MINOR PROJECT SYNOPSIS

Restaurant Recommendation System And Site Selection

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Project Synopsis

Introduction

In this project, we propose a recommender system which suggests a particular set of venues (such as restaurants) to a user and then further also develop a second model for recommending a set of users to a venue, keeping in mind both user-preferences, users' location and popularity of the venues. This can be achieved using various variables and factors such as busyness of a venue, tags of the restaurant, taste of users, transportation availability. Many high-profile users such as social media influencers contribute in the popularity/promotion of such venues and this can be taken into account as well.

Moreover, the location of the restaurant is crucial to its success. Much thought and planning need to go into deciding the location, and many factors need to be considered before selecting the site. Therefore, we will compile a complete restaurant site selection application that can be referred before finalizing the place for your restaurant.

Dataset used

The dataset includes check-ins, tips and tags data of restaurant venues in NYC collected from Foursquare from 24 October 2011 to 20 February 2012. It contains three files in tsv format, including 3112 users and 3298 venues with 27149 check-ins and 10377 tips. This dataset also includes long-term (about 10 months) check-in data in New York city and Tokyo collected from Foursquare from 12 April 2012 to 16 February 2013.

Goals

1. To build a restaurant recommendation system for users by analyzing the spatial and temporal aspects associated with these footprints
2. Recommendation of group of users for the restaurants based on similar factors.
3. Site selection of venues for new restaurant.
4. To build an interface for the proposed model/application.

Software/Tools used

1. Python - including machine learning, data mining modules
2. JavaScript and HTML and other web app modules
3. Sublime Text 3, Visual Studio Code
4. QGIS

References / Previous work done

1. https://sites.google.com/site/yangdingqi/home/foursquare-dataset
2. http://www-public.imtbs-tsp.eu/~zhang_da/publications.html
3. http://www.geog.ucsb.edu/~good/papers/65.pdf
4. https://patents.google.com/patent/US20030097295A1/en