

Top 10 Mapping APIs: Google Maps, Microsoft Bing Maps and MapQuest

The popularity of digital maps and the use of digital mapping tools have grown rapidly in recent years. While Google is still the leader when it comes to maps, there are now many other companies in the map technology industry. The immense popularity of digital maps should not be surprising; maps can be useful, informative, beautiful and fun.

These days map aficionados can find an unlimited number of beautifully designed interactive and static digital maps. There are maps that display open data, like Chris Whong's [New York City Complaints Map](#), which displays the past seven days of the city's 311 complaints. There are maps that incorporate many source data sets, like the [Map of Life](#), a set of maps that display species range information and species lists for any geographic area worldwide. There are maps that are both fun and useful, like the [Zombie Apocalypse Survival Map](#), which shows the nearest locations for grocery stores, hospitals, warehouses, etc., along with zombie danger zones. There are real-time information maps, like [Tetsudo Now](#), an animated map that uses Google Maps, OpenLayers and transit timetables to show Tokyo's subways and buses in transit.

The APIs that made it to our top 10 mapping APIs list offer a wide range of capabilities. Many of these APIs provide similar functionality, while some offer unique features. Among these platforms and APIs you can find mapping capabilities that include interactive and static maps, animated

maps, geocoding, travel and transit directions, elevation data, traffic flow and more. The APIs also scored well against a diverse set of criteria:

- Popularity
- Potential
- Documentation
- Ease of use
- Functionality

API popularity is determined using a variety of metrics, including *ProgrammableWeb* followers, GitHub activity, Twitter activity and search engine popularity based on Google Trends.

Google Maps

Link: </api/google-maps>

Provider: Google

API Documentation URL: <https://developers.google.com/maps>

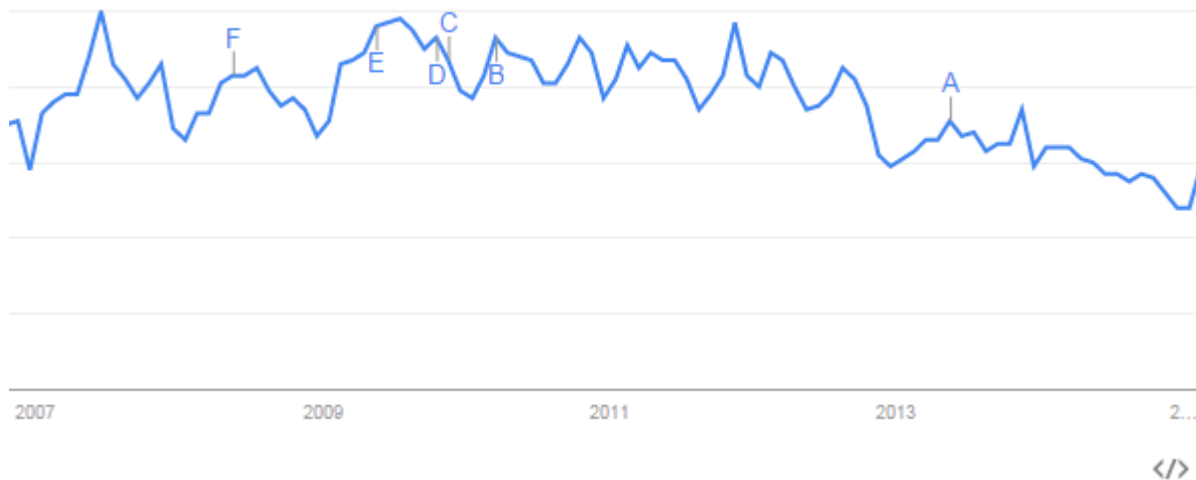
Live Demos: <http://www.morethanamap.com/>

Google Maps [celebrated](#) its 10th birthday this month, and after 10 years, Google is still the undisputed king when it comes to digital maps. According to [Nielsen](#), the Google Maps smartphone app sees an average of more than 79 million unique users per month, and that's just the smartphone app. There is also an official Google Maps desktop app, not to mention the millions of third-party applications that use Google Maps APIs.

There are actually a variety of Google Maps APIs, including an Embed API, Maps Image APIs, Places API, Web Services API and Google Maps API for Work. You can find a list of available [Google Maps APIs](#) [Track this API](#) on *ProgrammableWeb*.

Google provides very detailed API documentation as well as code samples, libraries, SDKs and other digital mapping tools. There is also an API picker that developers can use to find the right mapping API for their projects.

Google is continuously adding new features and improvements to Google Maps, which helps ensure that the company remains the king of digital maps well into the future.



Google search interest over time. Data source: [Google Trends](#)

Microsoft Bing Maps

Link: </api/microsoft-bing-maps>

Provider: Microsoft

API Documentation URL: <http://www.microsoft.com/maps/choose-your-bing-maps-API.aspx>

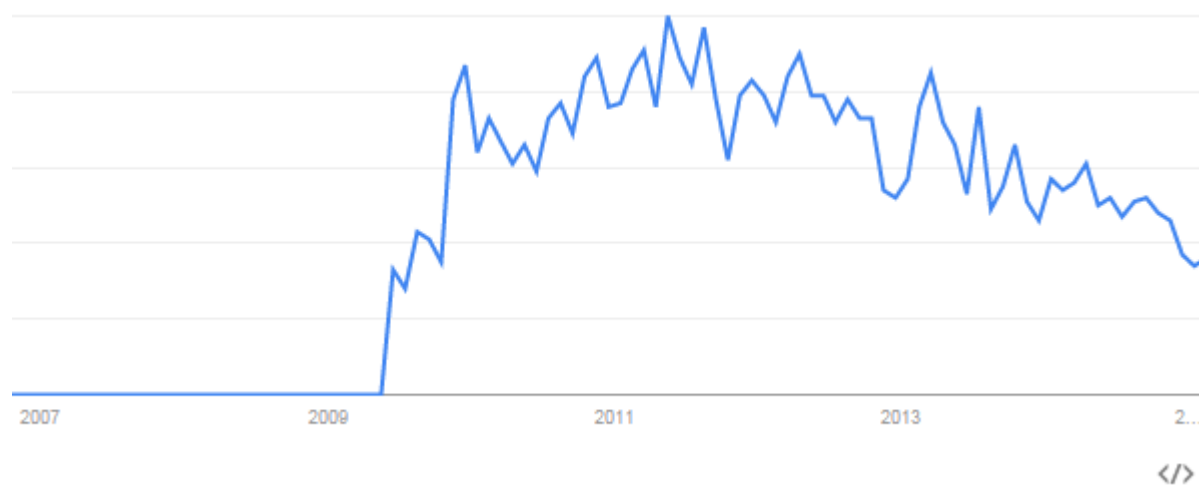
Live Demos: <https://www.bingmapsportal.com/isdk/ajaxv7#CreateMap1>

Microsoft Bing Maps is a very popular mapping platform, although it has a long way to go before reaching the immense popularity of Google Maps. Microsoft is steadily working on adding new features and improvements to the Bing Maps Platform. The company recently [announced](#) the addition of

new Streetside cities and high-resolution aerial imagery on Bing maps as well as new 3-D cities on the Bing Maps Preview app.

[The Microsoft Bing Maps API Track this API](#) documentation is very detailed and thorough, although it is somewhat hard to follow. There is a nice AJAX Interactive SDK that provides feature samples and code snippets for developers building JavaScript applications.

As Microsoft adds more features and functionality to the Bing Maps platform, developer adoption and the overall popularity of Microsoft Bing Maps should grow steadily.



Google search interest over time. Data source: [Google Trends](#)

OpenLayers

Link: [/api/openlayers](#)

Provider: OpenLayers

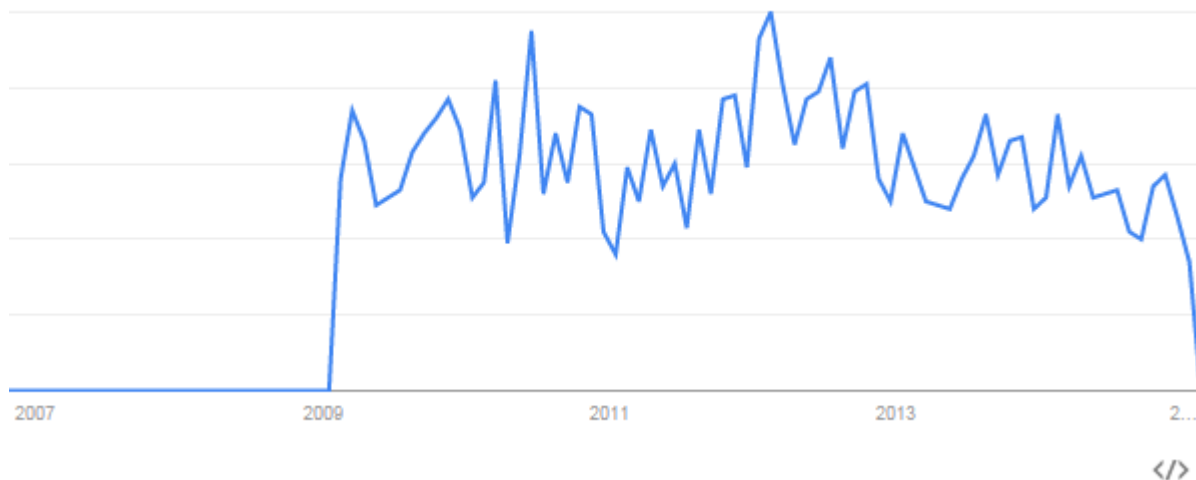
API Documentation URL: <http://openlayers.org/>

Live Demos: <http://openlayers.org/en/v3.2.0/examples/>

OpenLayers is an open source JavaScript library that utilizes WebGL, Canvas 2D and other HTML5 features for rendering maps in modern Web browsers. OpenLayers is capable of pulling tiles from OpenStreetMap, Bing, MapQuest, Stamen and many other mapping sources. OpenLayers is also capable of rendering vector data from GeoJSON, TopoJSON, KML, GML and other geographic data formats.

The documentation for OpenLayers is well-organized and provides a lot of information for developers. A gallery on the OpenLayers website contains a large selection of live demos, and quite a few code samples are available on GitHub.

[OpenLayers Track this API](#) is a popular mapping library largely due to its open source license and ability to pull tiles from other mapping platforms.



Google search interest over time. Data source: [Google Trends](#)

Foursquare

Link: [/api/foursquare](#)

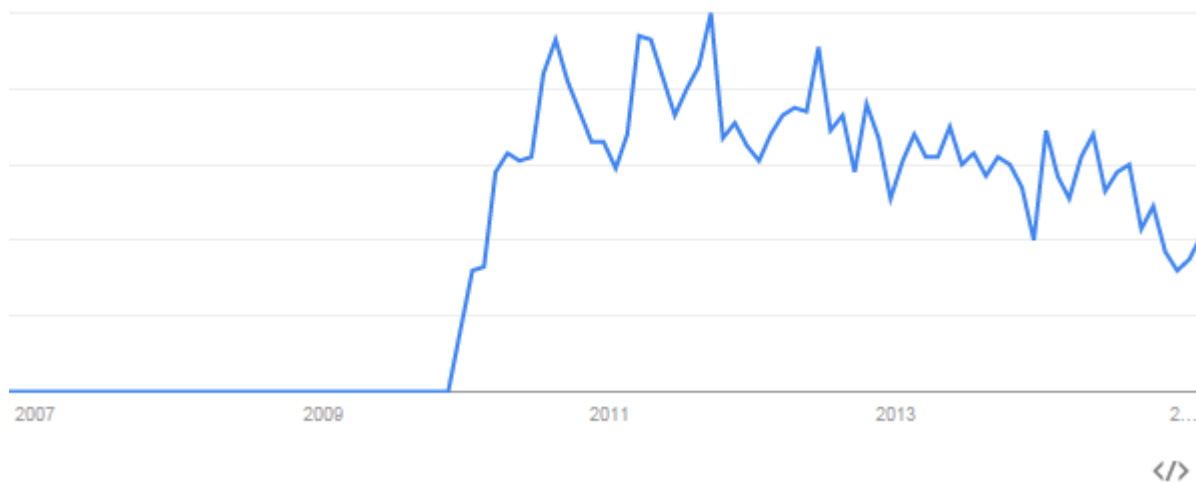
Provider: Foursquare

API Documentation URL: <https://developer.foursquare.com/>

The Foursquare API provides programmatic access to the Foursquare places database, merchant platform and venues service. Many developers use the Foursquare API to incorporate the venues platform into their application, which is then used as the app's location database.

[The Foursquare API Track this API](#) documentation is thorough and well-organized, and a lot of client libraries are available. The client libraries were not created by Foursquare; they were built and released by members of the Foursquare API community.

In July of last year, the company split Foursquare into two separate apps: Foursquare became a mobile phone Yelp app, and the check-in app was rebranded and launched as Swarm. While both apps seem to be doing fairly well at this time, the future of the Foursquare app and Foursquare API is unclear.



Google search interest over time. Data source: [Google Trends](#)

OpenStreetMap

Link: [/api/openstreetmap](#)

Provider: OpenStreetMap

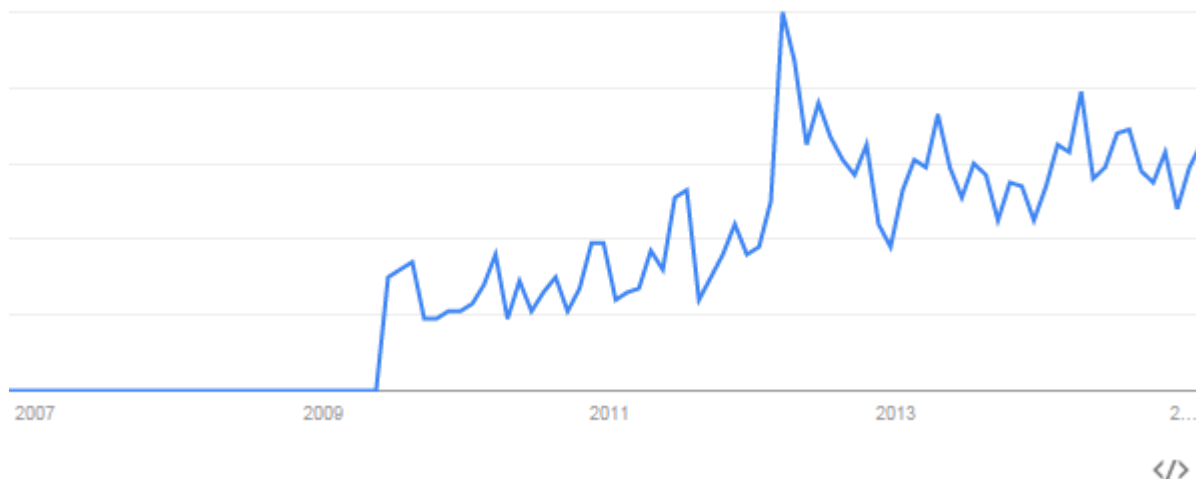
API Documentation URL: <http://wiki.openstreetmap.org/wiki/API>

Live Demos:

http://wiki.openstreetmap.org/wiki/List_of_OSM_based_Services

OpenStreetMap is a project maintained by a large group of volunteers that create and distribute geographic data for the world for free. A lot of applications, such as [Watercolor by Stamen](#), [HitchWiki](#) and [OpenWeatherMap](#), use OpenStreetMap data.

[The OpenStreetMap API Track this API](#) does not embed a map into a webpage; it allows raw geodata to be retrieved and/or saved to the OpenStreetMap database. The API documentation is thorough, although the information is contained on a wiki page. OpenStreetMap represents physical features such as commercial buildings and railways using tags, and each tag describes a geographic attribute. OpenStreetMap has a lot of [map features](#), including amenities, building, highways, places, shops and waterways.



Google search interest over time. Data source: [Google Trends](#)

MapQuest

Link: </category/all/apis?keyword=mapquest>

Provider: MapQuest

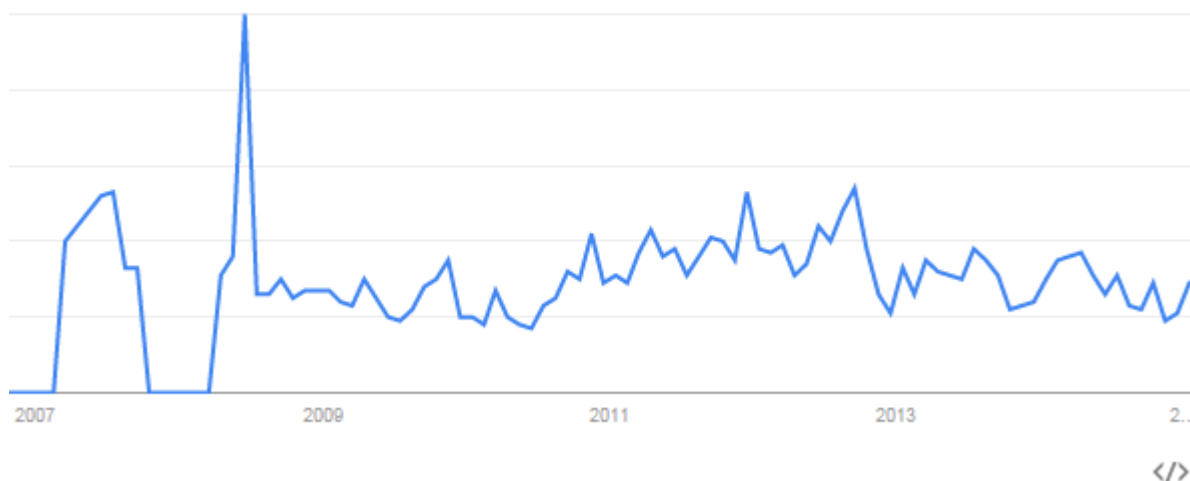
API Documentation URL: <http://developer.mapquest.com/>

Live Demos: <http://demos.mapquest.com/>

MapQuest offers a nice selection of digital mapping products, including the MapQuest.com website, MapQuest Mobile, MapQuest Local, MapQuest Enterprise and MapQuest Developers. There are two versions of the MapQuest platform: Licensed and Open Data. The Licensed Data platform is available with a MapQuest Enterprise Edition license, and the Open Data platform is available with a Free and Open license. It should be noted that OpenStreetMap is the primary source of data for the MapQuest Open Data Platform.

[The MapQuest Track this API](#) developer site includes well-designed documentation, a map builder, a static map wizard, a route planner and other developer tools. In addition, MapQuest provides a JavaScript Maps API, a suite of Open Web Services, open Leaflet plug-ins and more.

MapQuest was founded back in 1967, long before Google even existed. MapQuest began offering digital mapping products for some time before Google launched Google Maps in 2005. The MapQuest platform is well-established and reliable, and it powers millions of MapQuest.com visitors and MapQuest app users.



Google search interest over time. Data source: [Google Trends](#)

Mapbox

Link: [/api/mapbox](#)

Provider: Mapbox

API Documentation URL: <https://www.mapbox.com/developers/api/>

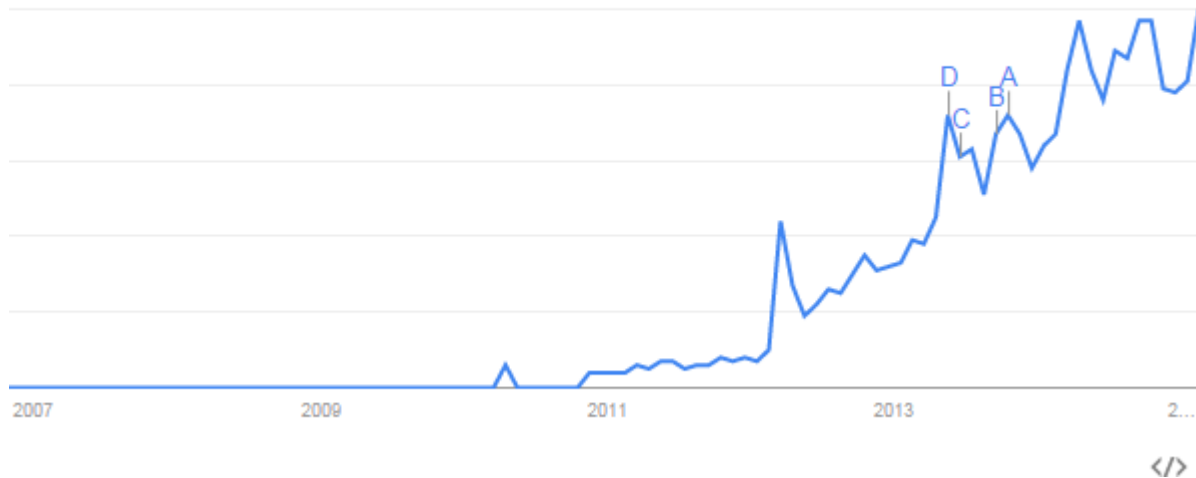
Live Demos: <https://www.mapbox.com/mapbox.js/example/v1.0.0/>

Mapbox provides a suite of digital mapping tools that allow custom maps to be quickly and easily added to applications. The Mapbox platform is open source and features textures, illustrations, custom markers, vector tiles, static maps, geocoding and more. Mapbox offers five plans, ranging from a free starter plan to a high-volume enterprise plan.

Mapbox provides APIs, SDKs and other tools that developers can use to add dynamic maps and Mapbox technology to their applications. The platform also features Mapbox Editor, an online editor that allows users to quickly build custom maps using their own data. Data can be imported from a spreadsheet file (CSV), GeoJSON, KML or GPX. The API documentation is well-designed and easy to follow. Mapbox also provides a lot of live

demos and code samples that developers can use as a starting point for their applications.

While Mapbox is relatively new compared to Google Maps (Mapbox was founded in 2010), the company has been working hard at adding new functionality and engaging features to help set it apart from other digital mapping companies. [Untrack this API](#)



Google search interest over time. Data source: [Google Trends](#)

CartoDB

Link: [/api/cartodb](#)

Provider: CartoDB

API Documentation URL: <http://cartodb.com/develop>

Live Demos: <http://cartodb.com/gallery/>

CartoDB is an open source mapping, analysis and visualization engine that allows developers to create Web and mobile geospatial applications. CartoDB was launched in April 2012 and since then has gained a number of high-profile users, including National Geographic, NASA, The Guardian UK

and Twitter. CartoDB offers several plans that range from a free basic plan to a feature-packed enterprise plan. [Track this API](#)

CartoDB provides a JavaScript library (CartoDB.js) and several APIs that developers can use to add engaging maps and geospatial visualizations to their applications. CartoDB also provides an editor with an intuitive drag-and-drop interface that allows users to quickly create maps and visualize data. The documentation for both the CartoDB platform and editor is well-organized and easy to follow.

The popularity of CartoDB has grown very quickly despite the relative newness of the platform. One of the most popular features of the CartoDB platform is Torque, an animated visualization that shows changes in locational data over time. Features like Torque visualization help to distinguish CartoDB from other digital mapping and geospatial platforms.



Google search interest over time. Data source: [Google Trends](#)

Esri ArcGIS

Link: [/category/all/apis?keyword=arcgis](#)

Provider: Esri

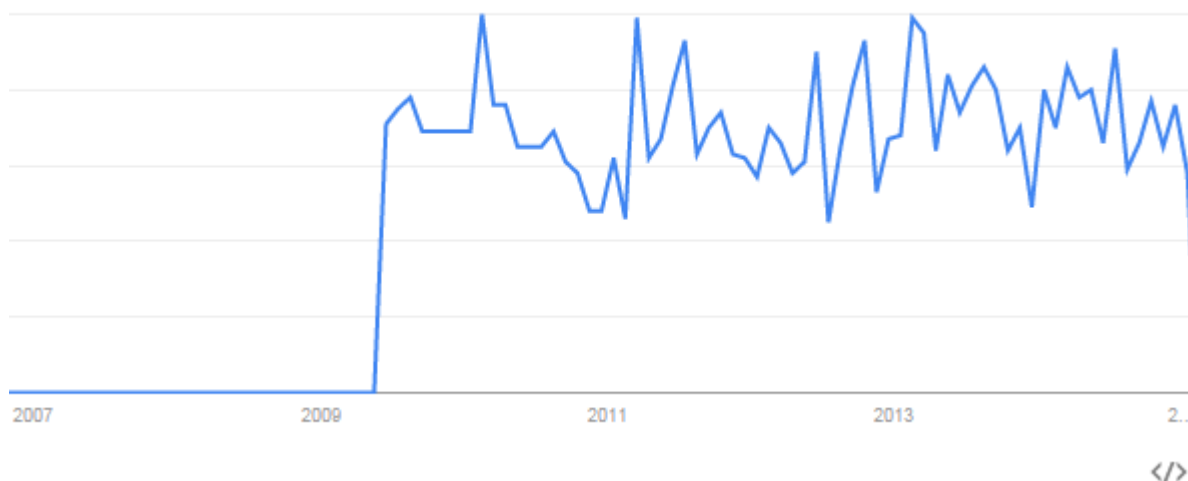
API Documentation URL: <https://developers.arcgis.com/javascript/>

Live Demos: <https://developers.arcgis.com/en/#visualization-demo>

Esri (Environmental Systems Research Institute) was founded back in 1969 and was originally a research group that analyzed geographic information for land-use planning. In 1996, Esri released MapObjects, its first platform for publishing maps on the Internet. Today Esri focuses primarily on enterprises and offers a complete GIS platform that includes the ArcGIS cloud-based mapping platform, ArcGIS for Desktop, Esri CityEngine and Esri MapStudio (see the [complete list](#)). While Esri focuses on the commercial GIS market, the company does offer a free GIS viewer for consumers called ArcGIS Explorer Desktop. [Track this API](#)

Esri has a really nice portal for developers that is well-designed and easy to follow. The developer portal includes access to ArcGIS APIs and SDKs, good documentation, live demos, code samples and more. Esri offers standalone developer pricing that uses a credit system (for developers who do not have an ArcGIS online subscription). The credit pricing structure is somewhat confusing; a simpler method for pricing would be far more preferable.

According to a recent [Fortune.com article](#), Esri technology is used by more than 350,000 organizations worldwide, and over two-thirds of them are Fortune 500 companies. The company is seeing a lot of growth in the commercial sector where Esri GIS applications are experiencing 30% growth per year.



Google search interest over time. Data source: [Google Trends](#)

Yahoo BOSS PlaceFinder

Link: [/api/yahoo-placefinder](#)

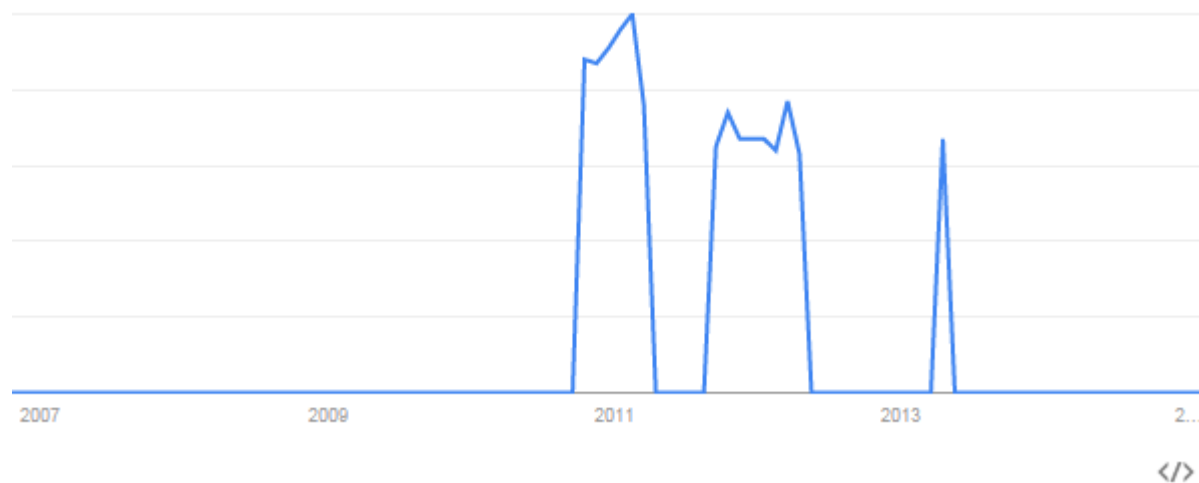
Provider: Yahoo

API Documentation URL: <https://developer.yahoo.com/boss/placefinder/>

Launched in July 2010, the Yahoo BOSS PlaceFinder API allows applications to programmatically access the platform's premium geocoding Web service. The service allows developers to build applications that are "location-aware" by taking street addresses or place names and converting them into geographic coordinates. PlaceFinder can also perform reverse geocoding where geographic coordinates are converted into the appropriate street addresses or place names. [Track this API](#)

The API documentation is adequate; a quick-start page helps make the Yahoo BOSS PlaceFinder API easy to set up and use. The price for using the API is based on the number of queries per day, and Yahoo allows developers to monetize their apps with Yahoo search advertising in the same service.

Geocoding is a standard feature found in nearly all of the digital mapping platforms on this list. With so many feature-packed digital mapping platforms available today, Yahoo's basic geocoding Web service is not as appealing to most developers as the other platforms.



Google search interest over time. Data source: [Google Trends](#)

Disclaimer: The metrics used to determine *ProgrammableWeb*'s top 10 mapping APIs were obtained shortly before the time of publication. The metrics used, pricing and other product information provided in this article are accurate as of the time of publication.

What are your thoughts?

- What APIs would you add?
- Are there any on our list that don't belong? *Let us know how you are making use of any **mapping APIs** in the comments section below.*