**THE BATTLE OF NEIGHBOURHOODS – Edward Jackson**

**(perhaps THE BATTLE OF A POPULOUS might be a better title here)**

**Introduction**

The year 2020 has brought challenges to the entire global population. It is unprecedented for an event to affect the whole world at the same time but the current COVID-19 pandemic has made for some unique circumstances but very disparate responses.

As a school leader in the UK, I recognise the very real difficulties facing governments (both national and local), corporations, key services and – for the purposes of this project – education providers. I must be clear that I bring no political bias to this project but I’m certain that most of you will accept the impossible trade-off between ensuring that pupils access education (and secure their futures) and safeguarding the health of the population (without which there can BE no future).

In this project, there are many assumptions made about the variables affecting these decisions and the focus here is not on expert health advice. However, I will assume the role of local authority/government advisor, harnessing data to inform localised measures to balance both the safeguarding of health and maintaining education provision. This is not an exact science and no national government could claim to have the perfect solution as the situation inevitably changes from moment to moment.

Project intentions

1. I will combine a map of Sheffield (a large city in the UK) with a GEOJSON overlay dividing the city into comparable population areas (i.e. relatively similar population in each). I will access and clean data to map the levels of infection in each of these areas. In planning for an inevitable increase in local lockdown measures this winter, I will access further data about school sizes and inspection ratings, dividing all schools into clusters; this will assist the sharing of resource within clusters if infection interventions require school closures or central hubs to look after the children of key workers. I will also highlight the large (above 400 pupils), Outstanding (inspection rating) schools to inform the capacity and location of expert support across the city and to help the local authority to target additional support as required.

2. Although the intentions listed above use APIs to access ‘current’ data, I recognise that this assignment requires the use of the Foursquare API ‘even if it is only Foursquare location data’ (cited from course instructions). Connection to this is patchy so I have limited my use of it to determine and map the largest sporting venues to assist the local authority in enforcing infection interventions (games behind closed doors, cancellations, other restrictions). Combining the Foursquare APIs and the other APIs outlined in the next section, I feel that this has allowed me to tackle my project aim and to present a coding framework with numerous add-ons possible in the future.

**Data**

Before explaining the rationale behind my choice of data, I summarise the data used in this project in the following table:

|  |  |  |
| --- | --- | --- |
| World map through Folium | openstreetmap.org | Open Licence |
| GEOJSON layer via API | ons.gov.uk | Open government licence v3.0 |
| Covid-19 infection data via API | coronavirus.data.gov.uk/cases | Open government licence v3.0 |
| School management data | assets. publishing.service.gov.uk | Open government licence v3.0 |
| Sports venue data via API | foursquare.com | Restricted licence |

Firstly, I must explain that Foursquare does not provide data on educational establishments for security reasons. Consequently, I have used the Foursquare API to access location data for two big sporting venues only in order to alert the authorities of the need for cancellations/interventions where infection rates are high near and around their locations.

In order to present the infection rates clearly, I accessed a world map through Folium, centred on Sheffield (UK). I wanted to present infection rates clearly in a more localised format. I set up an API to access area boundaries through a GEOJSON file. This file provides geometry for each of the Middle layer Super Output Areas (MSOAs) attributed to the district of Sheffield (including the city). Last adjusted in 2011 in the UK, an MSOA makes for easier comparisons because it splits areas into similar population sizes (mean of 7200) i.e. denser, urban MSOAs will be smaller than sparser, more rural MSOAs. The COVID-19 infection data updated by UK government on a daily basis, presents data per week and a 7 day rolling figure. For my project, I use this data to present infection rates over 14 days (typically the length of quarantine in the UK) as I feel this gives a more certain indication of the public health interventions required (to arrest increases) and it takes into account very short-term spikes.

As an educator, I want to present a project which could assist local authorities in targeting educational support, mapping where larger, Outstanding schools are within the city. This will demonstrate where the greatest capacity for autonomous hub support already exists and where additional support should be planned in the case of infection increases disrupting local education services. This will also reinforce and promote the effective collaboration between schools and resources. This project could also be applied easily to any area of the UK within seconds by amending the District accessed from the various data.