Solving Common Address Problems

smarty

Introduction

Address validation can be surprisingly tricky. Minor issues like misspellings or incorrect street types can lead to major headaches if they aren't caught early on. This guide breaks down some of the most common address validation problems businesses and individuals face when collecting address data and lays out targeted tips to help resolve them quickly and accurately.

We suggest you don't attempt to read this whole guide in one sitting. Instead, identify the specific validation issues and errors you're currently facing, then skip ahead to the relevant sections to find actionable recommendations and fixes. This choose-your-own-adventure style guide allows you to get straight to the solutions for your issue.

For more in-depth technical resources on address validation services, including the Smarty address verification API, visit smarty.com. Smarty offers advanced address standardization and validation to programmatically solve even the toughest address issues.

Bad Address Data on Input

Difficulty Blending Datasets

Address Standardization Inconsistencies

Confusing Validation Results

Old Data - Address Database Updates Over Time

Non-Standard and Just Plain Weird Address Situations

Bad Address Data on Input

Let's talk about nipping those pesky address errors in the bud before they even get a chance to mess with your system. Getting your address data right from the start can save you a ton of headaches down the line. Here's the lowdown on locking down accuracy from the moment data walks (or types) through your door.

YOUR DATABASE 10

POTENTIAL ADDRESS

Real-Time Validation: Your Data Checkpoint

Think of real-time validation as the checkpoint for your database, checking IDs and Visas at the border.

When someone punches in their address on your site or app, an address autocomplete tool steps in, predicting verified addresses with every keystroke. When the user sees their address, they simply point and click. You've not only improved the user's experience but also captured the correct, standardized address in your database. No funky addresses cross your database's border.

You can see exactly what that looks like in action right here.

View Smarty's US Address Autocomplete Tool

INSPECTION STATION

NO BAD ADDRESSES ALLOWED

POTENTIAL ADDRESS

Know Thy Enemy: Error Sources

Errors are sneaky little things; they have a few favorite ways to crash your data party. Errors are often due to the good old human factor—sometimes, we just mess up. Sometimes, it's a simple typo—fingers slip, it happens. Other times, your data might come from a source that's not as buttoned-up as it should be. You can tailor your defense strategy by figuring out where most of your errors come from.

In most cases, ensuring every point of entry has an autocomplete tool is the best way to deal with this. If you have a client portal and an employee portal, make sure that *both* have the real-time validation tool built in.
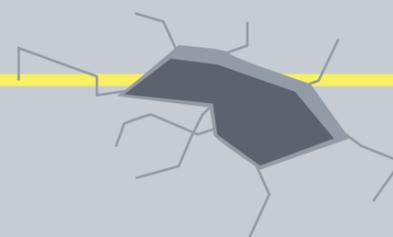
Make It Easy: User-Friendly Forms

Ever tried filling out a form that's about as welcoming as a hedge maze? Yeah, not fun.

Form design is especially important because 63% of online customers won't return to a website after one bad experience.[1]

Let address autocomplete simplify things for you and your user. With autocomplete's type-ahead address prediction, you'll delight customers, increase form completion rates, and ensure only clean address data enters your database.

[1]https://www.zippia.com/advice/website-statistics/

Input

Street Address

5255

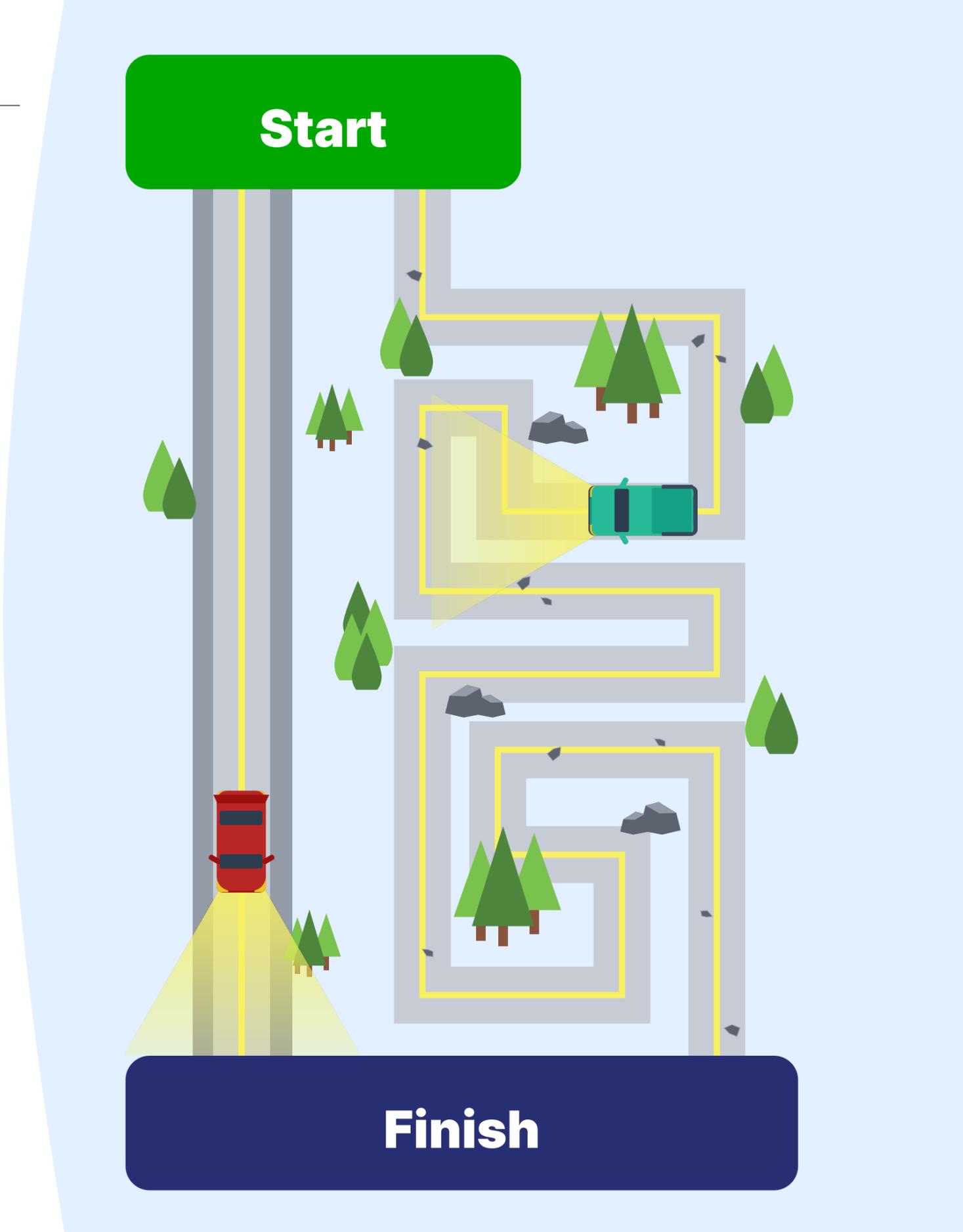5255 N Edgewood Dr Ste... Provo, UT 84604   **+ 17 addresses** ›

5255 N Edgewood Dr Provo, UT 84604

5255 3875 W Roy, UT 84067

5255 Daybreak Dr Ogden, UT 84403

5255 E Evergreen Way Eagle Mountain, UT 84005

5255 N Eagles View Dr Lehi, UT 84043

Start

Finish

Arm Your Team Well

It's not uncommon for teams like technical support, customer success, and sales to take down address information incorrectly when interacting with prospects and customers over the phone. Any of the following reasons could lead to an incorrect address in your database:

- **Mistype**
- **Misspell**
- **Incorrect abbreviation**
- **Hard-to-understand accent**
- **In a hurry**

Address autocomplete solves all of that. Arm your people with tools that help them succeed.

One example would be a hospital front desk worker who verifies and enters patient addresses. If in an ER, the patient may be in distress, not thinking clearly, or not enunciating super clearly. With address autocomplete suggesting standardized, verified addresses with every keystroke, capturing the correct address is much easier.

By focusing on these key areas, you're not just preventing bad data; you're building a foundation of trust and reliability in your systems. And in the world of data, that's pure gold. So, gear up, get your validation game on point, and watch your address data go from good to great.
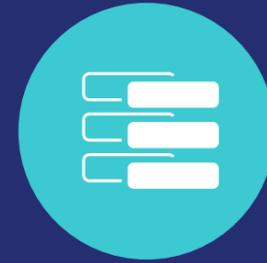
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Difficulty Blending Datasets

Address Standardization Inconsistencies

Confusing Validation Results

Old Data - Address Database Updates Over Time
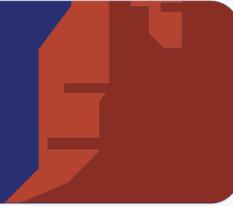
Non-Standard and Just Plain Weird Address Situations

**Click on any chapter**

OK, I Get It. Now What? →

Difficulty Blending Datasets

If you're going to hone in on three crucial moves in the intricate dance of blending address databases, choose these three. Grab your metaphorical dance shoes, and let's glide through these steps with the grace of a seasoned pro.

VIP LIST

- ☑ Marilyn Monroad
- ☐ Adam Sandlane
- ☐ Cleopathway
- ☐ John Culdesac
- ☑ Tina Verifey
- ☐ Danny DeGeocode
- ☑ ZIP Daya
- ☐ Elvis Prestlane
- ☐ Brad Pitstop
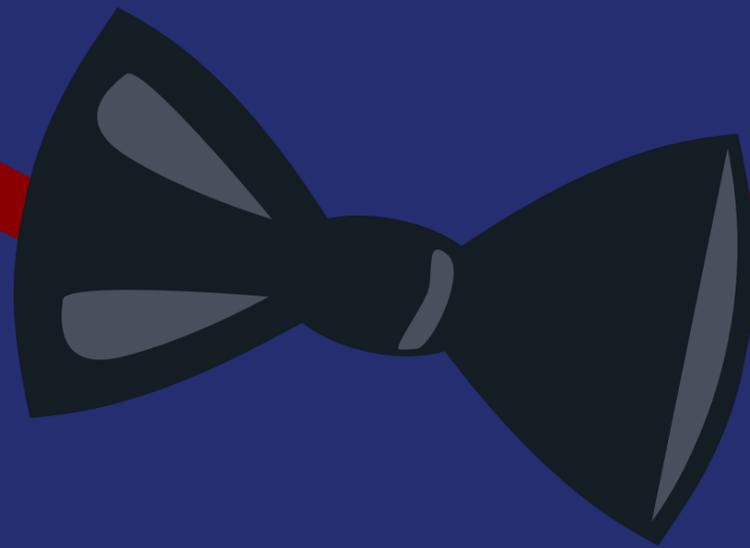
The VIP List: Blocking Bad Data

Picture your address database as the most exclusive party in town. The key to maintaining its allure? A top-notch bouncer, a.k.a. your validation process.

This gatekeeper's job is to ensure only the crème de la crème of addresses make it through. Anything less than perfect gets kindly turned away. This step is all about keeping your database's reputation spotless by allowing only accurate and complete data to join the party.

Having clean databases is the first step to ensuring you can mix your data without creating a mess.

VIP LIST

- ☑ Marilyn Monroad
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- ☐ John Culdesac
- ☑ Tina Verifey
- ☐ Danny DeGeocode
- ☑ ZIP Daya
- ☐ Elvis Prestlane
- ☐ Brad Pitstop

Dress Code: The Standardization Shuffle

Now that we've got our VIPs through the door, it's time to make sure everyone's dressed to impress. In the world of data, this means standardization.

Standardization is like enforcing a dress code where every address must adhere to a specific format. Consistency keeps the party elegant and harmonious, whether it's the chic simplicity of abbreviations or the bold statement of all caps.

Be aware of your company/industry needs. For example, USPS standardization will be different from Project US@ standardization.

Original Address Format

1500 East Mn St

Apartment 201,

Springfield Virginia

Standardized USPS Address Example

Recipient Line —— **ABC MOVERS**

Delivery Address Line —— **1500 E MAIN AVE STE 201**

Last Line —— **SPRINGFIELD VA 22162-1010**

The Main Event: Blending with Style

With everyone looking their best, it's time to merge our two parties (databases) into one grand celebration.

If you've standardized your database and ensured they're all good addresses, you'll be able to quickly and easily identify duplicates and clean those right out.

If you're dealing with lots of address aliases (we'll talk about those in the weird address situations section), you may want to consider having an address key associated with your address validation tool. This allows each location in your database to have a persistent, unique identifier that never changes despite underlying changes to an address over time.

And there you have it—the three essential steps to blending address databases with finesse. Keep these steps in mind; your data will move in harmony, making every query a hit and every analysis a chart-topper.

Stay tuned for our next chapter, where we'll dive even deeper into address data management.
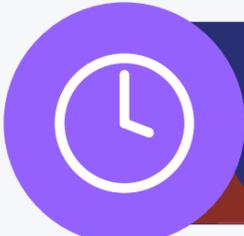
Keep those databases grooving!

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Click on any chapter

OK, I Get It. Now What? →

Address Standardization Inconsistencies

Address standardization is an intricate challenge that becomes even more complex when broadening the scope from the already nuanced landscape of the United States to the global stage. Here's an enhanced overview highlighting how to navigate and solve these challenges effectively.

Diverse Address Formats and Conventions

The variability in address structures within the US and across the globe poses a significant hurdle. The US alone has hundreds of different street suffixes and abbreviations to concern yourself with.[2]

Standardization tools are designed to adapt to each country's unique formats and conventions, providing a tailored approach that ensures accuracy and consistency, whether dealing with US abbreviations or international address layouts.

We, of course, suggest you use Smarty address validation to ensure your address database isn't only standardized across the board but also that every address is valid and mailable. Using a tool like this makes it so that you don't have to worry about memorizing, notating, or looking up every possible address standardization rule.

[2] https://pe.usps.com/text/pub28/28apc_002.htm

Language and Character Set Variability

Dealing with addresses written in different languages? It can be scary to consider transliteration for an address.

But it doesn't have to be.

Utilizing an address data tool that can read Latin characters and ensure that you print the label in non-Latin characters becomes extremely valuable. The same goes if you have an address in Kanji and need to get it into the Latin character set.

Addressing the challenge of multiple languages and character sets, Smarty's technology is equipped to handle a wide array of characters and alphabets, ensuring that international addresses are accurately processed and normalized maintaining data integrity across linguistic boundaries.

You can see this tool in action here.

View Smarty's International Street Address API

これはアル
ファベットだ
と思い
たか、
はない
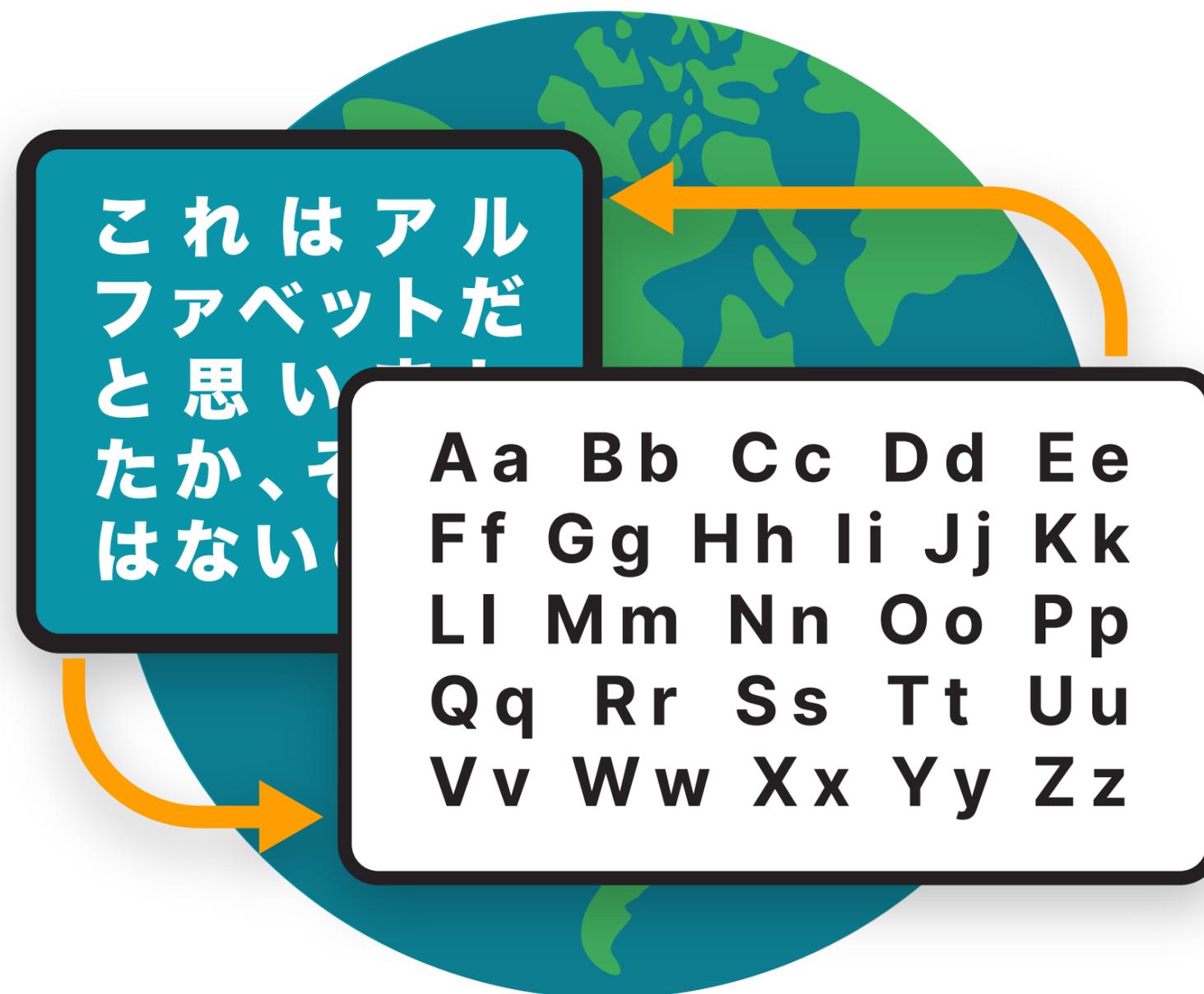
Influx of Bad Data

Knowing how difficult it can be to work with addresses in different languages, imagine how much harder making sure that every address typed into your system (in whatever language) is accurate and standardized when you don't speak the language.

To combat the issue of bad data entry, address autocomplete tools offer robust validation and correction capabilities, ensuring that inaccuracies are identified and rectified at the point of entry.

This preemptive approach helps maintain a high-quality database, reducing the risk of "garbage in, garbage out" scenarios, both domestically and internationally.

Address autocomplete tools also help your users, with many of them even suggesting accurate addresses at the first keystroke if you want.

Regulatory and Compliance Considerations

Recognizing the importance of compliance with international data privacy and usage regulations, address data tools are designed with a keen awareness of these requirements, ensuring that users' standardization practices are not only effective but also compliant with global legal standards.

You'll want to ensure that whatever address data tools you're using are compliant with the rules you and your company are beholden to. For example, in some states, address data is considered personally identifiable information, so your address database has to go through strict security protocols.

Maybe CASS certifications or NCOA certifications are important to you. Either way—and in every way—Smarty's tools have you covered.

By leveraging Smarty's comprehensive suite of address validation and standardization tools, businesses can confidently navigate the complexities of both US and international address data. Smarty's solutions are specifically designed to address the myriad of challenges entangled with address standardization, providing a seamless, efficient, and accurate approach to managing address data across the globe.

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Difficulty Blending Datasets

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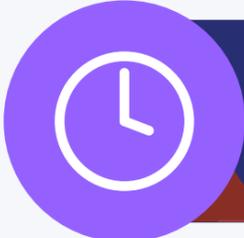
Old Data - Address Database Updates Over Time

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Click on any chapter

OK, I Get It. Now What? →

Confusing Validation Results

Interpreting and understanding your address validation results is key to ensuring the accuracy and utility of your address database. Here's how you can approach this crucial task.
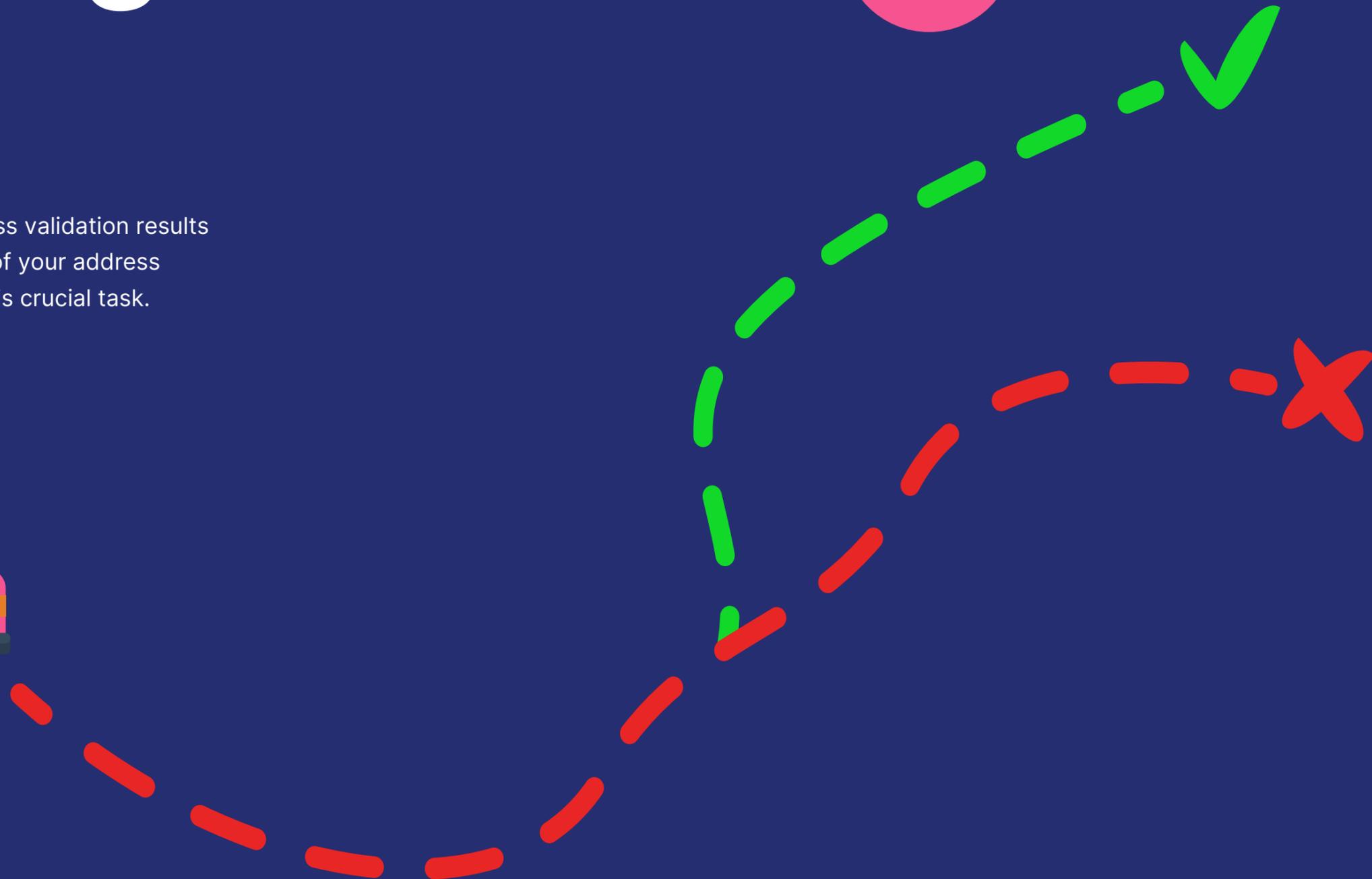
Understanding Validation Statuses

Address validation results typically come with statuses like "Valid," "Invalid," "Ambiguous," or "Unknown." Each status provides a quick snapshot of the address's validity:

- **Valid** indicates the address is recognized and deliverable.

- **Invalid** suggests the address couldn't be verified against known postal records.

- **Ambiguous** might mean multiple matches were found, requiring further clarification.

- **Unknown** could indicate a lack of data for the given address.

Smarty helps by clearly delineating these statuses, making it easier to understand which addresses need attention at a glance. You can read the definitions for all validation statuses here.

You'll just want to ensure that your address validation tools are clear in their results and don't spit out false information.

The following segments help you understand the deeper meaning found in the above statuses.

Deciphering Detailed Codes and Messages

Beyond the basic status, Smarty provides detailed validation codes and messages that offer deeper insights into why an address was validated a certain way. For example, DPV (Delivery Point Validation) Codes can tell you whether the USPS recognizes the address as deliverable.

Familiarizing yourself with these codes and utilizing Smarty's comprehensive documentation can greatly enhance your understanding of validation results.

Analyzing Metadata for Greater Context

Smarty enriches address validation with valuable metadata, such as geocodes, county information, and residential/commercial indicators.

This metadata can provide context, helping you understand whether an address is valid and its characteristics and location nuances. For instance, geocoding precision levels can indicate how accurately an address can be pinpointed on a map, which is crucial for logistics and marketing applications.

Here are some of the other metadata points you'll get with Smarty's address data:

- **County FIPS**
- **County name**
- **County route**
- **RDI**
- **Latitude**
- **Longitude**
- **Building default indicator**
- **Congressional district**
- **UTC offset**
- **Observes DST**
- **Precision**
- **Time zone**
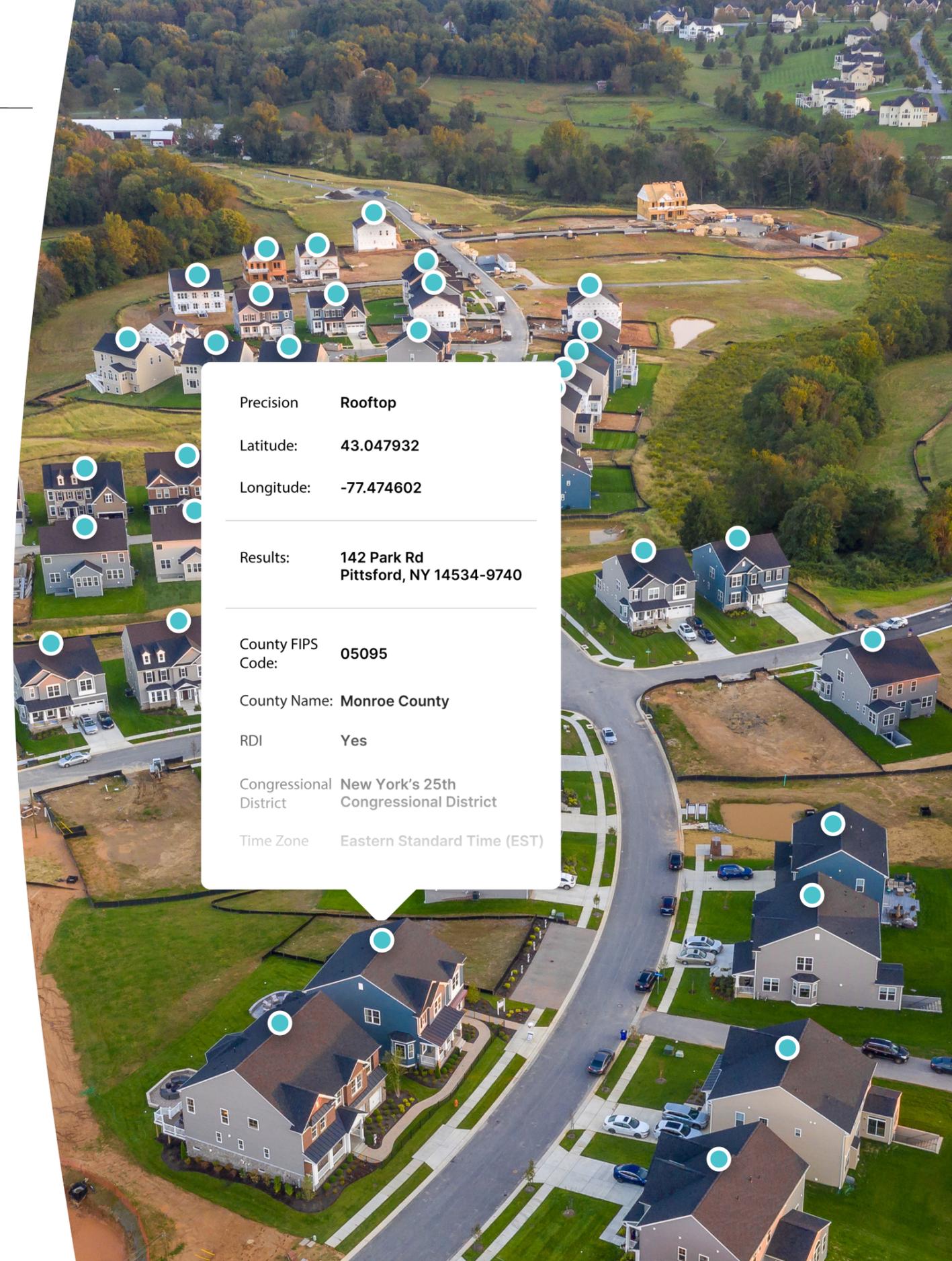
Precision	**Rooftop**
Latitude:	43.047932
Longitude:	-77.474602
Results:	**142 Park Rd** **Pittsford, NY 14534-9740**
County FIPS Code:	05095
County Name:	**Monroe County**
RDI	**Yes**
Congressional District	New York's 25th Congressional District
Time Zone	Eastern Standard Time (EST)

Interpreting Results for Special Cases

Certain addresses pose unique challenges (see weird address situations), such as high-rise buildings or lack of standardized rural areas.

Smarty tackles these challenges by providing specific codes and footnotes (included with the metadata) that explain the nature of the validation result, guiding you on how to treat these special cases. You can usually validate down to the apartment or suite number.

With this information, you shouldn't ever be lost in your address database.
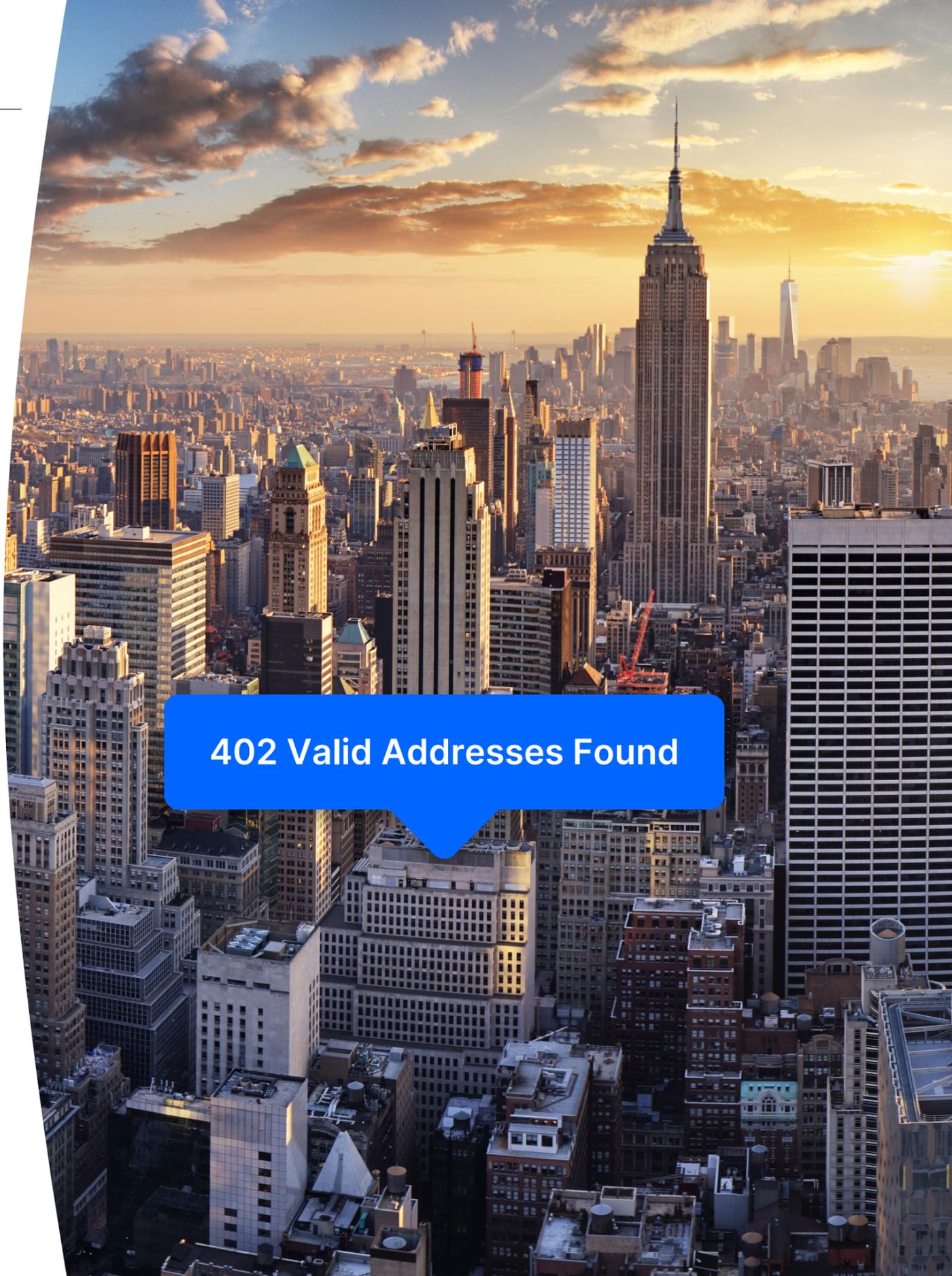
402 Valid Addresses Found

Leveraging Enhanced Matching for Ambiguous or Incomplete Addresses

Smarty's enhanced matching capabilities can be a game-changer for addresses that return ambiguous or incomplete results. Smarty can often resolve ambiguities by using additional context or partial information, providing a best-match result where other services might fail. This feature is particularly useful for addresses that lack full details or are formatted in non-standard ways.

Smarty employs sophisticated algorithms and a vast database of address information to analyze and interpret the partial or ambiguous data you provide. It then cross-references this data against known address elements to identify potential matches. The system considers various factors, including:

- **Similarities to known addresses:** Smarty looks at the closeness of the provided information to existing, valid addresses within its database.

- **Common patterns and corrections:** The system leverages historical data and common correction patterns to predict the most likely accurate address.

- **Contextual clues:** Smarty uses additional information, such as ZIP Codes or city names, to narrow down the possible matches and enhance the accuracy of the results.

Ensuring your address validation tool can use this sort of logic to get you the best results can change your life.

22 Degroat ~~Road~~ Rd
~~Sandyston New Jersey~~ NJ , 07827 -5107

✓ Found 1 valid address:

22 Degroat Rd

Delivery line 1

Sandyston NJ 07827-5107

City, State, ZIP Code, +4 Code

41.251167

Latitude

-74.786781

Longitude

Rooftop

By approaching address validation results with a structured methodology and utilizing Smarty's comprehensive suite of tools and resources, you can gain a deep understanding of the quality and accuracy of your address data. This knowledge not only enhances your data management practices but also empowers your business operations with reliable, actionable address information.
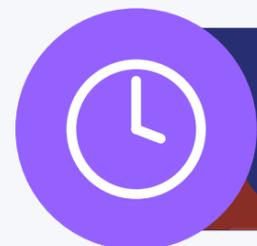
Where to next?

Bad Address Data on Input

Difficulty Blending Datasets

Address Standardization Inconsistencies

Old Data - Address Database Updates Over Time

Non-Standard and Just Plain Weird Address Situations

Click on any chapter

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Old Data - Address Database Updates Over Time

Whether you used an address autocomplete tool to ensure that your addresses are all good as they come in, or you used an address validation tool a year ago to keep your database squeaky clean, as time goes on, your database may become invalid. Believe it or not, streets morph, and cities evolve. Maintaining an up-to-date address database can't be a one-and-done thing.

The Constant Flux of Address Data

Addresses are not static entities; they're subject to change due to various factors such as urban development, administrative updates, or even natural events.

For example, in Provo, UT there's a street called Cougar Boulevard. But it hasn't always been Cougar Boulevard. Long before the street was named after the nearby university, it was named Bulldog Boulevard after the local high school that was located on it. Before that, it was called 1230 North.

Your database may still have the Bulldog Boulevard iteration of a street name or, even worse, the 1230 North.

These changes can render an address that was accurate yesterday obsolete today. In this dynamic context, relying on outdated information can lead to significant operational setbacks, from misdirected deliveries to compromised data analytics.

For this reason, it's valuable to check your entire address database for validation regularly. With the right tools, this doesn't have to take longer than a few seconds.
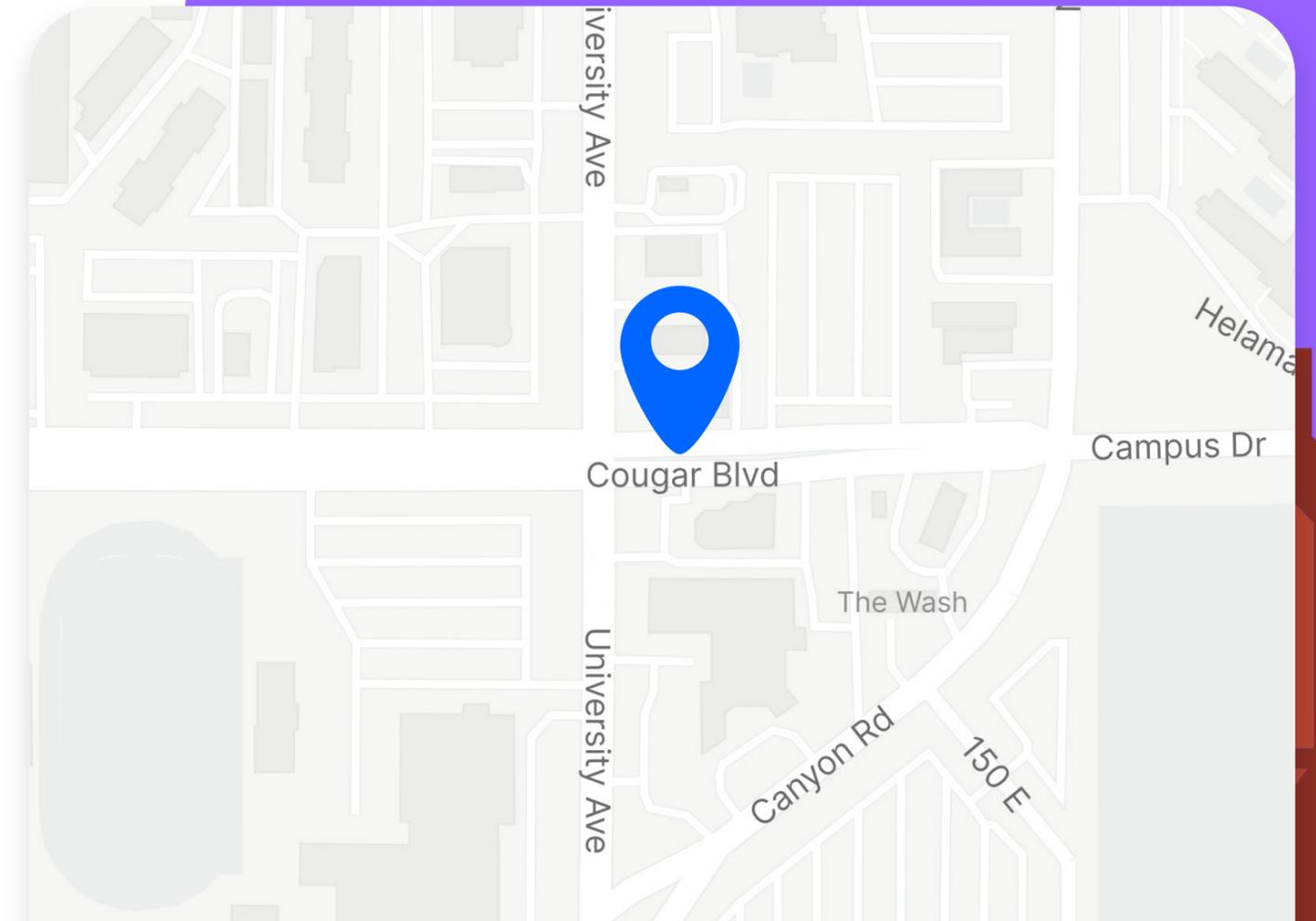
Cougar Boulevard Found!

Previously Known As:
- Bulldog Boulevard
- 1230 North

The Value of a Persistent Unique Identifier

A Persistent Unique Identifier (PUID) is akin to a digital fingerprint for an address. It offers a stable and unchanging reference point amidst the fluidity of address components, ensuring continuity and integrity in address databases. This constancy is crucial for various applications, from logistics and ecommerce to data analytics and customer relationship management.

Smarty offers a PUID called SmartyKey™. Once assigned, this key becomes an eternal identifier for its associated location, unaffected by changes in street names, renumbering, or even shifts in ZIP Codes. This permanence ensures that data linked to a SmartyKey retains its relevance and coherence, facilitating a seamless continuum of historical and operational data analysis.

The metadata associated with each SmartyKey serves as a rich tapestry of information, delineating the most accurate version of an address and its various aliases. This consolidation simplifies the otherwise daunting tasks of deduplication and data blending, allowing businesses to streamline their address databases with unparalleled efficiency and accuracy.

Furthermore, SmartyKey extends its precision to secondary addresses, such as apartments and suites, providing a detailed view of the relationship between primary and secondary locations. This granularity extends to distinguishing between residential and commercial properties, offering valuable insights for targeted marketing, logistics planning, and demographic analysis.

Leveraging Smarty for Address Management

Smarty is the best tool for addressing the challenges of persistent identification and continuous validation. With advanced address validation and standardization capabilities, Smarty offers a comprehensive solution.

- **Automated Validation Cycles:** Implement routine validation with Smarty to automatically scrutinize and refresh your address data, aligning it with the latest postal standards and changes.

- **Integration of Unique Identifiers:** Smarty facilitates the assignment and management of unique identifiers for each address, ensuring that every entry in your database can be unequivocally distinguished and tracked through changes.

- **Standardization and Updating:** Utilize Smarty to standardize addresses according to USPS or international norms, simplifying the validation process and ensuring consistency. Smarty's updating mechanism then ensures each address, tied to its PUID, reflects current realities.

- **Adapting to Address Variabilities:** Smarty adeptly handles various addressing scenarios, from complex urban layouts to rural and non-standard addresses, ensuring comprehensive validation coverage for your entire database.
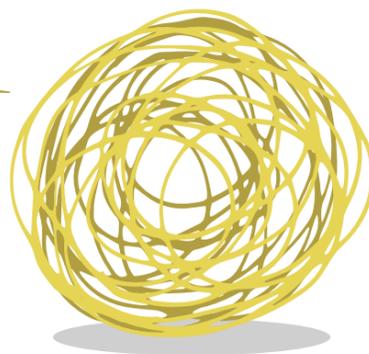
In a world where the only constant is change, the dual strategy of employing persistent unique identifiers alongside regular validation is essential for maintaining an accurate and functional address database.

By integrating Smarty into your data management protocols, you can confidently navigate the complexities of address variability, ensuring that your database remains a reliable cornerstone of your operational and analytical endeavors.
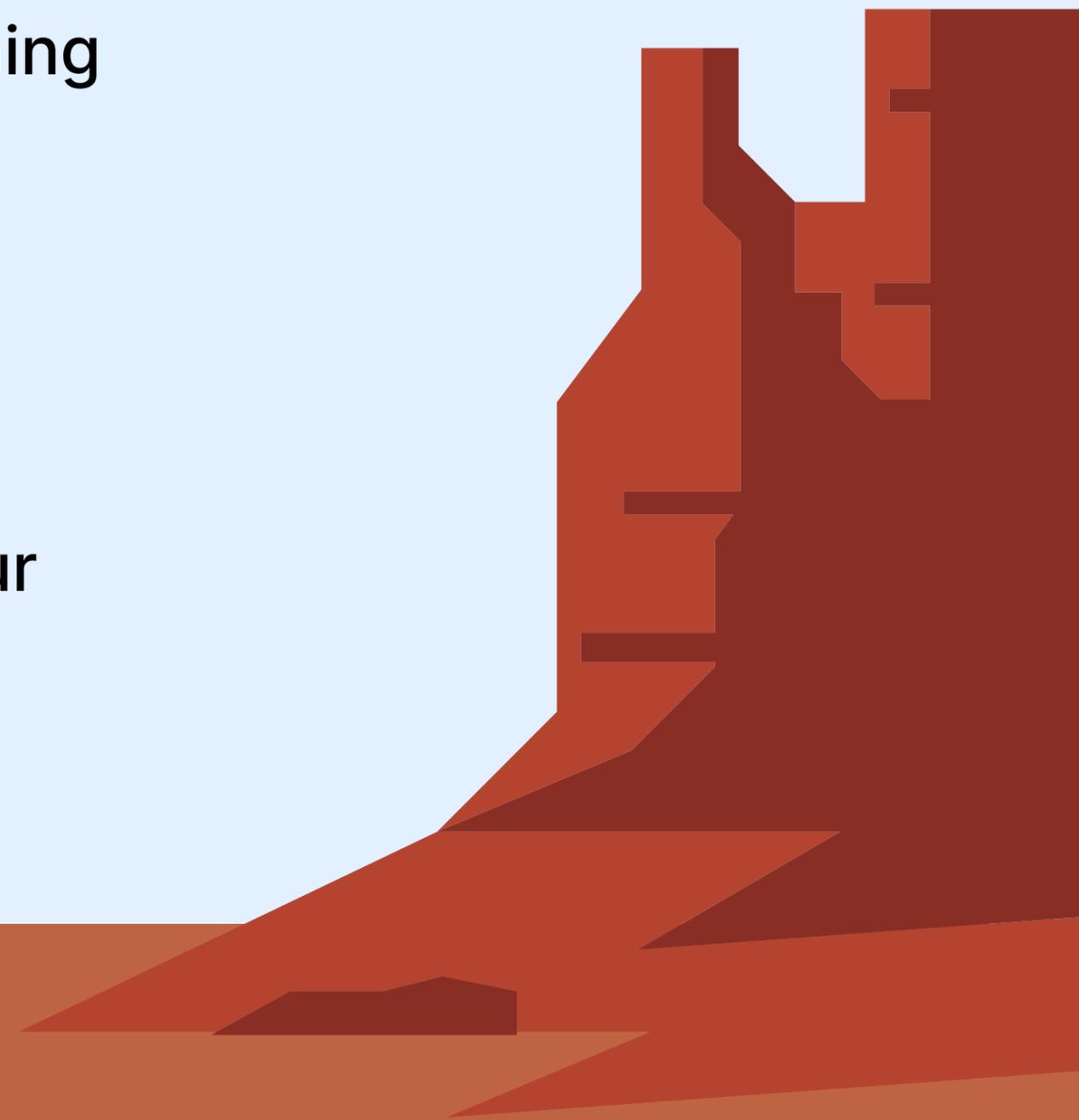
Where to next?
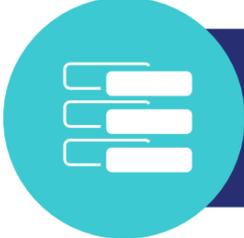
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Click on any chapter

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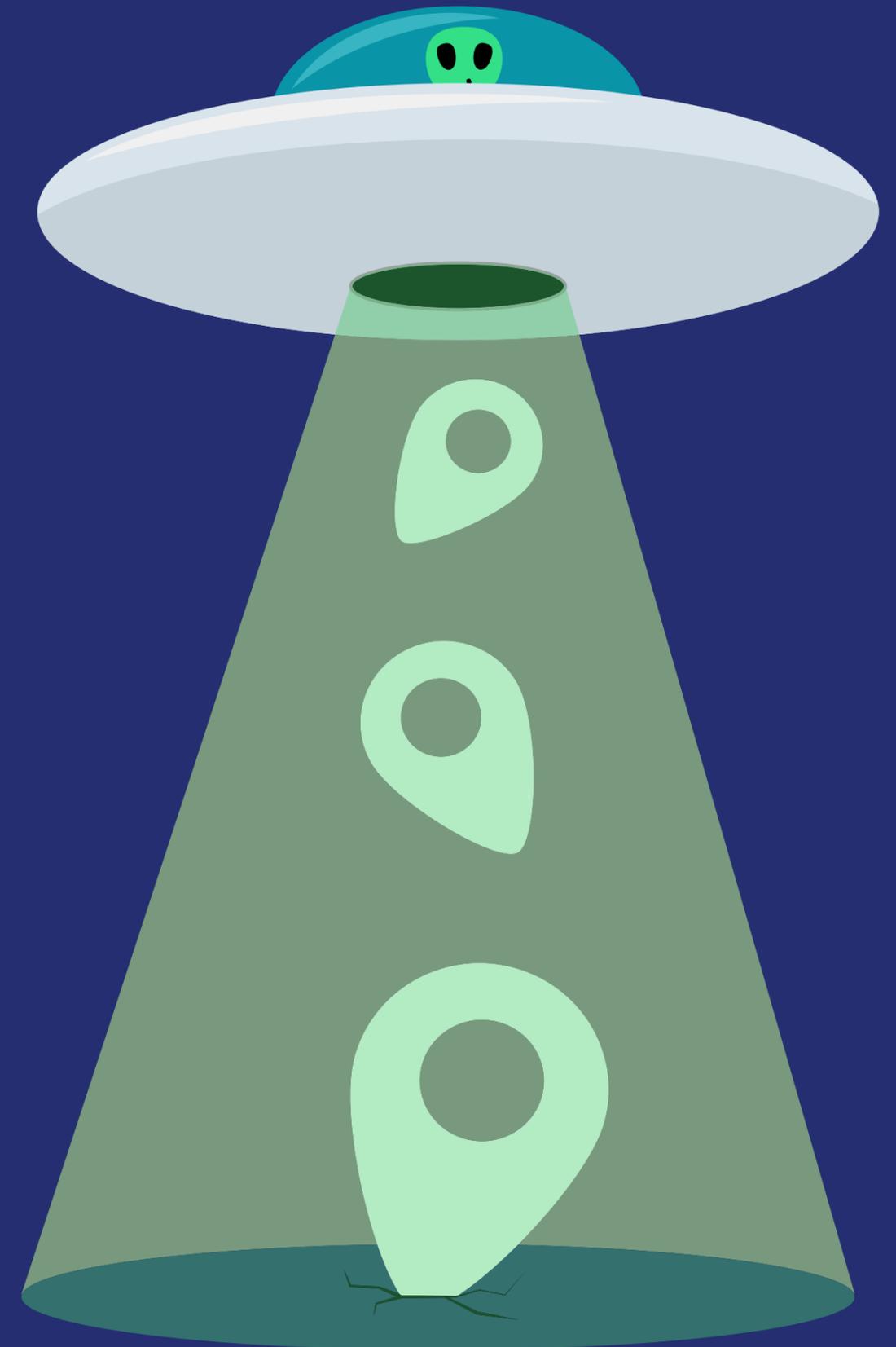
Alternate City Names:

Certain localities like Chicago's outskirts or New York City's boroughs, such as Queens, pose unique challenges. These areas may have multiple valid appellations, leading to potential discrepancies in data sources.

For instance, an address in Queens might be validly referred to as "Queens, NY" or "New York, NY." This duality can result in duplicate records, complicating data integrity and potentially facilitating unintended misuse, such as duplicative account registrations under different city names.

The key to mitigating this risk lies in using default city names, as designated per ZIP Code, to maintain consistency and avoid duplications.
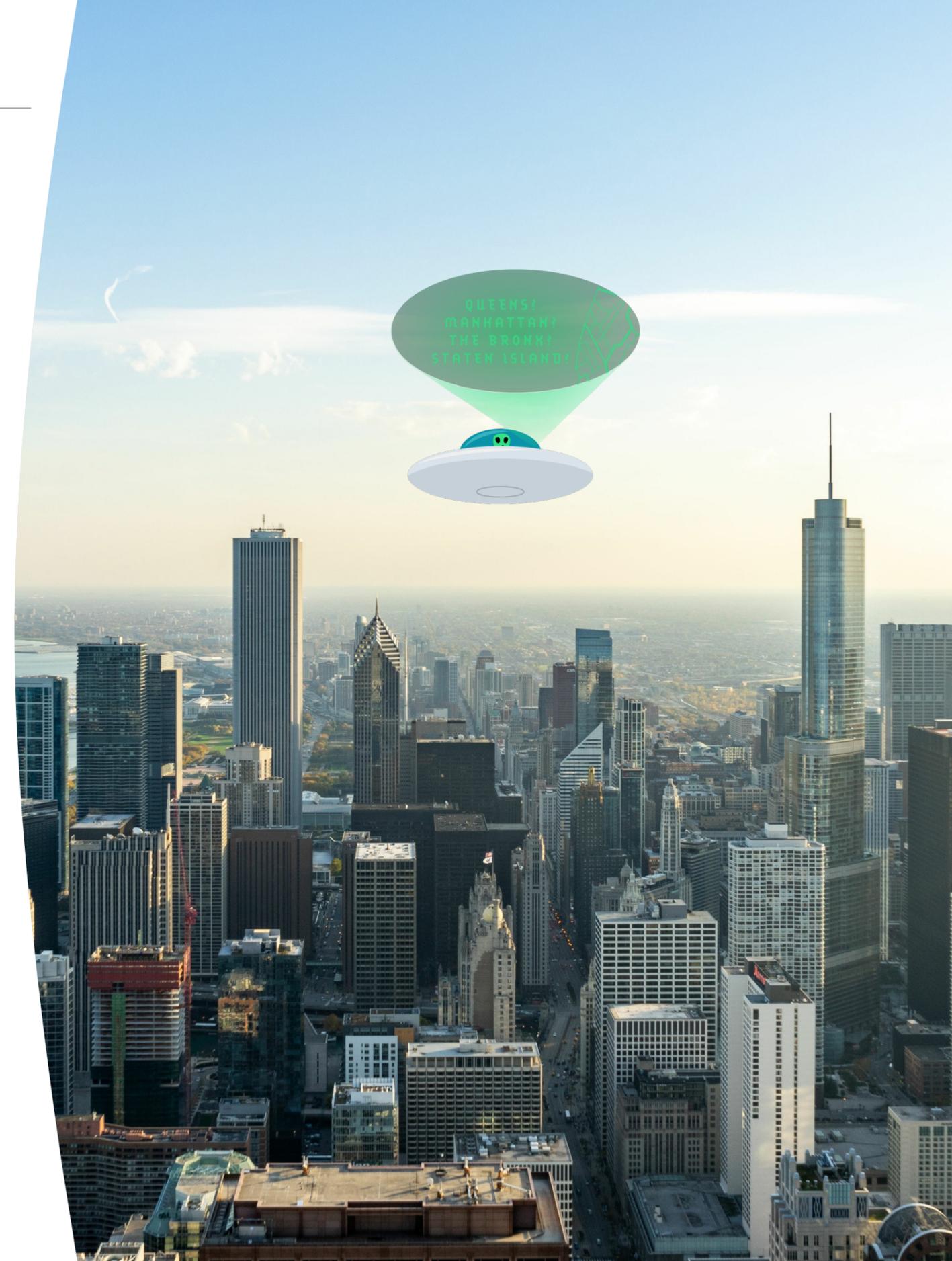
Componentization and Standardization:

The art of address componentization and standardization is pivotal, especially when confronted with addresses that could easily be misconstrued due to common abbreviations or nomenclature.

For example, the abbreviation "St." could denote "Street" or "Saint," leading to ambiguity without proper context. Ensuring that addresses are broken down into constituent components (e.g., street name, city, state, ZIP) and standardized according to a consistent format helps preserve the clarity and utility of the address data.

This process is critical in maintaining data integrity, especially when blending datasets from diverse sources. It's important that even when standardization is applied, it must be done so with a uniform approach across all data sources to prevent mismatches or errors during data integration. The USPS standardization is different from the Project US@ standardization, for example.

#
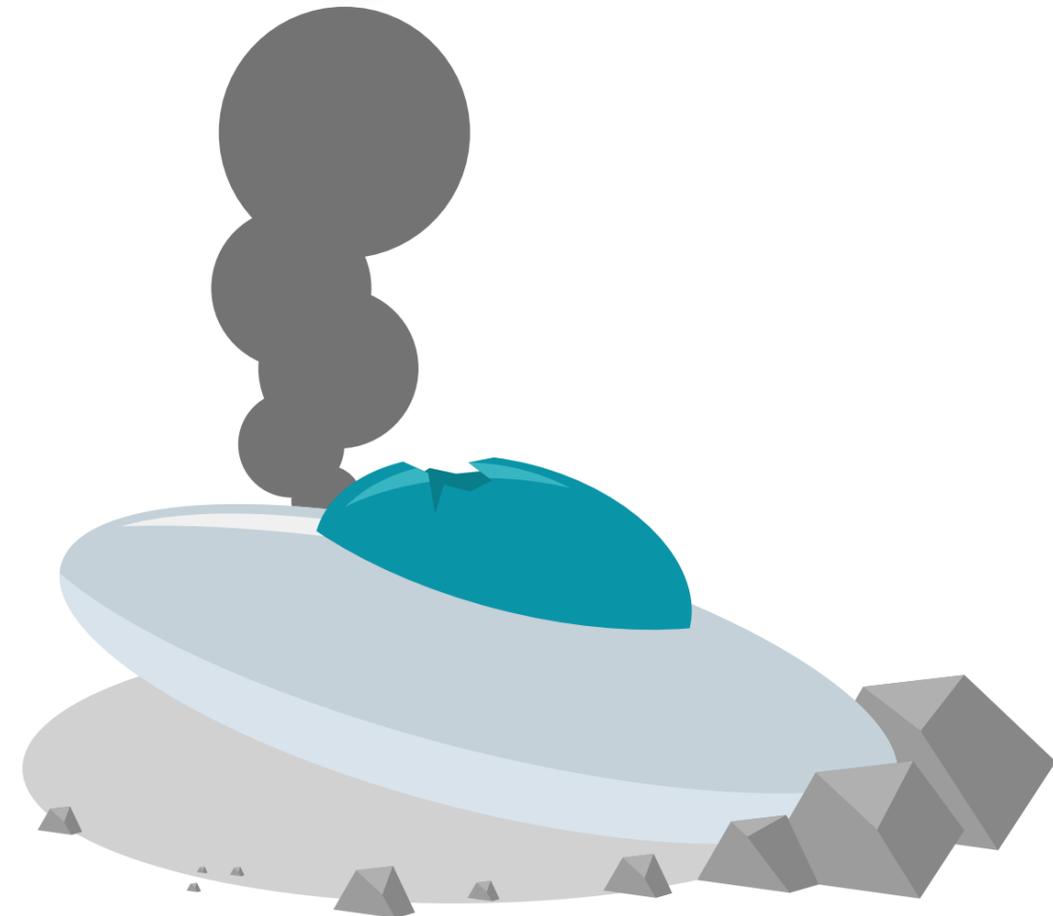Building or House

Street Name

491 Old Santa Fe Trail
Santa Fe, New Mexico 87501

City

State

ZIP

## Continual Updating and Validation:

Address databases are not static repositories; they're dynamic entities that reflect the ever-changing physical and administrative landscapes. Streets get renamed, ZIP Codes get redefined, and buildings come and go, rendering addresses obsolete or incorrect over time. A rigorous regimen of continuous validation and updating is essential to combat this.

Leveraging the USPS's monthly data releases through Smarty APIs can ensure that your database remains current, reflecting the latest changes in the address ecosystem. This proactive approach not only enhances the accuracy of the data but also supports informed decision-making based on up-to-date information.
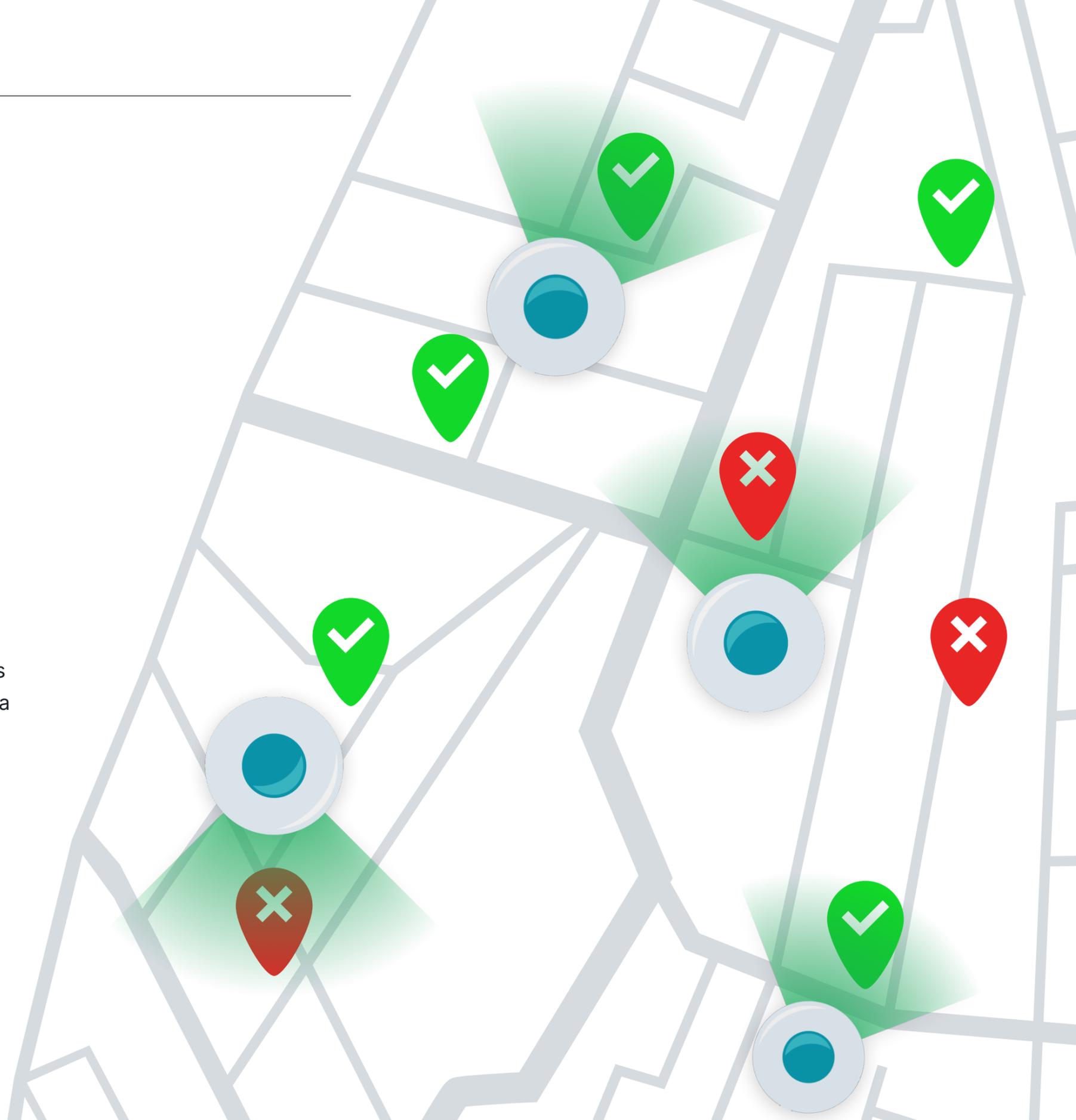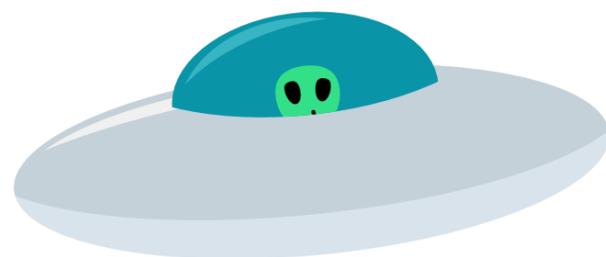
Dealing with Unique Situations:

Address validation extends beyond the conventional to encompass unique situations, such as non-postal addresses or newly developed locales that have yet to be incorporated into standard postal routes.

Non-postal addresses in remote areas, newly developed sites, or locations not traditionally serviced by USPS are often overlooked in standard validation processes. However, these addresses hold significant value for specific use cases, notably in sectors like telecom or real estate development, where the potential for development on unoccupied lots is a golden opportunity.

Non-postal addresses can range from rural locations outside the standard postal delivery routes to brand-new constructions that the USPS hasn't yet recognized in its routing system. These locations are legitimate and may be inhabited or used for various purposes, yet they fall outside the conventional mailing system. This gap in the postal system underscores the necessity of a tailored validation service like Smarty, capable of recognizing and validating these non-standard addresses.

The applicability of non-postal addresses varies significantly by industry and purpose. While a mass mailing campaign might find little value in non-postal addresses due to their non-deliverable nature, a real estate developer would consider these addresses as opportunities for new projects. This disparity in utility underscores the importance of aligning your address validation strategy with your specific business needs and objectives. Ensuring that your validation process is attuned to your operational requirements will maximize the value derived from your address database.
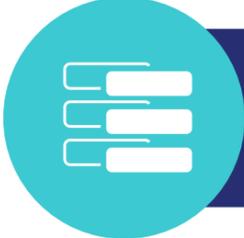
In summary, navigating the intricacies of non-standard and odd address situations demands a strategic blend of adherence to default naming conventions, meticulous componentization and standardization, and an unwavering commitment to ongoing data validation and updates.

By adopting these practices, one can ensure the integrity, reliability, and utility of address data, even in the face of the most unconventional challenges.
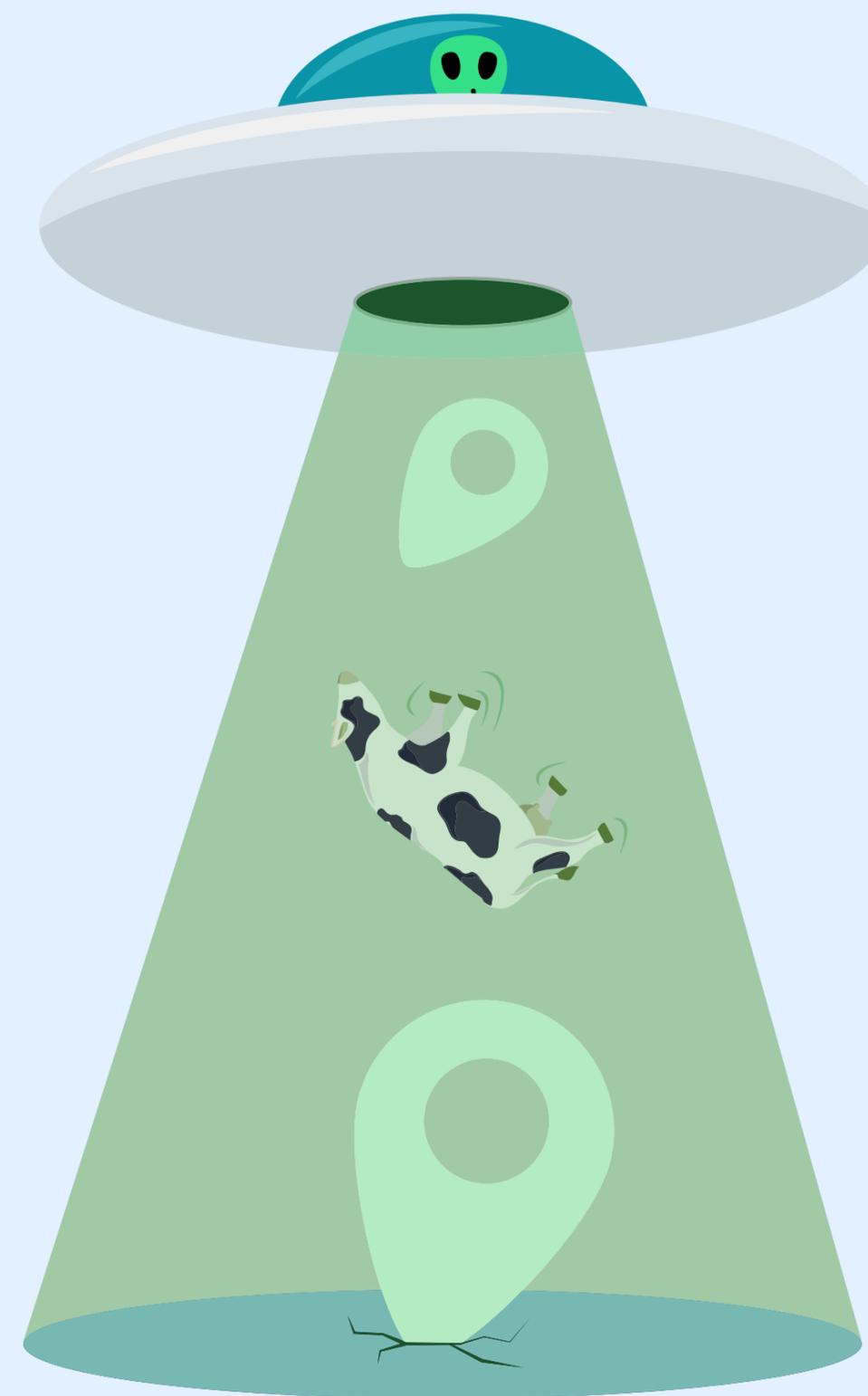
Where to next?

- **Bad Address Data on Input**
- **Difficulty Blending Datasets**
- **Address Standardization Inconsistencies**
- **Confusing Validation Results**
- **Old Data - Address Database Updates Over Time**
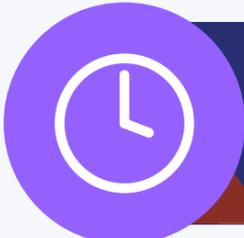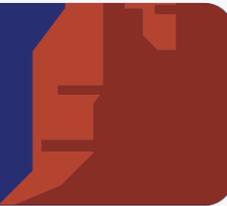
Now What?

By now, you hopefully see the value in high-quality address data, whether that comes by way of regular address database cleanup, address autocomplete on forms, exact rooftop-accurate geocodes, or ways unique to your business.

Smarty is simply the best solution for USPS and International Address Validation. From our APIs to our list-processing tools, we are the world's best address validation solution for you, and that's not an exaggeration; it's straight up bragging. We have 100% up-time, ridiculously good documentation, speeds you wouldn't believe, and an award-winning customer support team should you need them. We're here to solve ALL of your address and location data problems.

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