OFF SITE MEETING PLAN

VISIT TO AGRA & JAIPUR

Table of Contents

Introduction

Introduction

Year 2020 we face pandemic through out the world. Current year 2021 bring new challenges and promises. Vaccine right around the corner.

We can see reaching back to office and schools and be with friends. This will provide eagerly awaited opportunity to reconnect with friends and office colleagues.

This study is for people planning[#] to visit historic sites at Agra, Jaipur.

[#] Including offices team planning off-site meeting, students or for that matter any group of people planning for travel.

Problem

We would want to quickly know the address and number of historic sites in Agra and Jaipur. Also, would like to know if there are any active Covid-19 case in these two districts.

Finally, we would like to find food venue and online orders options.

Data

Data source

We will be using three API:

- Covid-19 API providing state & district wise data.
- FourSquare API to explore venues in district
- Zomato API to explore restaurants options near our historic point of interest.

Data Cleaning

First we get all data for Covid-19 cases using covid-19 API using URL:
https://api.covid19india.org/v2/state_district_wise.json

```
response = requests.get('https://api.covid19india.org/v2/state_district_wise.json')
content = response.content
parsed = json.loads(content)
```

We filter our covid-19 active & confirmed cases for district Agra & Jaipur. We drop columns namely: deceased, delta, notes & recovered.

Out[11]:

	district	active	confirmed	state name	state code
19	Jaipur	1122	58445	Rajasthan	RJ
0	Agra	92	10421	Uttar Pradesh	UP

```
#Colocaton geocode()
```

Finally, we get the co-ordinates for district Agra & Jaipur using 'geopy' library.

Methodology section

Feature selection

Now, using these filters of Covid-19 related case we will find historic venues and restaurants near the sites.

We loop through the district dataset and using co-ordinates we get the list of venues in these two districts.

FourSquare API:
'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'

We will need to register as developer with Four square API and pass along client_id and client_secret

```
for latitude,longitude,dis,cases,active in zip(covid_DL['latitude'],covid_DL['longitude'],covid_DL['district'],covid_DL['confirmed'],covid_DL['active']):

    fsq_url='https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'.format(
```

Zomato API:

‘https://developers.zomato.com/api/v2.1/search?q={}’

We need to pass user_key along with request.

Using both foursquare API we get all venues in the district.

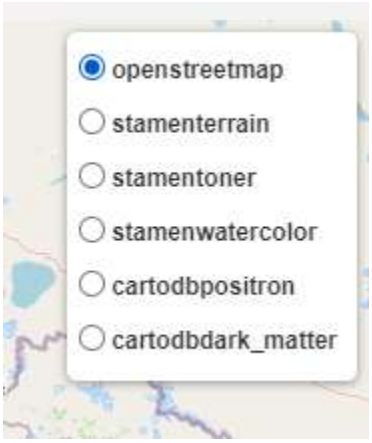
Using Zomato API we get restaurants with in district of Agra & Jaipur

Using exploratory data analysis, we find historic sites are provided with foursquare_API using the category ‘Historic Sites’

MAP creation for venue selection and visualization:

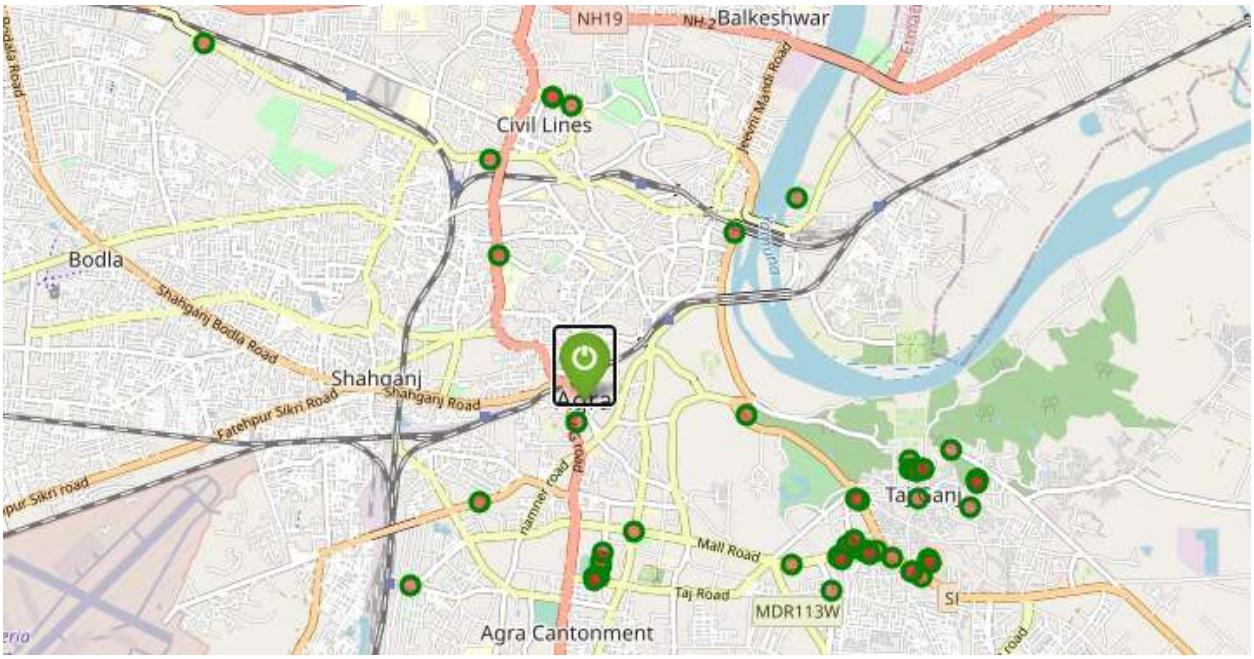
We will python library: folium for map visualization.

We will below map tiles types for visualization.



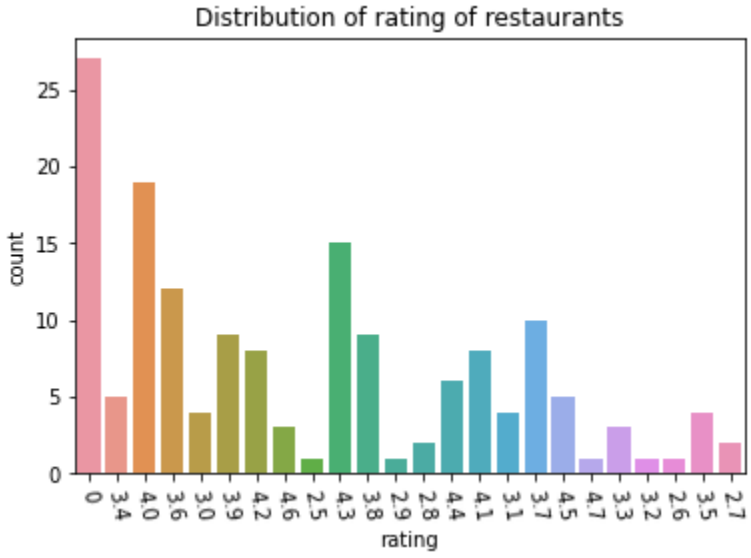
First, map we plot Delhi, Agra & Jaipur. When we zoom we will be able to see historic sites for district Agra and Jaipur.

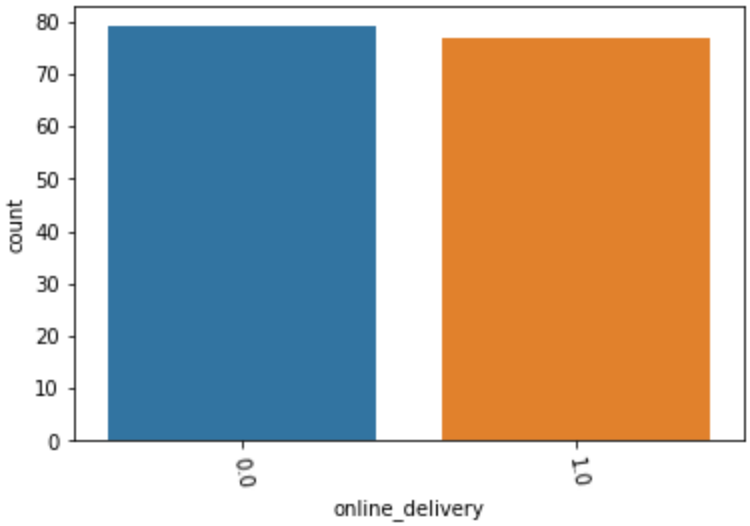
Second map will display all restaurants for the district Agra & Jaipur using the Zomato API

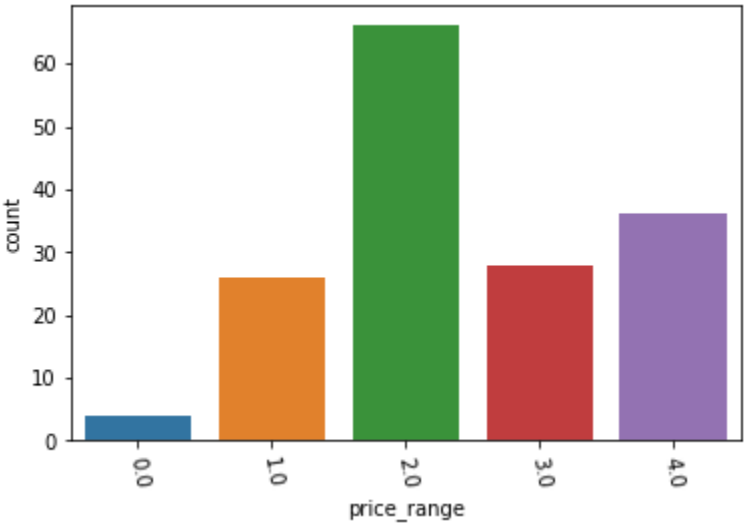


Results section

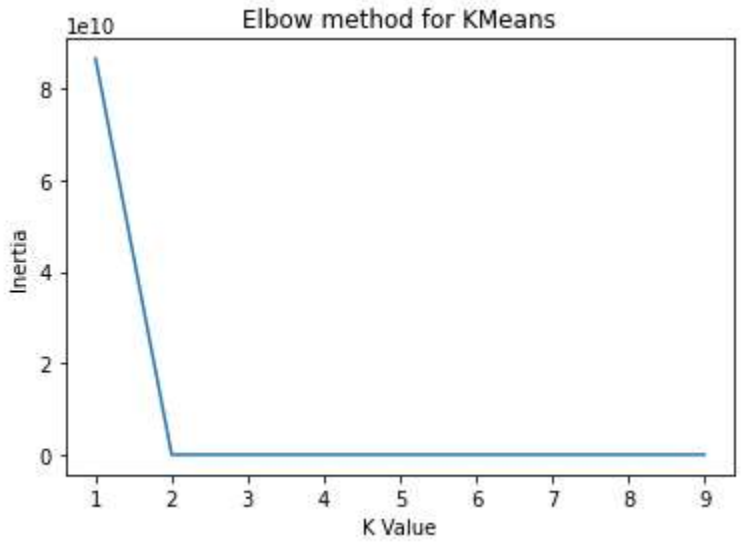
Here we visualize results from Zomato API:




80
70
60
50
40
30
20
10
0
count
0.0
1.0
online_delivery


60
50
40
30
20
10
0
count
0.0
1.0
2.0
3.0
4.0
price_range

Finally, we confirm our segment (clusters) using KMeans



Below is visualization of cluster namely Agra & Jaipur.

Short Summary:

We find found data for 37 rows using covid-19 state district API

Four Square reported below main categories:

Hotel	37
Indian Restaurant	22
Café	14
Historic Site	8
Coffee Shop	6
Restaurant	5
Italian Restaurant	4
Pizza Place	4
Market	3
Arts & Crafts Store	3
Bakery	3
Bistro	2
Tea Room	2
Hostel	2
Ice Cream Shop	2

Total 932 records were returned for Agra & Jaipur district data.

Zomato returned: 160 records

Historic sites reported by FourSquare

venue.name	venue.categories	district
Agra Fort | आगरा का किला | آگرہ قلعہ (Agra Fort)	Historic Site	Jaipur
Taj Mahal | ताज महल | تاج محل (Taj Mahal)	Historic Site	Jaipur
Tomb of Itimad ud Daulah | Baby Taj	Historic Site	Jaipur
Hawa Mahal | हवा महल (Hawa Mahal)	Historic Site	Agra
Jantar Mantar	Historic Site	Agra
City Palace	Historic Site	Agra
Statue Circle	Historic Site	Agra
Nahargarh Fort	Historic Site	Agra

Discussion section

There are five historic sites in Agra and three historic sites in Jaipur.

If this initially analysis is successful. We can expand this to explore more venue types returned from FourSquare API.

Also, we can expand our filters for Zomato API to find venues near the site we choose to visit.

Finally, we can map the distance to travelled for each site visit.

Conclusion section

Post covid-19 people will plan for travel. This initial study can be amended to include more state and better planning of travel and food options.

Thanks