***Recommending neighborhood options for a leading business workspace developer & manager (ABC) in Bengaluru***

**Audience:** Leading workspace developers & providers (ABC) in Bengaluru, India

**Business Problem/Intro:** ABC is contemplating the decision of selecting neighborhood options for their upcoming workspace development project in Bengaluru, India. They have been well known in workspace development & managing industry. **2 out of top 10 workspaces** in Bengaluru belongs them. Given the success those two business parks enjoy, they are considering choosing a neighborhood very similar to the ones they already developed. They believe that if they find a similar neighborhood, they don't have to scrutinize much about the other parameters that might lead to the success of the planned workspace. They firmly believe in that success of their existing workspaces is because of the neighborhood & composition of venues & facilities around them. The client is reaching out to us to come up top 5 similar neighborhoods for them. Based on the top recommendations, they are planning further to scrutinize the demand and other business factors to choose the final neighborhood for the planned workspace development

**How Foursquare location data helps?**

Since ABC believes that the success of the workspace depends on the neighborhood & compositions of nearby venues & facilities, foursquare can provide us with the venue data in & around most of the neighborhoods in Bengaluru

**Data that will be used in the project:**

There are three data types would be required to execute our solution, they are as follows:

1. All available boroughs & neighborhood names in Bengaluru
2. Geographical coordinates of the above neighborhoods
3. Borough, neighborhood data of existing ABC workspaces in Bengaluru
4. Venue details, categories & other venue related info

Data sources for the above:

1. [https://en.wikipedia.org/wiki/List\_of\_neighbourhoods\_in\_Bengaluru](https://en.wikipedia.org/wiki/List_of_neighbourhoods_in_Bangalore)
2. The geographical coordinates were not readily available. Since the number of neighborhoods was less, manually collected the data from web.
3. Manually googled & found the same
4. Foursquare venue details to be fetched through the neighborhood names

Data prep:

* Performed web scraping on Wikipedia page for getting neighborhoods
* Manually added the coordinates after researching them for each row

After prep the data looks something like this

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Borough** | **Neighborhoods** | **Latitude** | **Longitude** |
| 0 | Central | Cantonment area | 12.972442 | 77.580643 |
| 1 | Central | Domlur | 12.9609917 | 77.6387256 |
| 2 | Central | Indiranagar | 12.971891 | 77.641151 |

.. and so on

**How the above data will be used to solve the problem?**

* The neighborhood where the existing ABC workspaces are found first.
* The venue details for each neighborhood is gathered using foursquare
* For each neighborhood the top venue categories are calculated & listed
* The above data is fed into a clustering algorithm
* Based which clusters the existing workspaces falls, the closest in similarity is provided as the options