head()
```

Out[45]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
7	1	On The House	26.905337	75.794570	1500.0	3.0	4.4	E 145, Ramesh Marg, Behind Talwalkars, C Schem...	Italian, Continental, Mexican, Cafe	1.06
9	1	Corner House	26.907390	75.795520	1200.0	3.0	4.0	F 31, Azad Marg, Ashok Nagar, C Scheme, Jaipur	North Indian, Chinese, Italian, Beverages, Ice...	0.99
21	1	Thali and More	26.910818	75.805427	1100.0	3.0	4.5	C-46 B, Sarojini Marg, Above Punjab National B...	North Indian, South Indian, Chinese, Fast Food	1.81
29	1	Laxmi Mishthan Bhandar	26.896717	75.815396	1000.0	3.0	3.3	A/65, JLN Marg, Near Soni Hospital, Raja Park, ...	North Indian, Mithai, Rajasthani, South Indian...	3.29
48	1	La Palma Cafe and Lounge Bar	26.914026	75.804732	1400.0	3.0	3.9	The Hotel Garden View, Subhash Marg, Near Ahin...	Italian, European, Continental	1.74

jaipur_map

Out[46]:

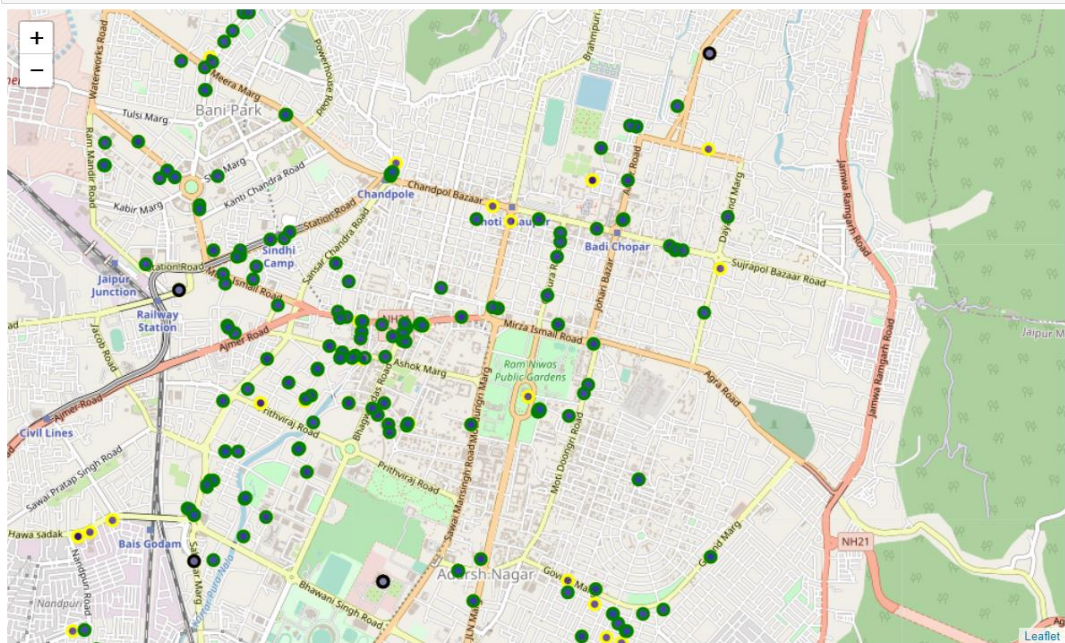


```
In [47]: cluster_2=clustered_df[clustered_df['cluster_labels']==2]
cluster_2.head()
```

Out[47]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
41	2	Suvarna Mahal - Rambagh Palace	26.898109	75.808150	5000.0	4.0	4.3	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	North Indian, Awadhi, Hyderabad	2.61
42	2	The Rajput Room - Rambagh Palace	26.898109	75.808150	4000.0	4.0	4.2	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	North Indian, Continental, Asian	2.61
43	2	The Verandah - Rambagh Palace	26.898109	75.808150	4000.0	4.0	4.1	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	North Indian, Continental	2.61
44	2	The Polo Bar - Rambagh Palace	26.898109	75.808150	4100.0	4.0	4.0	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	Finger Food	2.61
365	2	Sheesh Mahal Bar - ITC Rajputana Hotel	26.918842	75.791834	4000.0	4.0	3.8	ITC Rajputana Hotel, Palace Road, Gopalbati, J...	Finger Food	0.84

Out[48]:



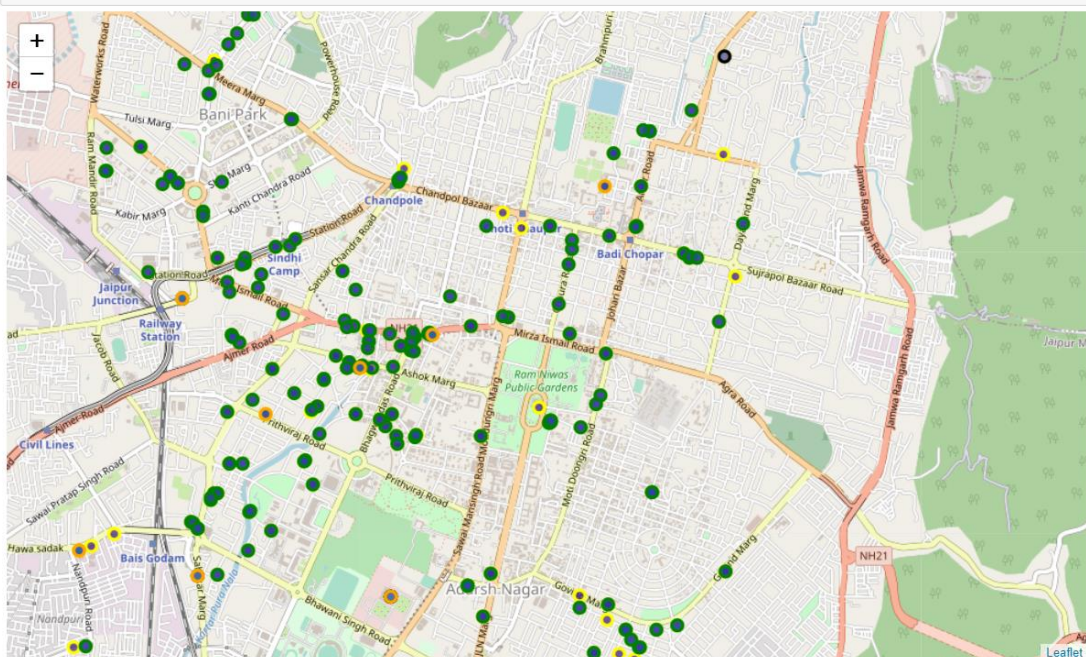
```
In [49]: cluster_3=clustered_df[clustered_df['cluster_labels']==3]
cluster_3.head()
```

Out[49]:

	cluster_labels	venue	latitude	longitude	price_for_two	price_range	rating	address	cuisines	distance
40	3	Steam - Rambagh Palace	26.898109	75.808150	2800.0	4.0	4.8	Rambagh Palace, Bhawani Singh Road, C Scheme, ...	Italian, Lebanese	2.61
46	3	Peshawri - ITC Rajputana Hotel	26.918853	75.791835	3000.0	4.0	4.6	ITC Rajputana Hotel, Palace Road, Gopalbari, J...	North Indian, Rajasthani, Mughlai, Desserts	0.85
47	3	Jai Mahal - ITC Rajputana Hotel	26.918855	75.791823	3500.0	4.0	4.2	ITC Rajputana Hotel, Palace Road, Gopalbari, J...	North Indian, Chinese, Continental	0.84
49	3	Blackout Club & Terrace	26.914006	75.805721	2200.0	4.0	4.2	Hotel Golden Oak, 9th Floor, Ahinsa Circle, La...	North Indian, Italian, Continental, Finger Food	1.84
58	3	Baradari - City Palace	26.926636	75.824898	2200.0	4.0	3.9	The City Palace, Gate 2, Jaleb Chowk, Pink Cit...	Italian, Continental, Rajasthani, North Indian	4.05

jaipur_map

Out[50]:



Results and Discussion

Based on the analysis we can draw many conclusions. We have profiled the clusters based on the price_ Range, rating, average price for two and distance from the centre.

From cluster 0

- Mean distance of a distance from central location of cluster 0: 3.723523809523808
- Mean rating of cluster 0: 3.8138095238095215
- Mean price rate for an individual of cluster 0: 227.26190476190476
- There are 210 restaurants in cluster 0
- 76.09 % of restaurants are in cluster 0

From cluster 1,

- Mean distance of a distance from central location of cluster 1: 3.368461538461539
- Mean rating of cluster 1: 4.084615384615383
- Mean price rate for an individual of cluster 1: 1357.6923076923076
- There are 13 restaurants in cluster 1
- 4.71 % of restaurants are in cluster 1

From cluster 2,

- Mean distance of a distance from central location of cluster 2: 2.4697872340425535
- Mean rating of cluster 2: 3.8999999999999999
- Mean price rate for an individual of cluster 2: 702.6595744680851
- There are 47 restaurants in cluster 2
- 17.03 % of restaurants are in cluster 2

From cluster 3,

- Mean distance of a distance from central location of cluster 3 2.135
- Mean rating of cluster 3: 3.8833333333333333
- Mean price rate for an individual of cluster 3: 2258.3333333333335
- There are 6 restaurants in cluster
- 2.17 % of restaurants are in cluster 3

As per analysis, we can suggest that cluster 0 and cluster 2 is budgeted restaurants for medium class with rating ranging between 3 to 4, which can be considered for dinning for tourists and for any person want to visit restaurants in Jaipur. Cluster 1 is little expensive compare to cluster 0 and 2 with same rating coming as in cluster 0 and 2. Cluster 3 is very expensive with rating 3

On the basis of data analysis for restaurants in Jaipur. Anyone can use this information to build up an online website/mobile application, to provide users with up to date information about various venues in the city based on the search criteria (name, rating and price).

Conclusion

The purpose of this project was to explore the places that a person visiting Jaipur could visit. The venues have been identified using Foursquare and Zomato API and have been plotted on the map