

Applied Data Science Capstone, Part 1

Coursera

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Introduction and Business Problem

Situation:

Our client is a prominent "Buyer's Agent" whose business is based on finding and transacting on property sales for the buyer(s), rather than for the vendor (seller). They take requirements and instructions from Buyers, then seek out properties for those Buyers to consider purchasing. Once a property is chosen, our client the Buyer's Agent will also undertake actions to acquire the chosen property for the Buyer. Typical customers of Buyer's Agents, the Buyers, are often time poor, migrants located away from the city, or lack confidence in the purchasing process.

Complication:

Most Buyer's Agencies operate in the market in an 'intuitive' way, based on their market knowledge and experience. For example, if a Buyer says they are looking for a country lifestyle with access to schools, the areas recommended to them are often based on that particular Buyer's Agent's own knowledge and experience from previous sales.

Increasing competition and a slowing market has lead our client to look for a way to differentiate from other Buyer's Agents. Our client wishes to use data, analytics and data science to build an online tool to guide their Buyer's choices, therefore attracting new customers.

Problem Statement and Use Case

Problem Statement:

How can we use data, analytics and data science to make informed recommendations on locations for Buyer's, based on their individual requirements?

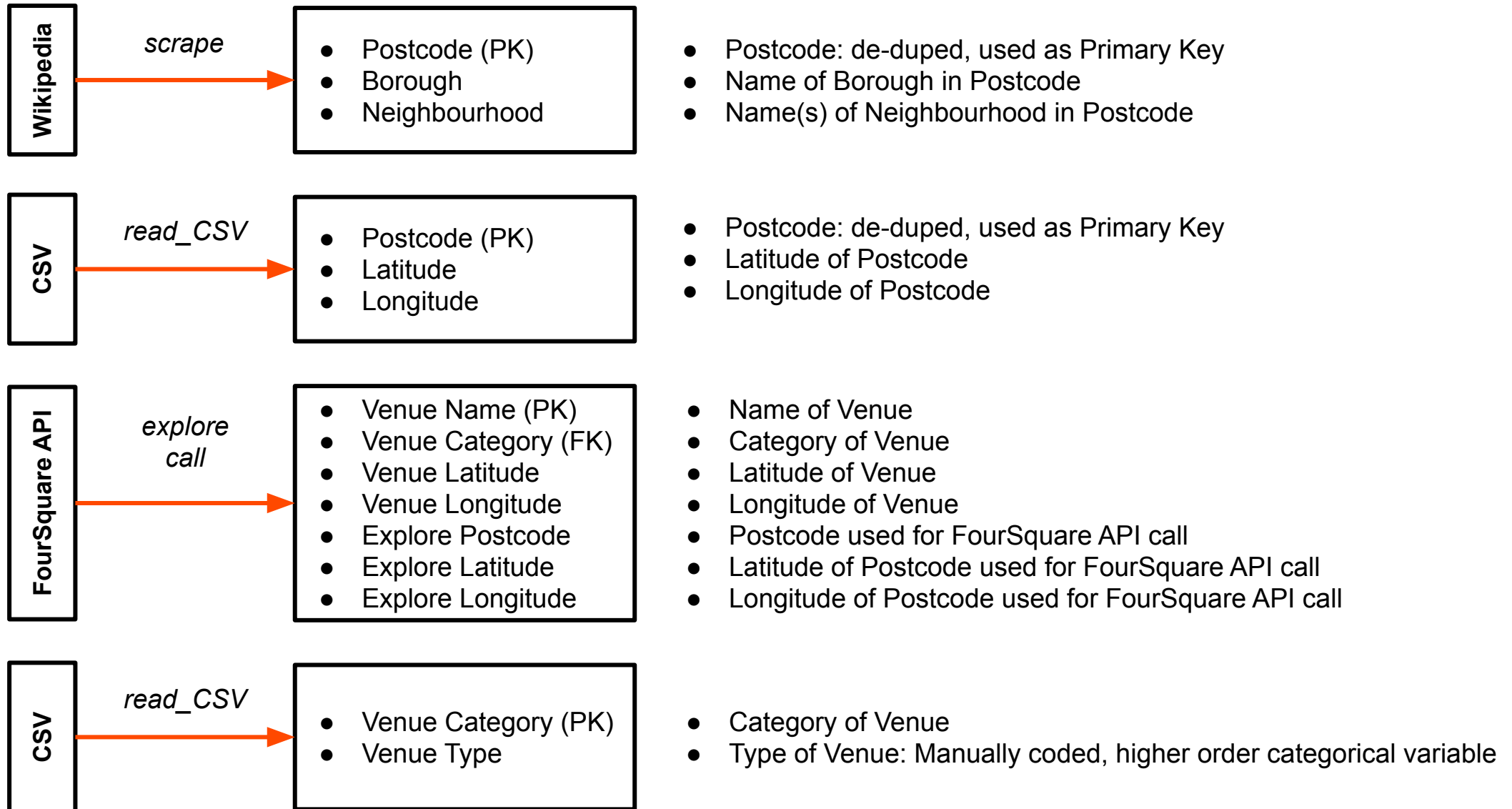
Use Case:

As a pilot project, our client has provided us with a Use Case for a proof of concept. The 'Buyer' in question is a successful middle aged couple, without children. They are relocating to Toronto from Melbourne, Australia and wish to use the move for a change of lifestyle. They have no intention of starting a family, but have grown tired of living in a busy city area. They both work for home / remotely and do not have to travel to an office, but are otherwise active in the community.

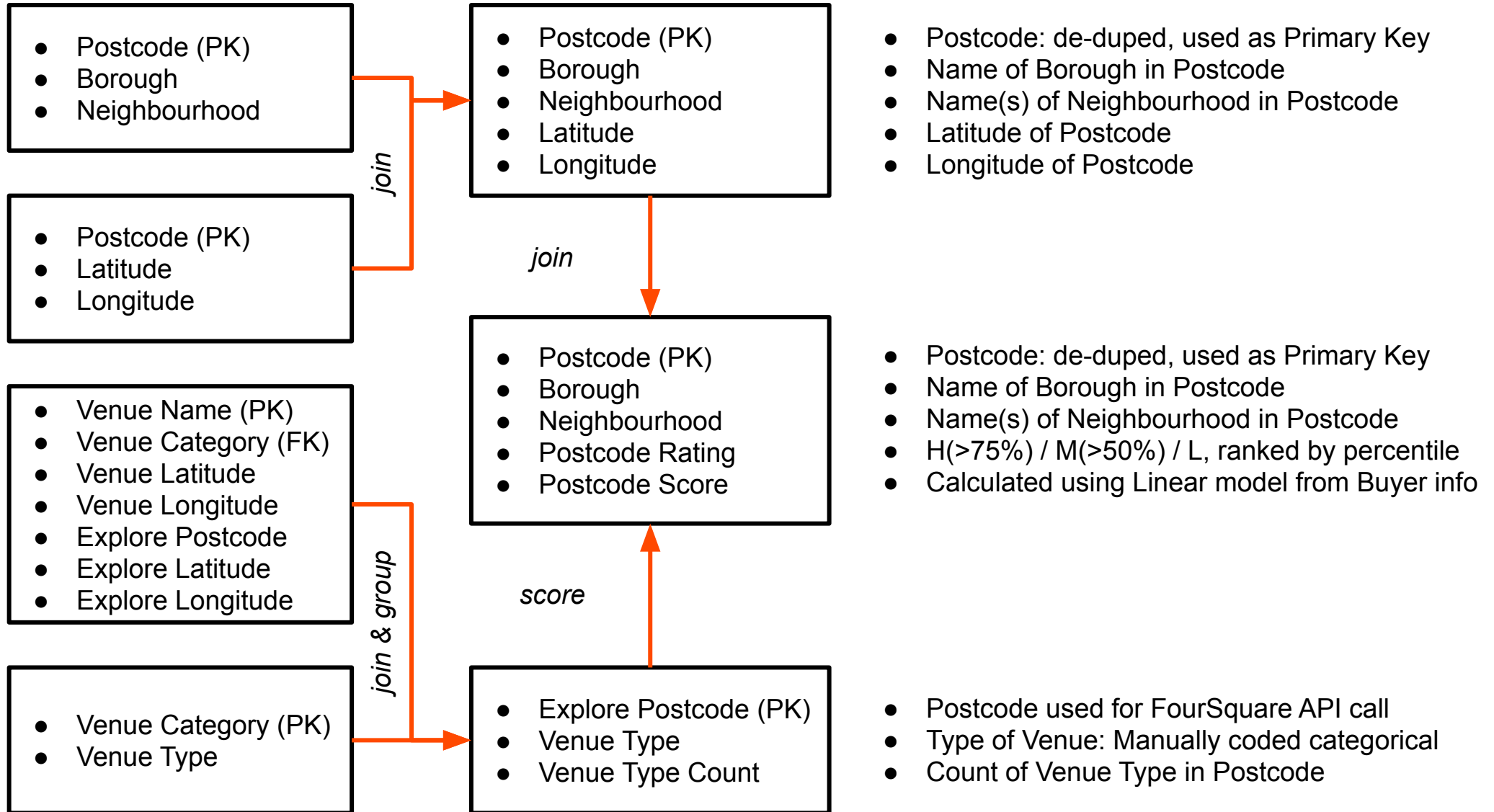
The Buyers explicitly told the Buyer's Agent (our client):

"When not working, we spend about 30% of our time dining out, and probably the same again going out to bars and other nightlife, and public amenities like parks and museums. We spend about 20% of our time shopping, and divide the remainder equally between fitness and entertainment. We want a property about 30 mins away from the Toronto CBD by car, but in a location with similar conveniences and facilities that you would find in a downtown area"

Data Sources and Definitions



Data Transformations



thank you! ...*questions?*