Geocoding API Overview Transcript

Video for this transcript can be found here.

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Hi! I'm Brady with SmartyStreets. Who or what is SmartyStreets?
They're basically the Chuck Norris of location data intelligence. Today we're talking about geocoding.

When selecting a geocoding API, of course you'll want to make sure the API you select meets the requirements for your company's geocoding needs. Here are the most common requirements people have when it comes to using a geocoding API:

Geocoding Accuracy

00:21 - Let's start with levels of accuracy. Our top dawg, dawg spelled "D-A-W-G", so you know it's legit, is rooftop level accuracy. It's absolutely the best of the best — you'll know it because the geocode lands right on the roof of the structure.

Moving down a notch to parcel centroid.
A parcel represents the boundaries of a piece of land or an individual property.
It's easy to remember with this simple acronym:

P-Piece
A-a
R- ...
C- ...
E- ...

L-Land

You can expect the geocodes to land right in the middle of a parcel, which lands on a structure more often than not, especially in high density areas. Which is why companies on this level claim “rooftop geocoding” but sometimes…

Interpolated Street address gives you "block level" accuracy. It involves taking two known points, then dividing the space between them to get estimated locations.

Not quite landing on the rooftop of the address you want, but it's more than enough to get an "I can see it from here" response. And because interpolation is based on math, it often runs far cheaper than rooftop-level geocodes.

ZIP+4 and ZIP+2 level accuracy will deliver geocoding results that are within the range of a postal carrier route. This could range from a few houses or a few blocks. Either way, you could Marco Polo your way to the right place.

There’s also National centroid, but that’s only helpful if yer fixin’ to locate Lebanon, Kansas.

Much like Elon Musk’s hairline, the definition of “rooftop geocoding” has changed a LOT over the years.

In the year 2000, ZIP+4 level geocode accuracy came about and it was called “rooftop geocoding.” Two years later interpolated geocoding made its debut — lo and behold, it was referred to as “rooftop geocoding.”

In 2005, parcel centroid geocoding appeared on the scene and was deemed “rooftop geocoding,” You’ll also recall that 2005 was the year Star Wars Episode III: Revenge of the Sith was released, but unlike parcel centroid geocoding, Star Wars couldn’t actually hit its mark.

In 2020, building centroid geocoding has claimed the title for itself.

Just because a company says they have rooftop geocoding, doesn’t mean its actual rooftop geocoding. When we say rooftop geocoding, we mean it.

Not all geocoded addresses will be rooftop level — some will only deliver parcel centroid level accuracy, but unlike other geocoders out there, SmartyStreets will tell you the level of accuracy we're returning.

We're not willing to fake anything just to make us look good. We've got Davin to make us look good. *Sighs* So handsome.

Geocoding Speed

03:07 - Remember when everyone was on AOL Instant Messenger and you missed your chance to date Ashley Thornton because Callum Gilchrist was able to ask her to the prom first, simply because he lived across the street from the high school and could walk home and jump right on AIM, while it took you 45min to get home because your house was the very last stop the bus made? Remember that? Do you? Ashley? I remember that.

Speed can make all the difference.

Geocoding providers often set limitations that affect the speed of their services, just to save themselves a little bit of money and resources. And for someone like you that needs the speed, that can be a real pain in the atlas.

See what I did there? Was that a good joke? Pain in the maps?

Let's move on.

One way to limit speed is to limit the amount of requests per minute/ day / parsec — This throttling helps providers control the flow to their servers so they don't become overloaded. They've gotta maintain those "98% uptime" bragging rights somehow.

Batch geocode processing has an impact on the speed at which your geocodes come back to you. Some geocoders only offer one-at-a-time geocoding.

Even if the developer can set up a loop that plugs in address info as fast as the website can handle it, you're still likely to be throttled, limiting how many requests you can push through per second.

Lack of capacity will also affect speed. Some geocoders build their systems to handle large numbers of requests, and thus aren't afraid to let their customers turn on the fire hoses.

Companies like this often don't throttle because they don't need to; regardless of the traffic, they can still pump geocodes out as quickly as addresses come in. That's SmartyStreets.

Tech Support & Docs

04:44 - Not many of us ever experience issues with computers. Ha! If you are one of the rare few that have experienced computer issues, you are aware that there's a few critical things you need to know. For instance, whether a geocoding API will easily integrate into your company's bloodstream.

Good tech support helps resolve issues as they come up.

Good documentation helps both to prevent issues, and to assist users in resolving them DIY-style. Some geocoders do these things very well while others have spent their efforts in… other areas. SmartyStreets this is Jeffrey.

Want to know who will be there for your company when it counts? As you're looking into geocode service providers, reach out to their customer support team and see how quickly, or non-quickly you get a response. SmartyStreets this is Jeffrey.

This is the 20th take, and he's answered every single time. Brady is this you?

Address Validation

05:44 - Address validation is when an address is compared against an authoritative mailing database. If the address matches one of the active mailing addresses on file, the original address is confirmed to be a real address.
This ensures that fictional or incorrect data isn't slipped into your database by mistake. Some geocoders will even standardize the incoming data so that you can pair your old data and your new data based on the standardized address.

Why are we talking about this? What, you don't think that address validation is sexy!? ... Yeah, ok.

We want you to be aware that some online geocoding services will provide a geocode lookup without validating the address. Which is especially problematic if you're delivering something important like medical supplies or pacemakers.

You might accidentally type in "123 This Is a Fake Place Blvd" and they'll give you a REAL geocode for that fake place.

Which is a real bummer if you end up with geocodes for some fake place, but really you want to ship your pacemakers to the actual Flake Pace Blvd, but all the Flake Pacers can't get their pacemakers, because you're racing to place stakes in fake places and not Flake Pace. A great mistake, if you want my take.

Price

07:05 - Pricing structures vary between geocoding software services. Some are pretty straight forward, while others require you to solve a series of riddles and clues, each more intricate than the last. If you're lucky, some players in the geocoding game will allow you to try things out with a test account before you commit to paying them even a dime.

When you inevitably find that special someone that you'd like to work with, keep in mind that some geocoders require contracts that will impose fines if you cancel early.

But even if you do figure out a company's pricing structure, some of them are going to charge you a ton for geocode services. And a wise man once said, "when it comes to money, dolla, dolla bill y'all." At SmartyStreets we strive to pass on savings to you, so that you can hold on to more of your "dolla, dolla bill y'all."

We know that you want to spend money on geocoding, but we also know you've got other things you're saving up for. He wanted to 3D print an Iron Man suit out of titanium, which of course, I said 'yes' to immediately.

Here's a fun fact: Did you know that on-premise geocoding software cost about 3x more than a cloud-based geocoding API? Which is great if you've got a pesky budget surplus and need some way to dispose of all that worthless cash.

SmartyStreets has unlimited cloud-based geocoding plans, which is unheard of in the industry. That means that whether you want to batch geocode five million, ten million, 100 million or a billion addresses, you'll be paying far less for it — And that is very sweet of us.

Conclusion

08:34 - So, are you ready to start your geocoding journey? Try US Rooftop Geocoding by SmartyStreets by clicking the link below! And may the force be with you, Harry.