



# Reverse Geocoding in Mobile Apps and Marketing

## What is Reverse Geocoding?

Reverse geocoding is a process where input in the form latitude and longitude data is converted into an understandable address or location. Normally, it would be used with some sort of electronic device such as a mobile phone or GPS unit to provide information about the owner's location and consumer preferences.

This type of information can be an extremely valuable marketing tool, and can be leveraged by creative targeted messages that based on the needs and interests of the consumer. When combined with other information, such as purchase history or web browsing habits, this information can provide detailed information about the customer that can be used to increase profits and improve customer experience.

## How does Reverse Geocoding work?

Reverse Geocoding works by taking the latitude and longitude of the location of a mobile device, and using it to pinpoint your location. It's a fairly simple concept, but it's important to understand how reverse geocoding and standard geocoding differ.

The type of geocoding that is generally generally recognized by people is forward geocoding, where the system takes an address and translates it into latitude and longitude coordinates (See Figure 1). This location data can then be used in a number

### Reverse Geocoding can be used for:

- Mapping and Directions
- Mobile Marketing
- Customer Retention
- Emergency/911 Reports
- Insurance Claims
- Marketing Research
- Utility Reporting
- Social Networks



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## Figure 1. How Standard Geocoding Works



- 1) Address information is entered into the device or program.
- 2) The address information is sent to the GPS database, where it is converted into latitude and longitude coordinates.
- 3) The lat-long coordinates are plotted on the device or mapping system.

of ways, such as by plotting the location on a map, generating driving directions, determine local financial information, or even cross-reference the location with photographs taken in the area. Standard geocoding has been in use for many years, starting with basic GPS devices, mapping systems such as ArcGIS, and early online mapping and direction websites such as MapQuest (1996). Since then, these systems have been refined and developed into more comprehensive systems that can give users a choice of multiple routes when plotting directions, or generate directions that include public transportation, bike, and walking routes. Systems like Google Maps and Waze can even include real-time traffic data in the information that is displayed for the user, allowing travelers to avoid heavy traffic, road hazards, or temporarily closed roads.

In many instances, reverse geocoding protocols are included in the newer and more advanced program. If you have an application that has some sort of “what’s near” functionality, the application is probably using some sort of reverse geocoding. So what is reverse geocoding, and how does it differ from standard geocoding?

Reverse geocoding is like standard geocoding and uses some of the same databases and

information resources, it simply works in reverse. Instead of starting with an address, reverse geocoding starts with a set of coordinates, given in latitude and longitude, and ends up with an address or name of a business.

This information can then be used in a number of ways. For example, if reverse geocoding is employed in a mapping program, nearby the names and addresses of nearby businesses could be displayed on the map device. Advertisements and offers from these businesses could be displayed on the screen along with the map.

Applications could also be developed that allow targeted marketing with even more specificity. Imagine an app that allows the customer to look at the weekly specials at a local supermarket, and save a list of purchases on their smartphone. The app occasionally checks the location of the phone, and when the customer is within a certain distance of the supermarket’s location an alert is displayed on the phone. The alert reminds the customer that they have a saved shopping list in the application, and that there is a branch of the supermarket nearby. Similar apps could also be developed to push special offers to customers when they are in the vicinity of stores whose products they have searched for online.

Other potential uses of the technology include applications for public safety organizations or utilities to facilitate accurate reporting. Public safety organizations could use reverse geocoding to accurately plot the location of emergency calls. Imagine that a call comes into 911, geographic data from the phone is uploaded to the 911 response system and plotted on map, and then the information is sent to first responders.

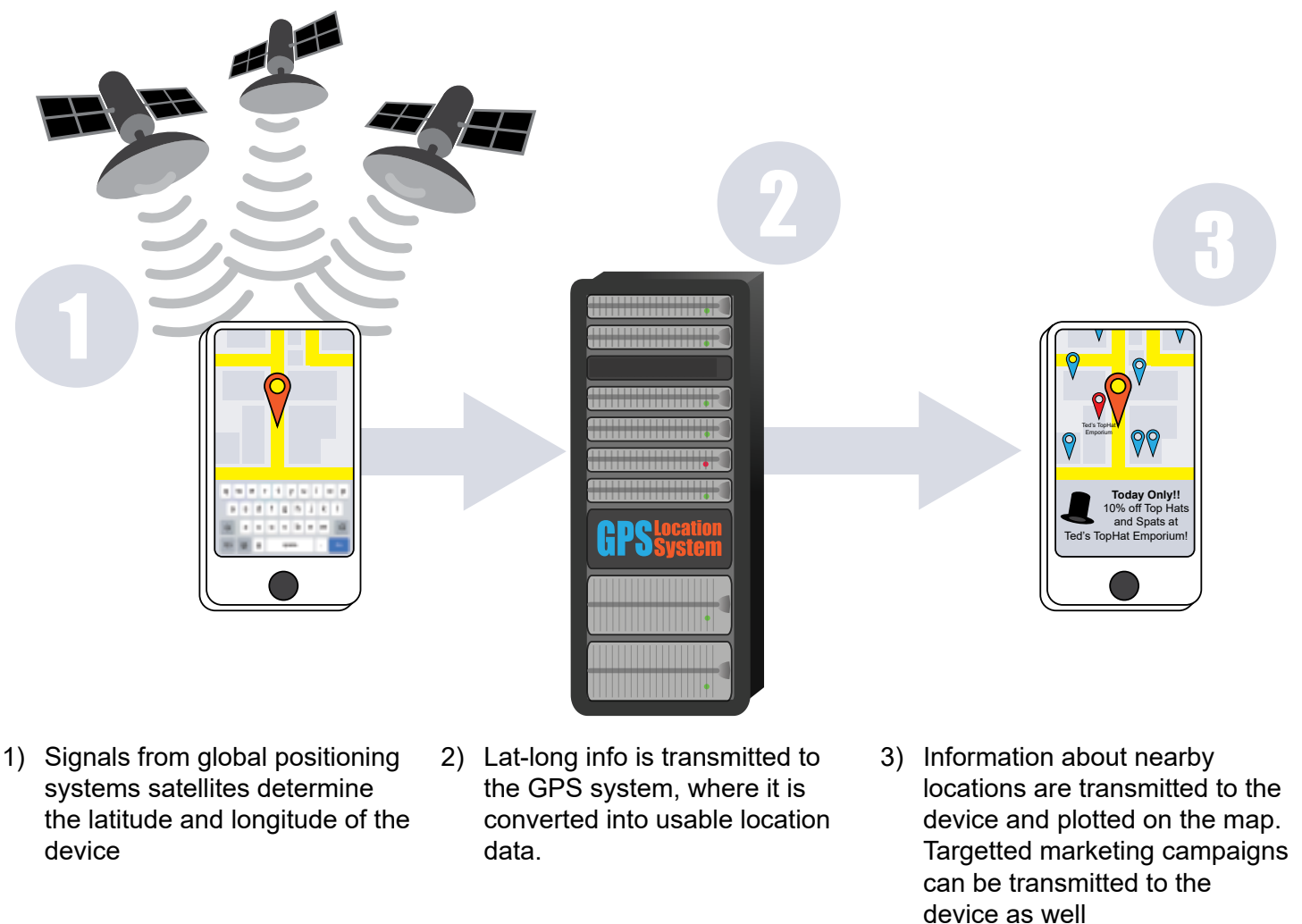
Utilities could develop applications or web portals that use reverse technology to help report issues and interruptions of service. One example might be an app for a power company that can report outages with a single click by using the reverse geocode to determine the location of the report. Emergencies such as broken water mains or downed power lines could be reported immediately as well. And because the location and address of the problem is pinpointed

exactly, the utility can be sure that repair crews can resolve the issue promptly.

Insurance companies can use the technology for instant reporting of claims. For example, an auto insurance company could have a smartphone app that initiates a claim with a specific location included with a single swipe.

These are only a few possibilities of the types of systems that can be developed with reverse geocoding systems. Anchor offers a multiple systems capable of employing reverse geocoding capabilities. Rooftop level geocoding and reverse geocoding is available in many of our products, and can be integrated into your systems through a number of interfaces and programming languages. For more information on Anchor Software's geocoding capabilities, please contact your Anchor representative, or visit the Anchor website at [www.anchorcomputersoftware.com](http://www.anchorcomputersoftware.com).

## Figure 2. How Reverse Geocoding Works





## Anchor Software Solutions Overview

Anchor Software LLC was established in 2000 to provide comprehensive software solutions for direct mail, direct marketing, data quality, and other related applications. Anchor Software prides itself in delivering comprehensive, products and services designed to meet the needs of our customers that allows them to stay in the forefront of dynamic and highly competitive marketplaces. Anchor's product line includes 60 separate solutions, with over 2000 products installed.

### Postal Processing • Data Quality • Document Design

#### Postal Processing

- CASS™ Certified Solution
- USPS NCOALink® Certified Interface Solution
- PAVE™ Gold (Presort) Certified Solution
- Intelligent Mail® Barcode (IMb) Solutions
- International Address and Data Quality

#### Enterprise-Level Data Quality

- MDM and Golden Records
- Real-Time Address Validation
- De-Duplicate Files
- Enhance Addresses
- Deceased/Prison Suppression
- GeoCoding

#### Document Design

- High-Speed Printing and Document Preparation
- Transactional Document Design

### Customer Support – Always get a live person when you call!

Anchor Software offers 24/7 customer support and you will always get a live person. Not only will we assist in solving software issues but we will also help with the use of our software!

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