



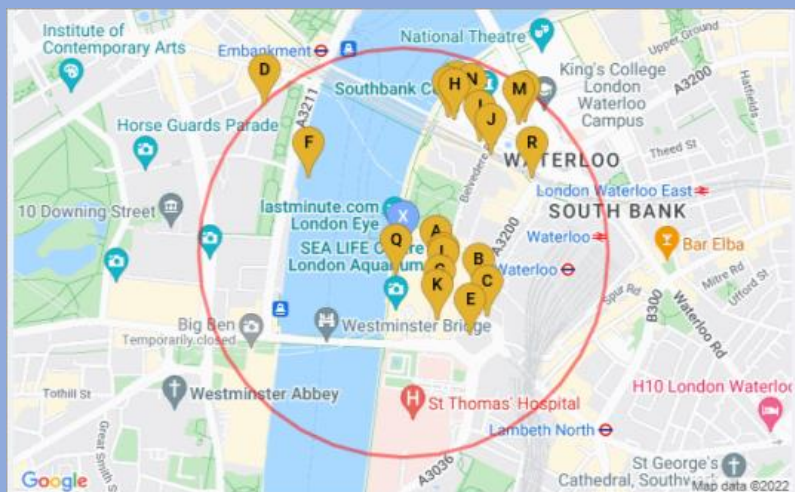
# Annotate Google Maps in Access



Colin Riddington

Access Europe - Wed 7 Dec 2022

<https://isladogs.co.uk/annotate-google-maps/>



# Annotate Google Maps in Access

## Background:

- Access developer for 25 years starting with Access 97
- Many years teaching in secondary schools including responsibility for data analysis
- Created Mendip Data Systems to distribute commercial Access apps for schools
- Current focus on creating apps for businesses & developers
- Website with Access articles, videos, example apps, sample code & security challenges
- Focus on stretching the boundaries of what can be achieved using Access
- Regular contributor at many forums with user name : *isladogs*
- YouTube channel : <https://www.youtube.com/@IsladogsOnAccess>
- Awarded MVP status – Aug 2022



# Using Google Static Maps in Access

Map URL for specified location based on:

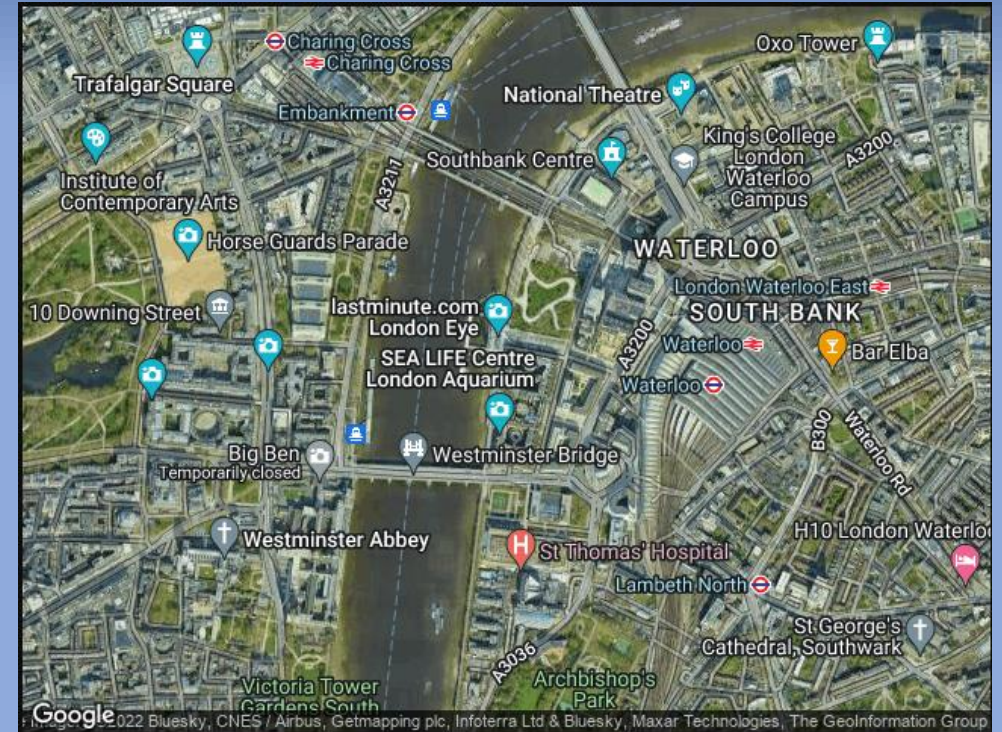
- Postcode e.g. SE1 7PB
- Co-ordinates e.g. 51.5027667,-0.1215859 (lat/long)
- Full/partial address e.g. London Eye

Also specify:

- Size e.g. 640x400 ; 480x320
- Zoom (range 1-20)
- Map type (roadmap/terrain/satellite/hybrid)
- Your Google Maps API key (free)

Example Static Maps URL:

- <https://maps.googleapis.com/maps/api/staticmap?center=SE1+7PB&zoom=15&size=640x480&maptype=hybrid&key=YourGoogleAPIKey>





# Annotate Google Maps in Access

## Aim:

- demonstrate ways of 'annotating' downloaded static Google Maps to personalise these for your clients
- similar methods can be used for e.g. Bing maps

## Topics to be covered will include the use of:

- marker points
  - ❖ e.g. mark client locations or nearby places
- circles around a location
  - ❖ e.g. show places of a specified type within a set distance from a location
- boundary shapes
  - ❖ e.g. show postcode or regional boundaries
- lines joining 2 or more points
  - ❖ e.g. indicate routes between locations
- feature styles
  - ❖ e.g. main/local road colour and places of interest



# Annotate Google Maps in Access

## Map Layers:

- All 'annotations' are added as additional map layers using code as part of the URL to generate the static map image
  - ❖ <https://maps.googleapis.com/maps/api/staticmap?center=51.50282,-0.119252&zoom=17&size=800x400&mapttype=roadmap&markers=color:blue%7Csize:normal%7Clabel:X%7C51.50282,-0.119252&key=YourAPIKeyHere>

## Limitations:

- URL character limit in current IE based web browser control = 2048 ; 2083 for IE ActiveX web browser control  
Often insufficient for all the annotations listed earlier
- Google Maps Javascript API no longer works with IE browser control
- Static maps can instead be downloaded direct as images.  
Length of URL is then subject to Google Maps limit – currently 16384 (16K)

## New Chromium Edge Browser Control:

- Currently under development for probable release Jan-Mar 2023
- Will solve many current issues

# Get Geolocation from Photos

<https://isladogs.co.uk/get-geolocation-from-photos/>



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## Example Apps for Businesses, Schools & Developers

## Screenshots

### Get Geolocation From Photos

Version 1.2 Last Updated 25 Oct 2019

If you're anything like me, you will have built up a large collection of digital photos from your phone or camera but may have forgotten where many of those photos were taken

This example app is designed to manage that situation. It was prompted by a request from AWF member **MickJav** in this thread at [Access World Forums](#).

It was adapted from my earlier example app [Get Current Geolocation](#)

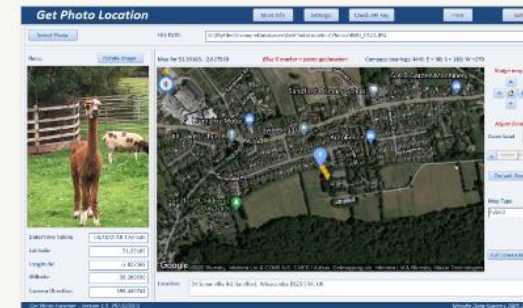
The app works by extracting the geolocation info which may be saved as part of the **EXIF** data stored with the photo. The code used to do this was written by **Wayne Phillips** from **EverythingAccess.com**. See his article: [Extracting GPS Data From JPEG Files](#)

The data extracted includes **latitude, longitude & altitude** together with the **date/time taken**. A **static Google map** is then loaded centred on the saved location data. **Reverse geolocation** is then used to display the closest address to the saved geolocation.

#### NOTE:

1. This only works for **JPEG/JPG** files (standard filetype for digital photos).
2. In addition, **Location Services** must be enabled on your phone / camera

Click any image to view a larger version



# Get Current Geolocation

<https://isladogs.co.uk/get-current-geolocation/>



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**Example Apps for Businesses, Schools & Developers**

**Screenshots**

## Get Current Geolocation

*Version 2.9*    *Last Updated 5 Feb 2022*

This utility can be used to determine your **current geolocation** in Access and display a map.  
The attached zip file contains an Access file and 4 other items.  
Save each item to the same folder

**Click to download :** [GetLocation v2.9](#) (zipped - approx 220 KB)

### IMPORTANT NOTE:

The geolocation code & map requires the use of a free **Google Maps API key**.

You can obtain your own free API key from <https://cloud.google.com/maps-platform>  
You will need to enable **THREE map APIs: Static Maps / Javascript Maps / Geocoding**

Google now requires **billing information** to be entered when obtaining **API keys**.

However there is a generous monthly free allowance and **small/medium users of Google Map APIs** should still be able to download various maps without incurring charges

Once you have entered a valid API key, click '**Get Current Location**' on the main form.

**A browser window will open and ask permission to obtain your location.**

Click any image to view a larger version

**Get Location - Google Maps API Info** Close

This app uses a **Google Maps API key** to obtain the current location and download a map for that location.

To obtain your own free **API key**, please click this link: <https://cloud.google.com/maps-platform>  
You will need to enable **THREE** map APIs: **Static Maps / Javascript Maps / Geocoding**

Google now requires **billing information** to be entered when obtaining **API keys**.  
The number of **free downloads** available per day is restricted though the limit is very generous.

When you have obtained an **API key**, please **TYPE** or **PASTE** it into the text below and press **ENTER**.  
The **Update** button is enabled after the **API key** has been checked.  
Click the **Update** button to save the new **API key**.

API key:  Fetch

If you don't want to update the API key now, click **Close** to exit the application

If you need assistance with this process, please email: [support@mendipdatasystems.co.uk](mailto:support@mendipdatasystems.co.uk)

Get Location - Version: 2.9 - 22/09/2022 Mendip Data Systems 2002-2022

Latitude:  Longitude:

Map Satellite North

United Kingdom





# UK Postcode Address Lookup

<https://www.isladogs.co.uk/uk-postal-address-lookup/>



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Screenshots

## UK Postcode Address Lookup



Version 1.2

Updated 8 Dec 2019

Approx 0.8 MB

This is a free example app I created to get a **list of addresses & house price info** for **selected UK postcodes** together with the **geo-coordinates** and a **static Google map** for that postcode

It is a cut down version of my commercial [UK Postal Address Finder](#) application.

The **geocoordinates** for the postcode are obtained using code similar to that by **Christos Samaras** in his excellent article: [Geocoding using VBA & Google API](#)  
The site has a lot of useful code for Access and other platforms.

The **address and house price data** (where available) is extracted from freely available data downloaded from [192.com](#)

The **static Google map** includes a marker indicating the postcode centre.

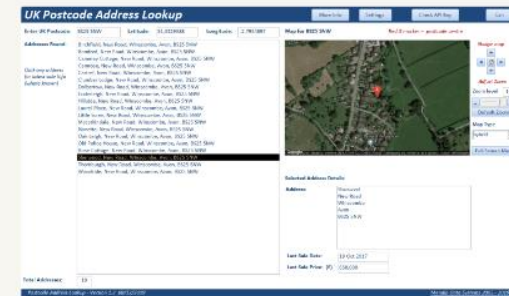
The map can be modified in various ways:

- nudged up/down/left/right
- zoomed in/out (on a 1-20 scale) where the default = 17
- the **map style** can be altered (roadmap/terrain/satellite/hybrid) with default = hybrid
- a **full screen 'live' map** can also be loaded

When the app is first loaded, you will be prompted to enter a **valid Google maps API key** (with billable info). This is required in order to use the app.

Click to download an ACCDE version of the app for use with **32-bit or 64-bit Access**:


Click any image to view a larger version





# UK Postal Address Finder



<https://www.isladogs.co.uk/uk-postal-address-finder/>




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### UK Postal Address Finder (UKPAF)



**Current Version 3.46**    **First Published 22/06/2018**    **Last Updated 26/09/2022**

The **primary purpose** of this application is to obtain a **full list of postal addresses** for **selected UK postcodes**. Many additional features are also included

**Data** is obtained from the following sources:

- a) **Postcode data** from [www.doogal.co.uk](http://www.doogal.co.uk) based on data released by the **Office for National Statistics (ONS)**
- b) **Postal address data** for selected postcodes is obtained in the form of **JSON** files from an online provider (**Ideal-Postcodes**)
- c) **Online maps (Google)**

There are approximately 1.7 active million postcodes & 28 million postal addresses in the UK. Typically, each postcode has between 20-40 addresses

Select a **postcode** and the **full list of postal addresses** plus a **static Google map** for that **postcode** are imported and processed in less than a second.

In addition the **unique delivery point reference number (UDPRN)** is obtained for each address and the **precise location** is marked on the downloaded **map**

#### UK Postal Addresses

Search History   Postcode Areas   Postcode Districts   Address Finder   UDPRN to Address   View Help   Admin   Print   Exit

Select a postcode


Altitude    Latitude    Longitude    Grid Ref

Locality    Post Town    District    Country    Constituency

Example Address

All Postal Addresses

27a, Nantwich Road, CREWE, Cheshire East, England, CW2 6AF	Address Block <input type="button" value="Modify Address"/> <input type="button" value="Copy to clipboard"/>	Dine India Restaurant
29a, Nantwich Road, CREWE, Cheshire East, England, CW2 6AF		13-15
35a, Nantwich Road, CREWE, Cheshire East, England, CW2 6AF		Nantwich Road
31 Nantwich Road, CREWE, Cheshire East, England, CW2 6AF		CREWE
Apos Kebab & Pizza, 29 Nantwich Road, CREWE, Cheshire East, England, CW2 6AF		Cheshire East
<input type="button" value="Click an address in the list to view details"/> Dine India Restaurant, 13-15, Nantwich Road, CREWE, Cheshire East, England, CW2 6AF	England	



# Annotate Google Maps in Access

3-part article with example app: <https://isladogs.co.uk/annotate-google-maps/>

frmMain

## Annotate Google Maps

Check API View Web Article Exit

This example app demonstrates how maps can be downloaded and annotated with additional map layers in real time. Two methods are available using a web browser control or image files. You will need a Google Maps API key for the following THREE APIs: Static Maps / Places / Geocoding

Annotate Browser Maps *View annotated maps in a web browser control*

Annotate Static Maps *Download annotated maps as images and view in an image control*

Default Postcode:  South East London area Start Update Use this postcode?

Road map *Blue marker = approximate centre of postcode area* Satellite Photo

Annotate Google Maps Version 1.7 06/12/2022 Mendip Data Systems 2005-2022



# Annotate Google Maps in Access

## Useful links:

- Google Static Maps API Developers Guide
  - ❖ <https://developers.google.com/maps/documentation/maps-static/start>
  - ❖ <https://developers.google.com/maps/documentation/maps-static/styling>
- Google Nearby Places API Developers Guide
  - ❖ <https://developers.google.com/maps/documentation/places/web-service/search-nearby>
- IE browser URL character limit
  - ❖ [Maximum URL length is 2,083 characters in Internet Explorer \(microsoft.com\)](#)
  - ❖ [What is the maximum length of a URL in different browsers? - Stack Overflow](#)
  - ❖ [How long of a URL can Internet Explorer 9 take? - Stack Overflow](#)
- Fix Google maps display issues in Access web browser control
  - ❖ <https://www.isladogs.co.uk/google-maps-fix/>