Pinning Down Abuse on Google Maps

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Presented at the International World Wide Web Conference in Perth, Australia on April 7, 2017.

Maps SEO is based on physical proximity

Traditional SEO

Ranked by relevance

Example: pharma

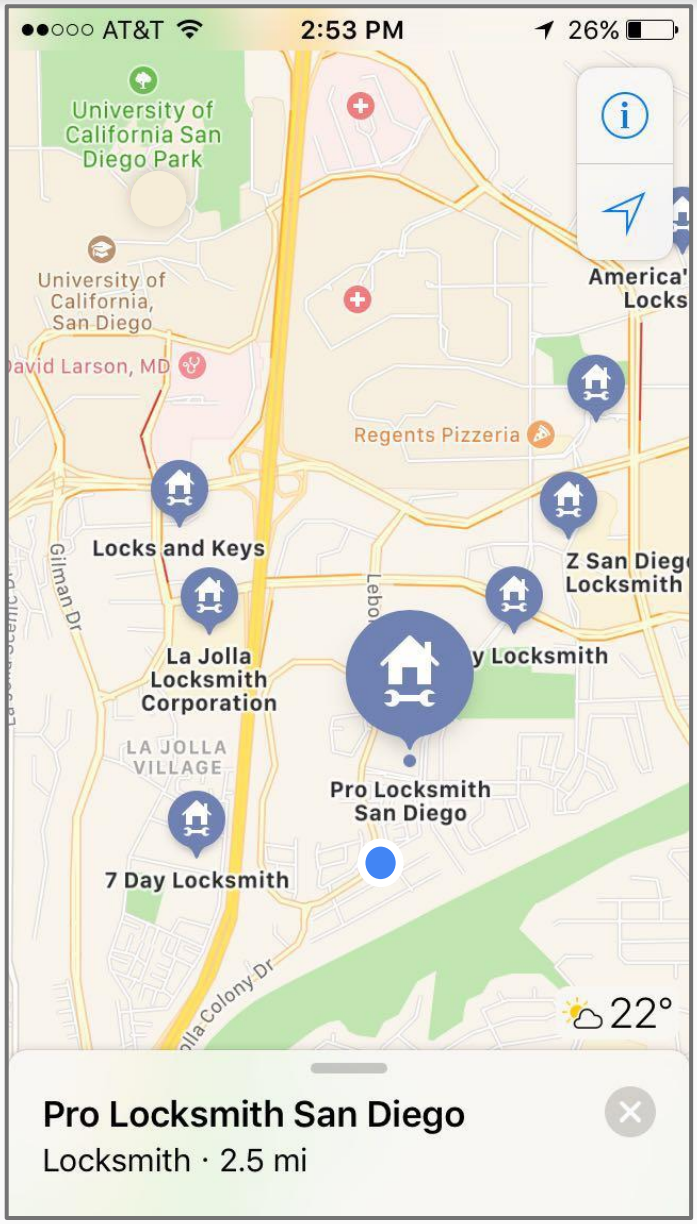
Maps SEO

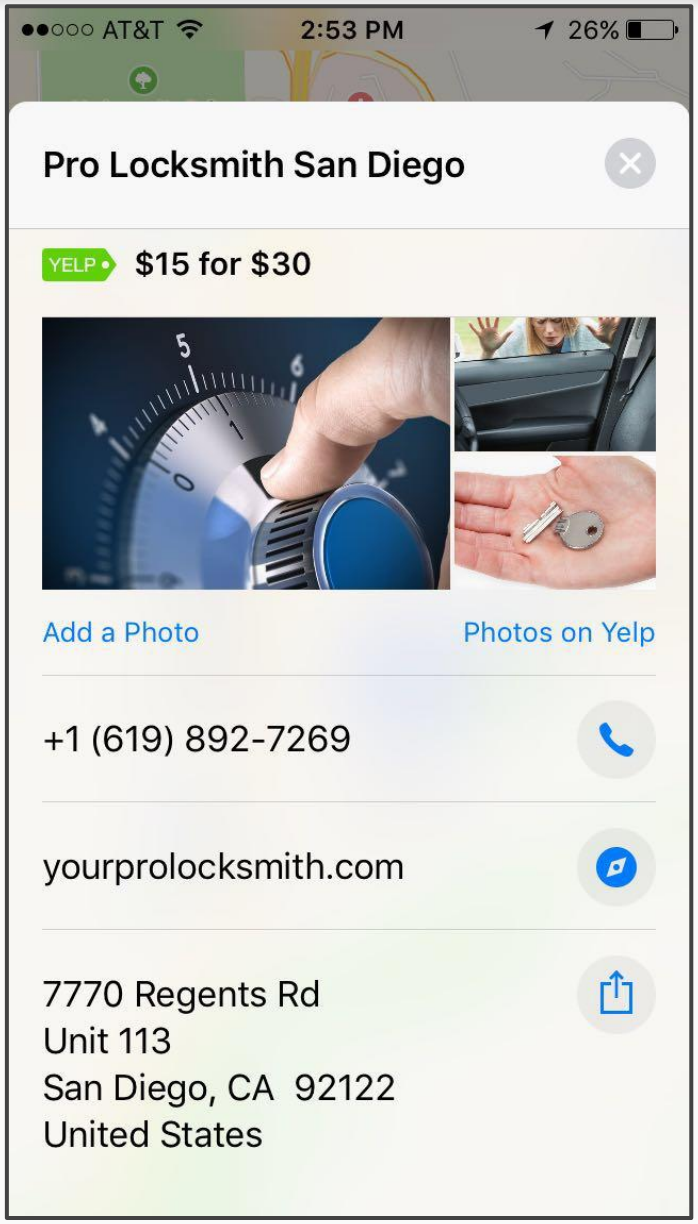
Ranked by proximity

Example: locksmiths

How many and where?
How to make money?
How to evade detection?
Impact on users?

7 locksmiths near me





“Locksmith” located at UPS Store

Fake locksmiths are an old problem

The New York Times

Jan 2016

Fake Online Locksmiths May Be Out to Pick Your Pocket, Too

False sense of proximity

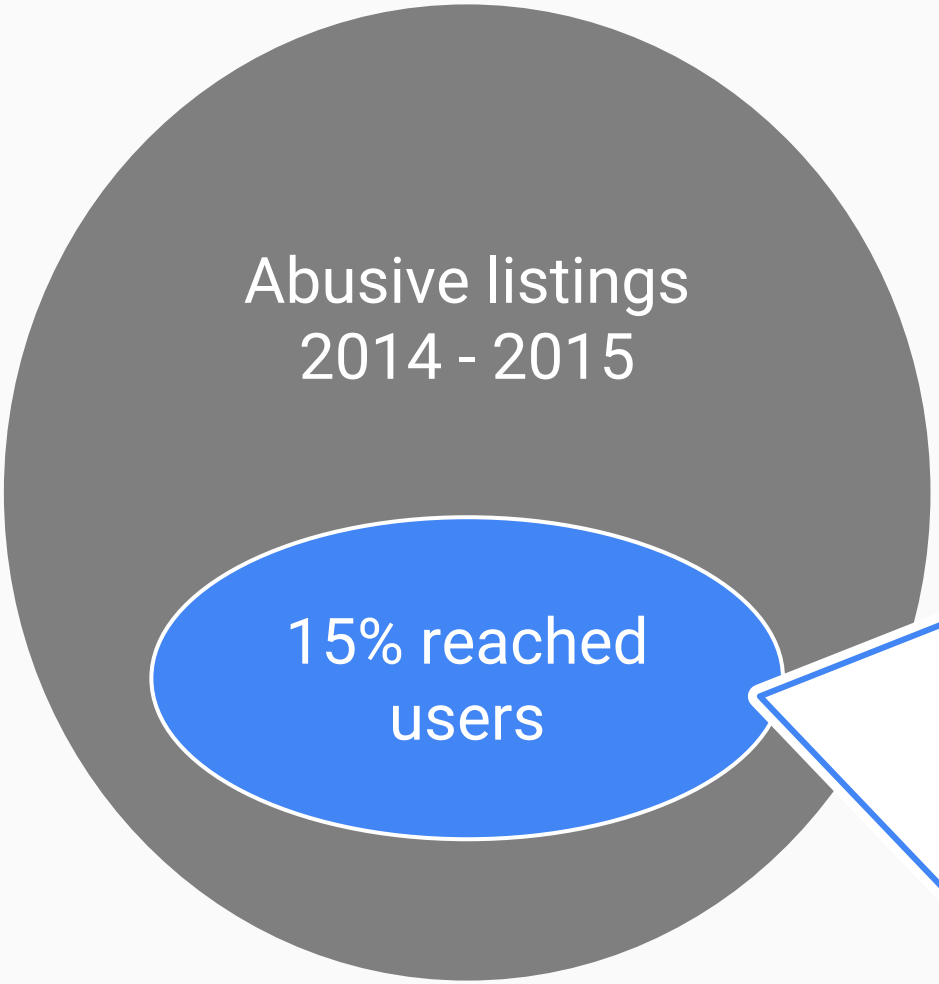
Monetize from inferior service

Violation of ToS

Caused harm to users

Overview of abuse on Google Maps

Overview of abuse on Google Maps



Fake Locations (40%)

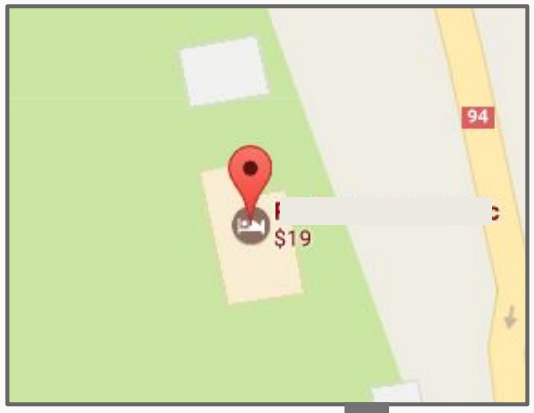
locksmiths, plumbers,
garage door openers

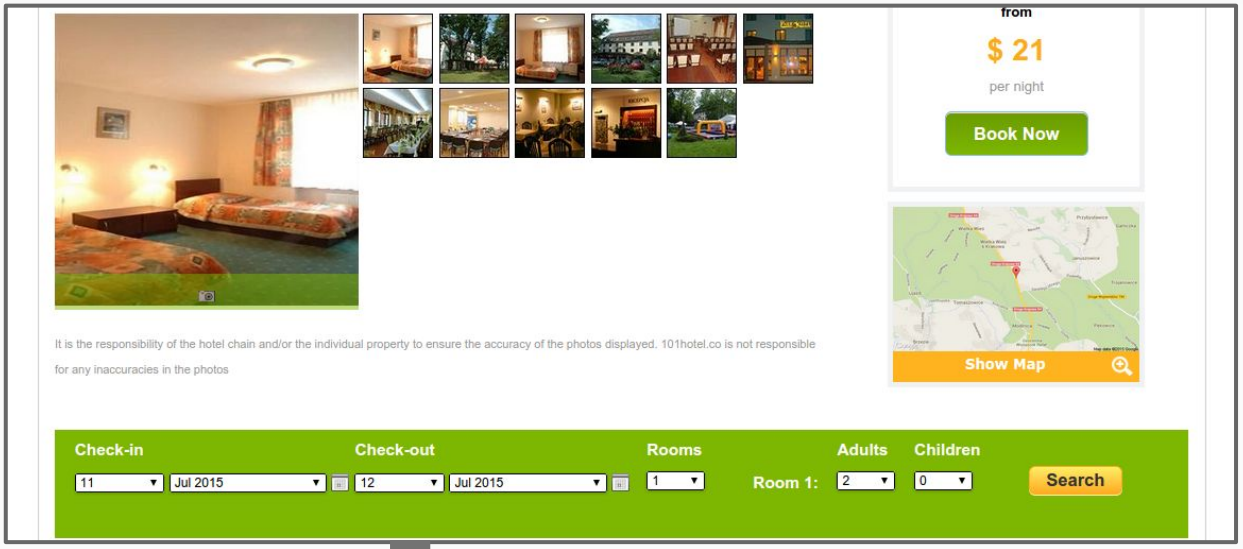
Affiliate Fraud (13%)

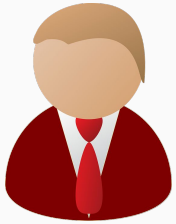
hotels, restaurants

Misc (47%)

Affiliate fraudsters hijack hotel listings





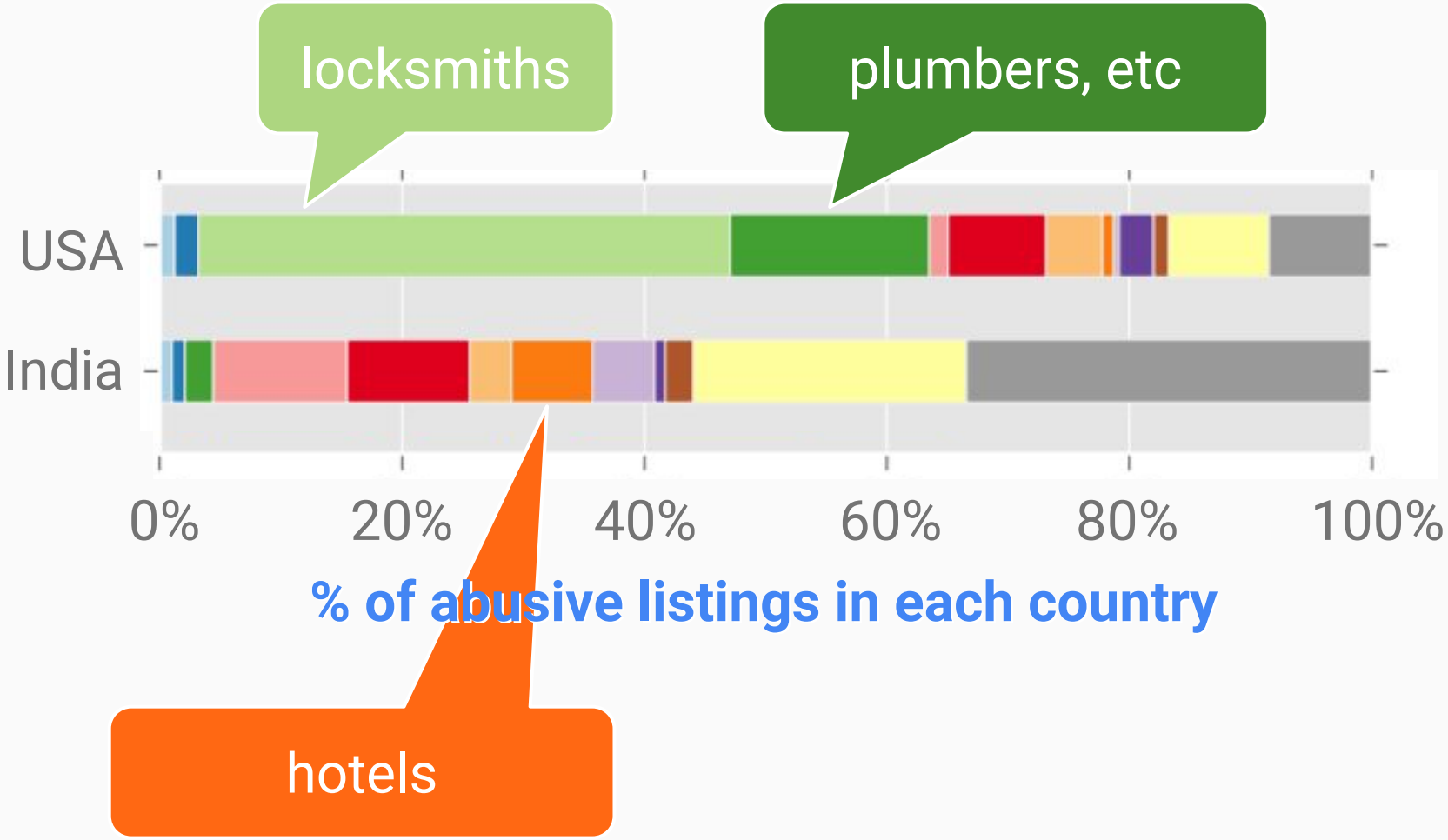


Reputable travel agency

Paying for referral traffic

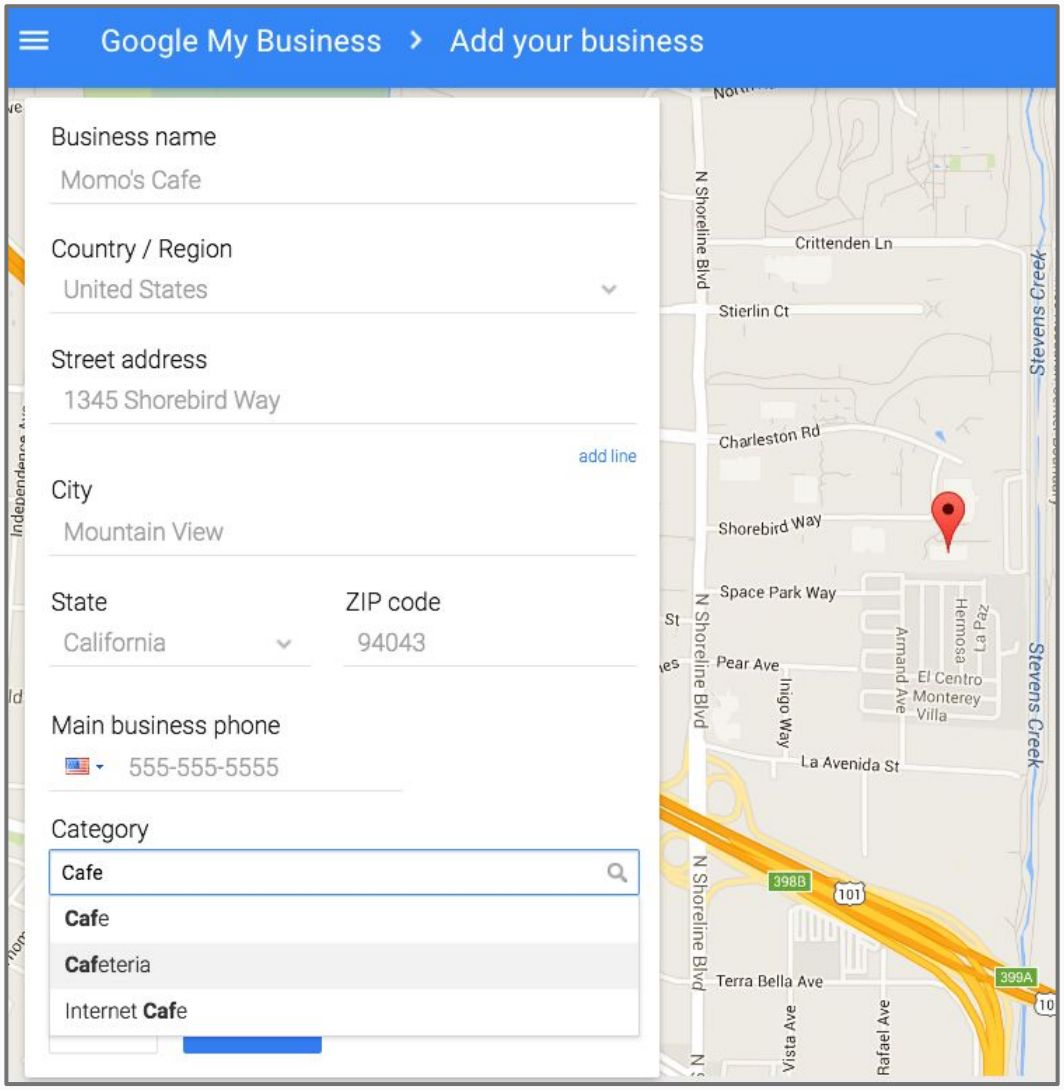
Damages to branding

Abuse varies across countries

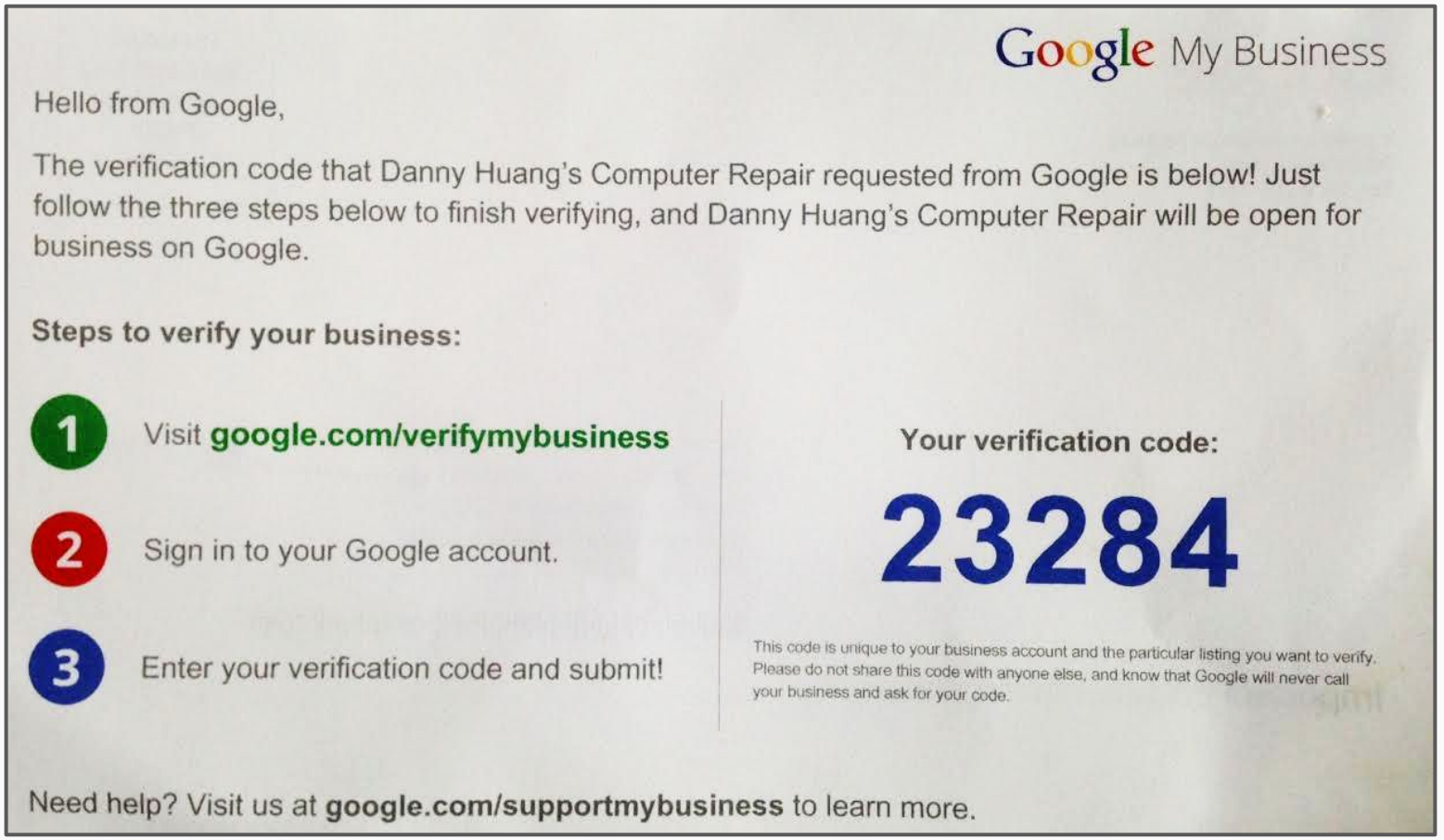


How did scammers evade Google’s detection?

Creating a free listing on Google Maps



Verification via mail



Google My Business

Hello from Google,

The verification code that Danny Huang's Computer Repair requested from Google is below! Just follow the three steps below to finish verifying, and Danny Huang's Computer Repair will be open for business on Google.

Steps to verify your business:

1. Visit **google.com/verifymybusiness**
2. Sign in to your Google account.
3. Enter your verification code and submit!

Your verification code:

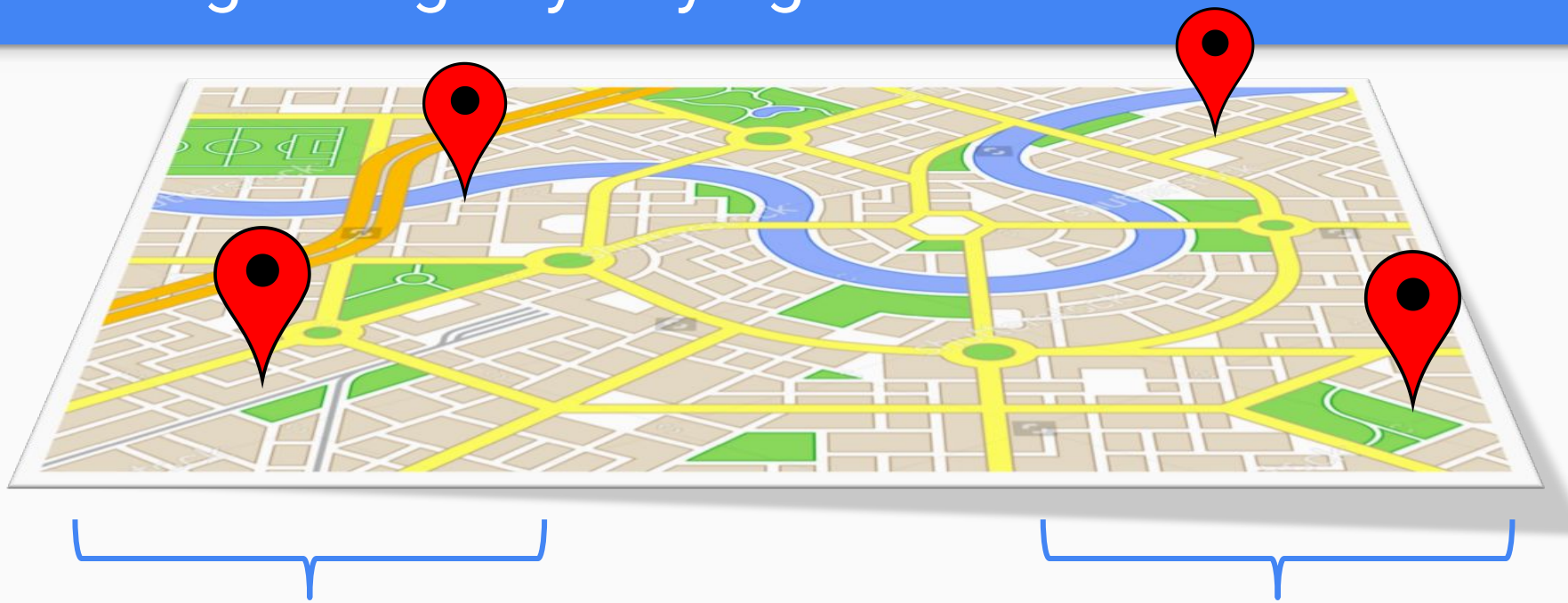
23284

This code is unique to your business account and the particular listing you want to verify. Please do not share this code with anyone else, and know that Google will never call your business and ask for your code.

Need help? Visit us at **google.com/supportmybusiness** to learn more.

80% abusive listings verified through mail

Creating listings by buying fake locations



Residential

Commercial

Verifying listings using the same address

Impose a cutoff?

123 Main St

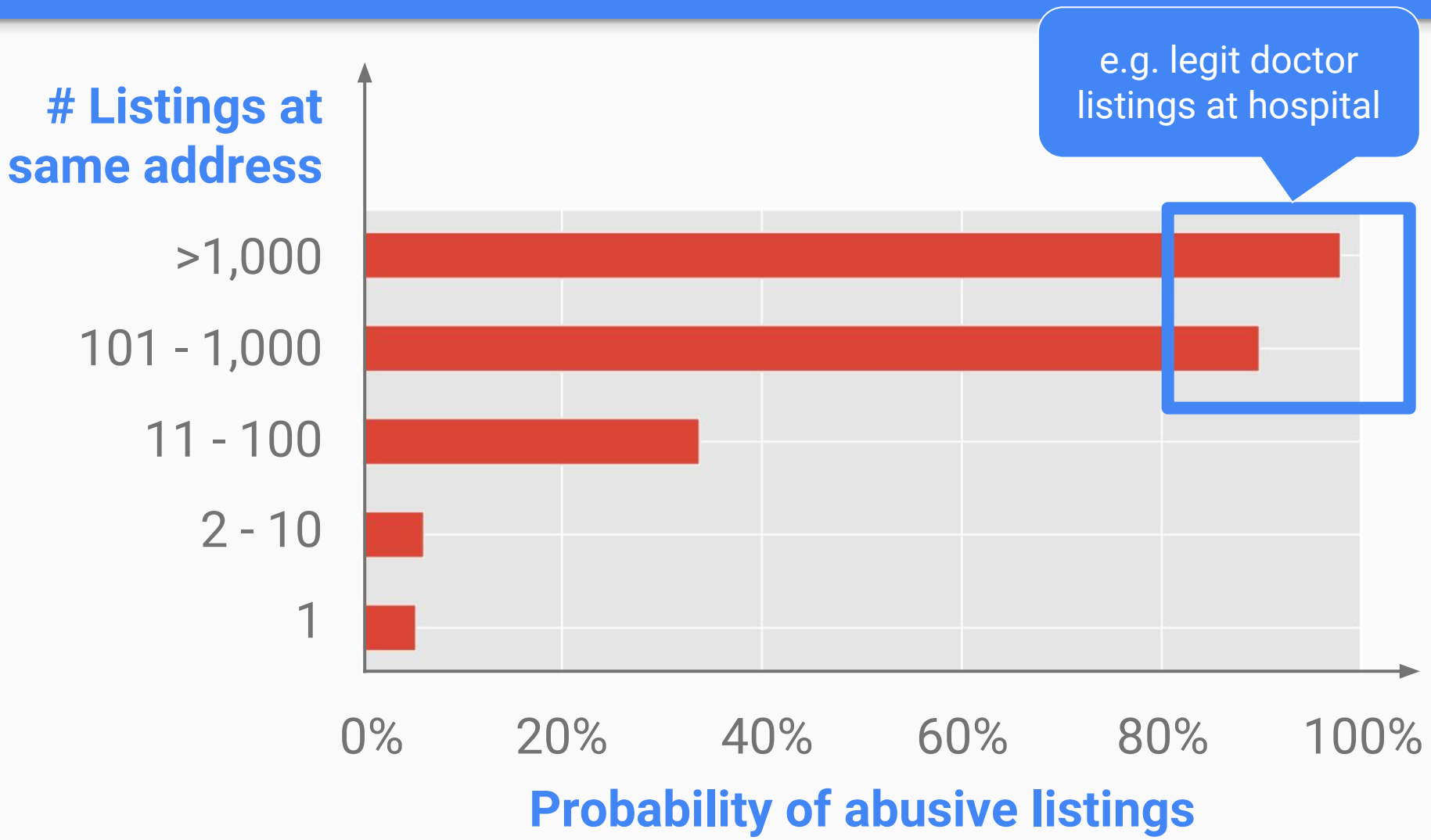
123 Main St Suite 456
123 Main St #456
#456 123 Main St

*l*23 Main St

Verify multiple listings

25% of abusive listings used this trick

Abusive listings verified at the same address



Impact on end users?

Quantifying impact on users

$$\frac{\text{\# of abusive search results}}{\text{\# of search results}}$$

Locksmiths*

11%

* 11% of local search results for locksmiths in the US were abusive during our analysis period.

Search results that are abusive

Locksmiths

11%

New York, NY

16%

West Harrison, NY*

84%

Plumbers, etc

0.4%

Restaurants

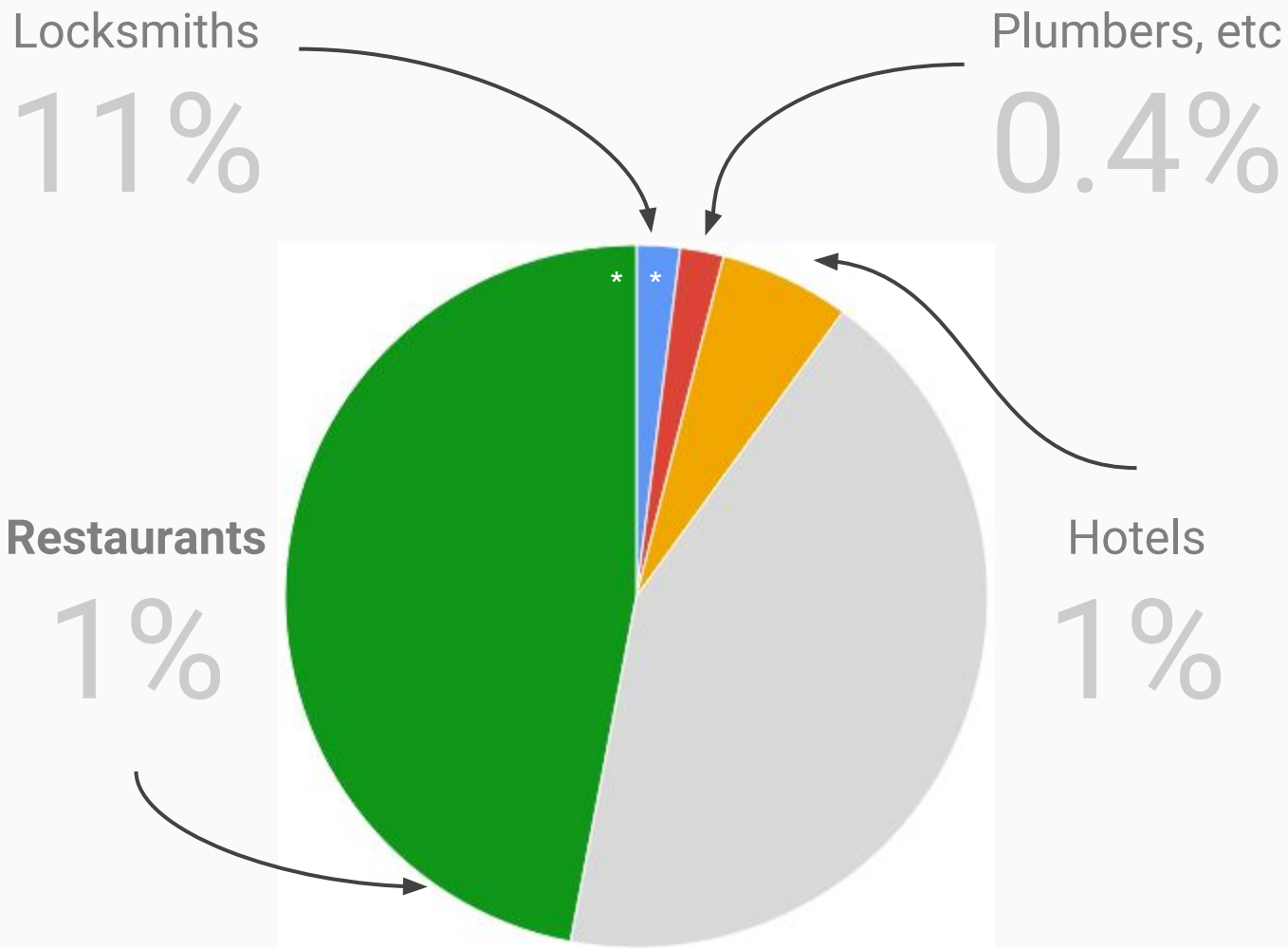
1%

Hotels

1%

* 84% of search results for locksmiths in West Harrison, NY were abusive during our analysis period.

Pie chart: abusive results that are restaurants



* For every 100 random abusive search results in the US, 2 were abusive locksmiths, while 47 were abusive restaurants.

Overall search results that are abusive

Locksmiths

11%

Plumbers, etc

0.4%

0.5%

of search results in US were abusive*

Restaurants

1%

Hotels

1%

* Out of 1000 random search results in the US, only 5 were abusive results during our analysis period.

Summary

SEO based on physical proximity

Fake locations vs affiliate fraud

Hard to verify addresses at scale

Improved defenses by Google;
abusive listings down by 70% from peak

Thank you!

More info: http://sysnet.ucsd.edu/~dhuang/

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