

Recommendation for building new Children Parks (report)

Introduction:

Kolkata is a very old and congested city (Kolkata, West Bengal, India). Within 20 KM from its center we need to recommend where the government can plan to build new children parks. The idea is to find where the existing famous children parks are located. Then to get the list of places, which are hugely populated and famous, but no place for children to play. Our purpose is to list down the areas where there is not a single significant children park and recommend the government to build new parks in those areas.

Data Required:

1. List of places in West Bengal with their Pin Codes. For this purpose we can use any publicly available list of Pin Codes. Here I have plan to get the data from the site <http://www.chennaiiq.com>
2. Latitude and Longitude of the areas is required to filter the location within 20 KM from the center of Kolkata. For this purpose we can use geocode utility of googlemaps.
3. Need to get locations nearby Parks once the coordinates of the areas are available. Planned to use "**FourSquare**" to get local venues and filter out Parks from that.

Foursquare:

Foursquare is a local search-and-discovery service mobile app which provides search results for its users. For more information click on <https://foursquare.com/>

Methodology:

Part1: Web-scraping for area information

Extracted Pin Code vs Area Names from the site <http://www.chennaiiq.com>. Used BeautifulSoup to parse the html contents. Alphabetically area names were available in 26 different pages. Invoked the request 26 times with 26 characters starting from 'A' to 'Z'. After this process the complete list for state of West Bengal has been prepared.

Part2: Processing records to combine area Pin Code wise

There were multiple area sharing the same Pin Codes. So, processed the data to combine all areas that belong to the same Pin Code. So, after this processing we get unique Pin Codes and the list of corresponding areas.

Part3: Populating Latitude and Longitudes

Using Google Map API populated Latitude and Longitude of all the Pin Codes. Now, our data has the following information: Pin Code, Area List, Latitude, and Longitude.

Part4: Filtering of areas within 20 Kilo Meters from Kolkata

Using geopy.distance.vincenty calculated distances of all the areas from the center of Kolkata. Using this distances, filtered only those locations are within 20 Km from Kolkata.

Part5: Listing all the important venues nearby the filtered locations

From all those locations that are within 20 Km from Kolkata, using FourSquare we populated all the important venues nearby all those locations.

Part6: Filtering only Parks from the listed venues

Filtered only Parks from the nearby venues. Now we have the list of Areas where there are Children Parks in vicinity.

Part7: Filtering the areas where there is no Children Parks

Now subtraction of the list of areas where there are Parks from the list of all areas, gives us the list of areas where there is no Children Parks in vicinity. We recommend this list of locations to be picked up for building new Children Parks.¶

Result:

The analysis enabled to discover 171 locations in Kolkata where new Children Parks can be build. All of this are showed in a Pandas Data Frame here [Notebook@GitHub](#)