Best City Entry

Ewan Nicolson

The city that comes out top in my index is Vienna, with a score of 98.1 out of 100. That seems like quite a boring answer to me and quite inflexible – as much as I like Vienna, I don't feel that it is the best city in the world for me. For this reason I decided to approach this contest with two clear goals in mind:

- Create an index which is easy to configure and adapt to use a different set of measures.
- Visualise the results in such a way that makes it easy and fun to explore the data, to find which cities are interesting to you.

The Index

What follows is a technical description of the algorithm used. Feel free to ignore this technical description if you like. All that I've done is find which cities are closest to each other in terms of the variables measured by the Economist, then use this to find which cities are closest to my favourite cities (and furthest from my least favourites), then use this information to create the index.

The index I have used takes all the variables that have been measured by the Economist, then uses a k-means clustering algorithm to divide these into clusters of similar cities. The k-means process is repeated many times with different centres to give a measure of how close each city is to each other city in the dataset.

To transform this into an index I took a set of the best cities and the worst cities in this dataset and calculated the distances between these and each city in the dataset, this then forms the index.

The best and worst cities in my dataset were simply the ones with the highest and lowest overall scores, so this gives similar results to taking a simple weighted mean of all the variables. The real difference with this method is that it is really easy to change the sets of good and bad cities – say you have a set of cities that you find are good for short term travel (business trips, etc), and others that are terrible for this, it is easy to take these sets of good/bad then use them to create a new index.

The idea would be that a general index would be supplied to most clients, but making it clear to them that it is possible to make bespoke indexes for them if the require.

One final note is that I used the suggested weightings for all the variables when creating the index, although it would be easy to change these if the client requires.

The Visualisation

The inspiration for the visualisation was the exploratory data analysis I performed on this dataset. When performing this analysis it was clear that there wasn't going to be a single right or wrong answer, for example the availability of nightclubs would be a trivial matter for some people but for others it would make living in a city intolerable if there were no good clubs.

It was clear that I wanted to make a tool which allowed you to play about with the data and find which cities are appealing to you. I used html and javascript, in particular this project would not have been possible without Mike Bostock's D3 javascript library. I've tested it using Chrome and Firefox (no Internet Explorer I'm afraid) on Windows and Linux. Installation should just be a case of unzipping the directory and opening the best.city.html file in your browser of choice.