Finding suitable locations to open a Cinema hall in Bengaluru, INDIA

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1. Introduction / Business Problem

The aim of this project is to find suitable locations to open a cinema hall in the Bengaluru, India. The first requirement is that the new cinema hall should be easily accessible by its prospective customers and more specifically it should be located near a bus station. The number of cinemahalls already existing in an area should also be considered so that fierce competition be avoided if possible. Apart from the obvious intended stakeholders, similar methodology could be used for other specific types of media-businesses. It can serve as an initial starting point of locations to consider to start their business. For the project objectives to be achieved, python geolocation libraries will used, along with the Foursquare API. Also, in order to create clusters of similar candidate locations, the KMeans machine learning clustering algorithm will be used.

2. Data

The necessary data for this project, based on the above stated requirements, are:
The bus stations in the Bengaluru area Number of existing Cinema halls In addition, the distance to the nearest Cinema hall for every bus station will be used.
In order to obtain the data, a combination of the **geopy** Python library and the **Foursquare API** will be used:

- *'ShantiNagar'* will be considered as the center of Bengaluru. It is indeed one of the most central location in the city. I will obtain its geospatial coordinates using the geopy library
- Having the coordinates of the 'center' of Bengaluru, the Foursquare API will be used to retrieve data for all the bus stations in radius of 30kms
- To find the existing Cinema halls near the bus stations, the Foursquare

API will again be used for every station. I will obtain data for all the Cinema halls located in a radius of 500 meters of every bus station Using the collected data, I will calculate the number of existing Cinema

halls near each station. **I will also be able to determine the minimum distance to a Cinema hall for every bus station** from the3rd step of the above process. This minimum distance to every bus station
from a Cinema hall, along with the number of already existing Cinema halls near the station will be used as input to K Means clustering algorithm to obtain the clusters of areas

Example:

Consider at movie multiplex company which wants a new cinema hall to be setup inside the city.By this solution the businessmen can forsee the advantages of having the hall in the particular area and predict the profitability and enhance optimality.