Relocation Recommendation System based on Neighborhood Similarity

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1 INTRODUCTION

ABSTRACT IDEA This project aims to aid the user with choosing an ideal location for relocating an office space/store/home to another city. It uses neighborhood segmenting and clustering to group neighborhoods in the destination city and on this basis recommend an array of similar and better neighborhoods to choose from.

The similarity between two neighborhoods is measured by comparing the venues in the neighborhood. Thus two neighborhoods with similar type of venues would be considered similar. The type of venues accomodated in this study include venues to shop, eat, drink and visit at.

This study uses Foursquare API and a multitude of data sources to acquire location data. These are described in greater detail in the next section. For this study we compare the neighborhoods of Toronto and Manhattan but the same concept can be extended to any pair of cities.

TARGET AUDIENCE The specific target users of this kind of application would include small scale offices and working employees who wish to relocate for better professional opportunities without compromising on the quality of life.

2 DATA

2.1 FOURSQUARE PLACES API

FOURSQUARE is a social location service that allows users to explore the world around them. Users can download the Foursquare application to their iPhone, Blackberry, or Android phone and sign up for free, then connect their Foursquare accounts to their other social media accounts.

THE FOURSQUARE API allows application developers to interact with the Foursquare platform. The API itself is a RESTful set of addresses to which you can send requests and ger responses. The API allows querying places and users, exploring popular places, and checking out reviews and photographs for these places.

In this project we will be using Foursquare Places API to identify the most popular venues for each neighborhood. This is possible by the use of a explore call that returns a list of recommended locations in a specified area.

2.2 OTHER DATA SOURCES

NEW YORK NEIGHBORHOODS DATA was obtained from NYU Spatial Data Repository. The repository was titled 2014 New York City Neighborhood Names.

TORONTO NEIGHBORHOODS DATA was scraped from a Wikipedia page titled List of Postal Codes of Canada : M.