

Coursera IBM Data Science Capstone Project :

Business Problem Statement

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The business problem I have chosen to address is to determine suitable placement of a new restaurant within a city chosen by the user. Many small businesses fail within the first several years of opening [1] and any advantage that the small business owner can gain could increase their chances of beating these odds. Finding a good location for a new restaurant based on the number and type of restaurants in various neighborhoods within a city could provide valuable information when making this selection. This product would be beneficial to an entrepreneur who is looking to open a new restaurant in an unfamiliar city and would like to try and find a suitable location.

Additionally, someone who finds themselves in an unfamiliar city and looking to find an area with many restaurant choices could potentially benefit from this as a mobile app. It could point them to neighborhoods with large numbers of restaurants within small areas. Therefore, the target audience could either be someone looking to open a business, or a consumer trying to find areas in an unfamiliar city with many eating options.

As previously mentioned, the city will be chosen by the user. Once the city is chosen, the city center will be considered the origin of the grid and the search for a suitable location will be confined to a radius also chosen by the user. The application will use the FourSquare API to search the city for different restaurants and subsequently group the data by zip code. This data will then be ordered by the number of restaurants per zip code and the various zip codes will be placed into bins (number of bins being 10% of the number of zip codes). The application will then generate a map of the city with the different restaurant locations plotted, color coded by which zip code bin they fall into. From this, the customer will be able to determine at a glance which areas (zip codes) have the highest number of restaurants and which are more sparsely populated. For the entrepreneur looking to open their own restaurant, this will allow them to choose their location based on the density of restaurants in an area. This could mean either introducing a new type of cuisine in an area which is densely populated, or opening in an area which has fewer restaurants in hopes of reducing competition. For the casual user of the mobile app, the benefit would be that they are able to find areas of the city with the largest selections of restaurants.

References

- [1] Tom Sumrak. lendingtree : What is the bureau of labor stats small business failure rate in 2020? [LINK](#).