

An aerial night view of a dense city skyline, likely Singapore, featuring numerous illuminated skyscrapers and buildings. The lights from the buildings create a vibrant, glowing effect against the dark night sky. The text is overlaid on the left side of the image.

Location Powers: Big Data for Urban Environments

Data, Interoperability and our Urban world

Call me "Han"

Ang Chin Han.

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More than 10 years developing software systems dealing with geospatial data.

We work with telcos, utilities and government agencies with their internal geospatial needs, focusing on bespoke web applications and geodata integration.





An aerial, top-down view of a city street intersection. The street is dark asphalt with white lane markings and yellow crosswalks. Several cars are visible on the road. Buildings of various colors and heights surround the street. The overall image has a slightly faded, semi-transparent appearance, serving as a background for the text.

Contrarian. Contrarian?

These are some of my opinions.

And also **not** some of my opinions.

Location Data

An aerial photograph of a city street intersection. The street is dark asphalt with white lane markings and yellow crosswalks. Several cars are visible on the road. Buildings of various colors and heights surround the intersection. The image is semi-transparent, allowing the text to be overlaid.

Traditional Geo Data.

Traditional Addresses in data warehouses.

Sensor data. GPS Traces. IoT.

Crowd sourced data. Crowd sourced images.

Building Information Modeling.

Practically drowning in data.

Silos

Tons and tons of beautiful consistent data.

In different silos.

None of them fits together.

Interoperability?

Security.





Big Data & Geospatial.

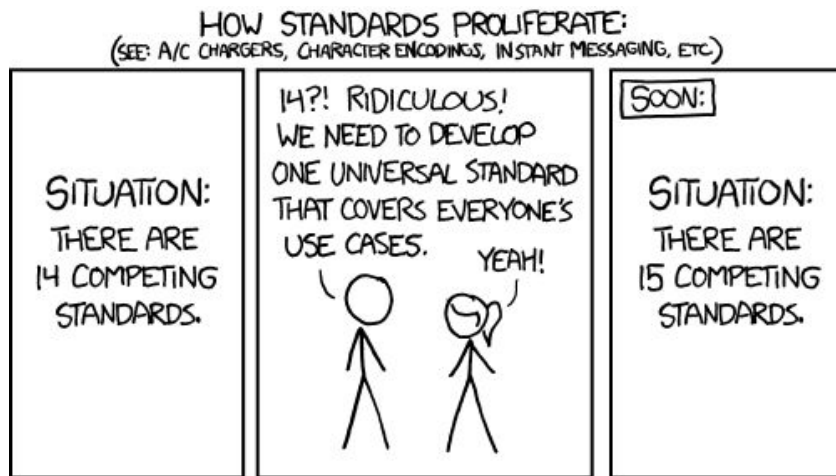
Data is messy, just like our urban scapes, a mixture of old and new.

Interoperability means accepting that you can't raze and rebuild, but somehow be able to work messily together.





"Standards are great. So many to choose from..."



<https://xkcd.com/927/>

Standards *enables* communications.

It's not a competition.

"Don't communicate by sharing data, share data by communicating."

It's a conversation, not a one way street.

"Shapefiles must die!"

- Bad format!
- Old (1990s)
- We still doing this in era of BigData?
- A lot of good alternatives. (OGC GeoPackage!)

<http://switchfromshapefile.org/>

But why is it still so popular?

"Worse is better"

Simplicity

Simplicity is the most important consideration in a design.

Correctness

It is slightly better to be simple than correct.

Consistency

The design must not be overly inconsistent.

Completeness

Completeness can be sacrificed in favor of any other quality.

https://en.wikipedia.org/wiki/Worse_is_better

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