

How to use **Open Data** without tearing your hair out

CodeYQL - March 22, 2016

Why use **Open Data**?

"...when the marginal cost of making a copy and distributing it has shrunk to zero, all limitations on digital information are in a profound sense artificial."

— *Albert Wenger, "World After Capital"*

Open Data

Technologically & Legally

<interlude>

a short history lesson

"Ad occasionis januam"





</interlude>

CSV

Typical CSV Dataset ¹

```
"Efficiency", "Individual", "ChopstickLength"
```

```
19.55, 1, 180
```

```
27.24, 2, 180
```

```
28.76, 3, 180
```

```
31.19, 4, 180
```

```
21.91, 5, 180
```

```
27.62, 6, 180
```

```
29.46, 7, 180
```

```
26.35, 8, 180
```

```
26.69, 9, 180
```

```
30.22, 10, 180
```

```
27.81, 11, 180
```

```
23.46, 12, 180
```

¹ Hsu, Sheng-Hsiung, and Swei-Pi Wu. "An Investigation for Determining the Optimum Length of Chopsticks." Applied Ergonomics 22.6 (1991): 395-400. Web.

Shapefiles

Excerpt from a typical shapefile²

<A6>><D8>H@<B6><85><8E><A8>j3\<C0>^N<D6>M<C5>><D8>H@<C1>}<#><91>j3\<C0><E7><F6><A4>
<E4>><D8>H@<F4>b<C5>yj3\<C0>=<FF>&^D?<D8>H@P;<83>bj3\<C0>[ž#?<D8>H@<F5><FA>VKj3\
<C0><AE><E2>sC?<D8>H@<F0><B9>=4j3\<C0>^SLJc?<D8>H@<AD><FD>D^]j3\<C0>L<D6>2<83>?
<D8>H@:A_^Fj3\<C0>^N<85><<A3>?<D8>H@^T`<86><EF>i3\<C0><AC>^Vm<C3>?<D8>H@<FC>^U<D7>
<D8>i3\<C0>|;<A4><E3>?<D8>H@à1<C2>i3\<C0>e7^F^D@<D8>H@]<AB><A0><AB>i3\<C0>|<<8D>
\$@<D8>H@<A2>43<95>i3\<C0><A4><B6>^\\E@<D8>H@<9E>U<DD>~i3\<C0>a<B6><C7>e@<D8>H@cŸhi3
\$@<D8>HELP I'M>43<TRAPPED<A>INSIDE<D8>AN ESRI<D8>H@]<C0>FILE FORMAT<D8<B7>q<AF>9_3\
\<C0>p:<8E><86>@<D8>H@<CD>nRi3\<C0><A2><84>}<A7>@<D8>H@<A5><C7>`<i3\<C0><CA>^Z{
<C8>@<D8>H@A5d&i3\<C0><DB><F4><99><E9>@<D8>H@f^V<82>^Pi3\<C0>^S<<D4>A<D8>H@^]<D0>
<D5><FA>h3\<C0>s<9B><F8>+A<D8>H@>v<BD><E5>h3\<C0><87>^XtLA<D8>H@_<C6><F9>e_3\<C0>
6^W<81><FE>0<D8>H@r<8E>^TO_3\<C0><DA>r<A2>!P<D8>H@<B7>q<AF>9_3\<C0>^C]<E2>AP<D8>
H@<9A>^@^T\$_3\<C0>Z<E1>aP<D8>H@)<DF>=^N_3\<C0><84>Y<A5><81>P<D8>H@<F2><DC>5<F8>
^3\<C0><BE><C0><BA><B7><A1>aV<D8>H@i<E6><A4>^QW3\<C0><FB>31jV<D8>H@<AE>Dr<F1>V3\
<C0><89><99>erV<D8>H@<9D><C6>7<D1>V3\<C0><BE>G9zV<D8>H@@^]<EE><B0>V3\<C0><93><F4>
<AF><81>V<D8>H@s<BC><93><90>V3\<C0>ěJv<D8>H@<C5>#6pV3\<C0>0<9C><82><8F>V<D8>H@4A
<C6>OV3\<C0>^D<91><E0><95>V<D8>H@<92><94>W/V3\<C0>G<FC>`V<D8>H@^TC<CF>^NV3\<C0>
<AE>.z<A1>V<D8>H@*.9<EE>U3\<C0><BA>A<BD><A6>V<D8>H@WB<AA><CD>U3\<C0>f^R<9E><AB>

² City of Lethbridge. "Neighborhoods" (modified excerpt). <https://www.arcgis.com/home/item.html?id=81568ca5241e409696f1bb59159eb4c6>

JSON

Simple JSON API response³

```
{  
  "facts": [  
    "While many cats enjoy milk, it will give some cats diarrhea.",  
    "In relation to their body size, cats have the largest eyes of any mammal."  
  ],  
  "success": "true"  
}
```

³ Cat Facts API Documentation. <http://catfacts-api.appspot.com/doc.html>

GeoJSON

Some GeoJSON⁴

```
{  
  "type": "Feature",  
  "geometry": {  
    "type": "Point",  
    "coordinates": [49.7354671, -112.8025357]  
  },  
  "properties": {  
    "name": "Chris"  
  }  
}
```

⁴ Crabl location API. <http://not-so-fast-there-nsa/location/crabl.geojson>

Demo: converting a shapefile to GeoJSON
and using it in a web app

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- Worldwide, royalty-free, non-exclusive license
- Free to copy, modify, publish, translate, adapt, distribute, use for any lawful purpose
- Does not cover information as defined in FOIP
- No warranty: what you see is what you get
- You're responsible for your own use/reproduction of datasets

Where to Find Open Data

- opendata.lethbridge.ca
- data.calgary.ca
- data.edmonton.ca
- open.alberta.ca
- open.canada.ca

Hackathons

canadianopendataexperience.com

intelligentyql.ca

Some upcoming events

- IntelligentYQL "Code-a-Thon": intelligentyql.ca
 - April 14-16 at **tecconnect**
 - \$25/person, \$20/student, \$100/team (maximum 5)
- Startup Weekend
 - October 21-23 at **tecconnect**
 - pricing TBA, website TBA

Thanks!