

Technical Note:

Working with the Flickr API

Center of Human Dynamics in the Mobile Age (HDMA)

Project conducted by:

San Diego State University

5500 Campanile Drive

San Diego, CA 92182-4493

Report prepared by:

Jiue-An (Jay) Yang & Joey Ying Lee

Department of Geography, San Diego State University

November 2015

***Abstract***

This report introduces the Flickr API, which allows developer to connect to the Flickr database for retrieval of photos information shared by Flickr users. This report covers details about using the API, from getting started with applying the API keys to using the API method and retrieving data. There are many methods can be used from an endpoint application, however, this report will only focus on how to search and obtain information about photo using spatial parameters. The data retrieved from Flickr with the API has potential to be used for mapping and analyzing activities in an area.

This report covers the following items:

# Sign up for Flickr account

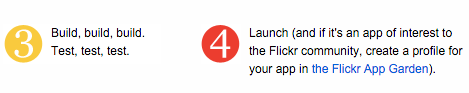
# Register your Flickr application

# Search for photos in the San Diego State University area.

***Working with the Flickr API***

Introduction

According to Wikipedia (<https://en.wikipedia.org/wiki/Flickr>), Flickr (pronounced "flicker") is an image hosting and video hosting website, and web services suite that was created by Ludicorp in 2004 and acquired by Yahoo in 2005. In addition to being a popular website for users to share and embed personal photographs, and effectively an online community, the service is widely used by photo researchers and by bloggers to host images that they embed in blogs and social media. The Flickr API is the official application programming interface (API) developed and provided by Flickr. The Flickr API allows developer to access the Flickr database and retrieve photos and other raw data shared by Flickr users. In fact, almost all the functionality that runs flickr.com is available through the API. The best part is, the API is completely free to use. To get started, we follow the steps on the official Flickr API page:



There are many functions and methods in the Flickr API. In this report, we will focus on the basic steps of connecting to the Flickr API and searching photos around an area. We will use ***Python***as the programming language and use the ***Python Flickr API kit*** created and maintained by Sybren A. Stüvel and others

(<https://pypi.python.org/pypi/flickrapi>). Documentation of this Python library can be found at <http://stuvel.eu/media/flickrapi-docs/documentation/>.

Create Your Application and Request for API Keys

To get started, the first thing to do is to sign up for a Flickr account and request for **API keys** create you own app. Flickr API requires all apps to be authenticated before they can connect to the database and retrieve data. To do so, developers need register their apps with Flickr. Follow these steps to create your application.

1. Sign up for a Flickr account at: <https://www.flickr.com/services/apps/create/>.

2. With your account Apply for API Keys at <https://www.flickr.com/services/apps/create/apply>. For non-commercial usage, click on the blue button “**APPLY FOR A NON-COMMERCIAL KEY**”.

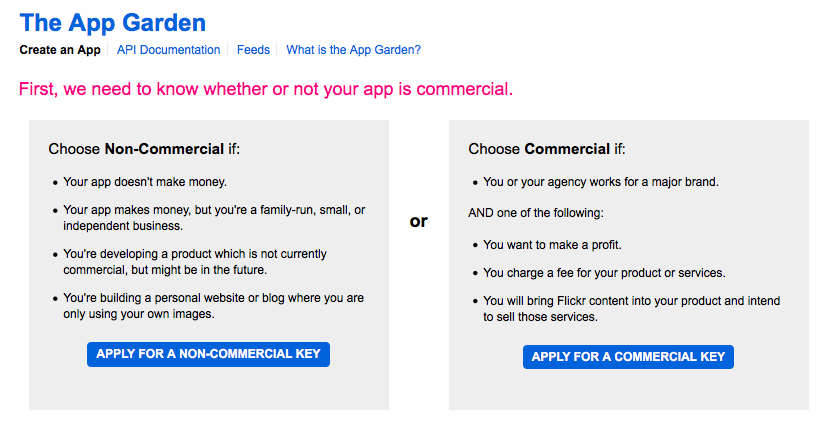


Figure 1. Apply for API Key

3. In the next page, type in the name and descriptions of your application. Click **Submit** when done.

4. Your application is now registered with Flickr and your API Keys will be shown on the next screen (as below). Make sure to save the ***Key*** and ***Secret*** for later use.

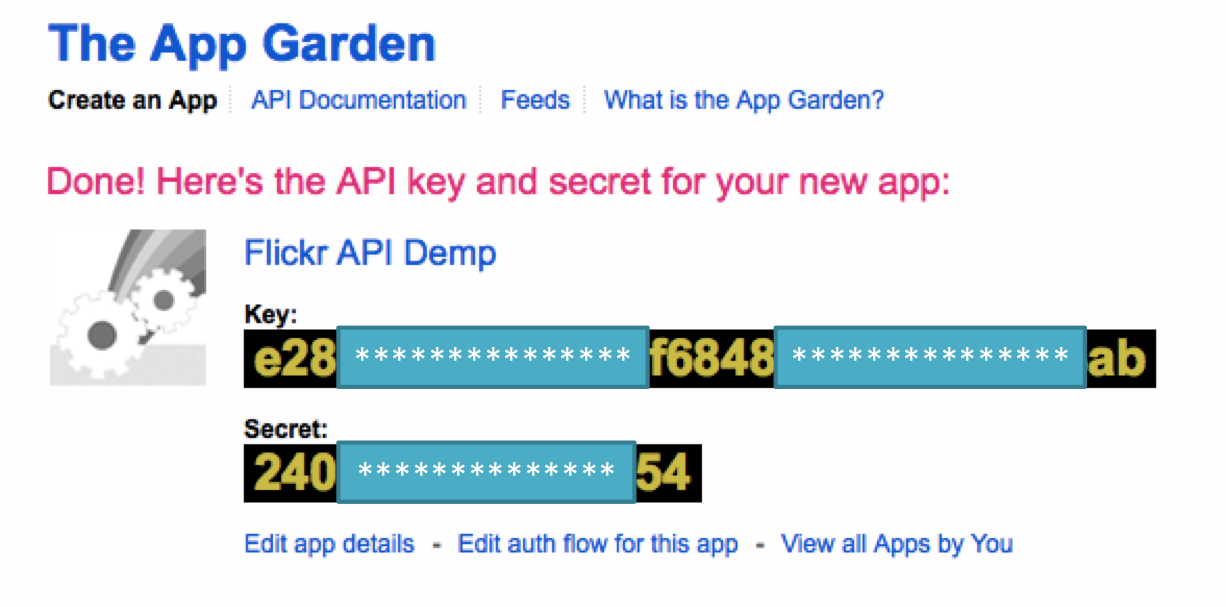


Figure 2, The *API Key* and *API Secret* of your application

Great! Now we have the application ready and we are good to go and search for photos around a defined area with the Flickr API.

Search for Photos in an Area: using the ***flickr.photos.search*** Method

One powerful function in the Flickr API is to explore a defined area and retrieve the photos in the area. This is the same as using the search function on the Flickr website. The method is officially called *flickr.photos.search* in the Flickr API (<https://www.flickr.com/services/api/flickr.photos.search.html>). To use this method, you will need your *API key* and *API secret*. If you lost your *API key* and *API secret*, they can be found at the Flickr App Garden 🡪 Apps By You. This is essentially the simplest way to interact with the Flickr API because there is no need to use external *OAuth*. The request you send through the API will return a JSON (or other format, if needed) response object to your endpoint.

There are many parameters can be used during the search query. Figure 3 lists out several important parameters for the search method.

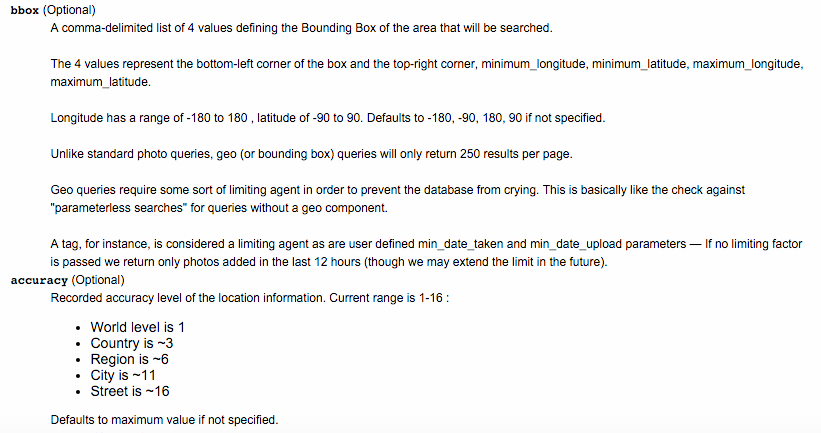
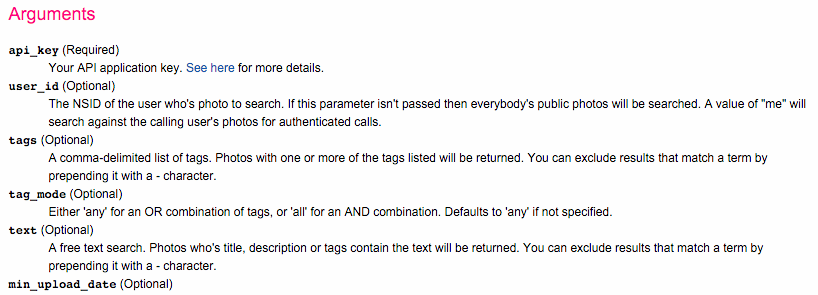


Figure 3. Important parameters for the searchmethod

To demonstrate the use of this method, we perform a *flickr.photos.search* for the area of the San Diego State University. The following Python codes will connect to the Flickr API with your *API Key* and *API Secret*, and perform the *search*.



If you have you endpoint setup correctly. You should be able to retrieve the venue information with a JSON (JavaScript Object Notation) object.

Some attributes of a photo:

# Owner’s name

# Photo ID

# Geo-Location of the photo

# Timestamp

# Url to the photo

# Description of the photo

# Tags of the photo

Figure 4 indicates an example of a return photo from this API call.

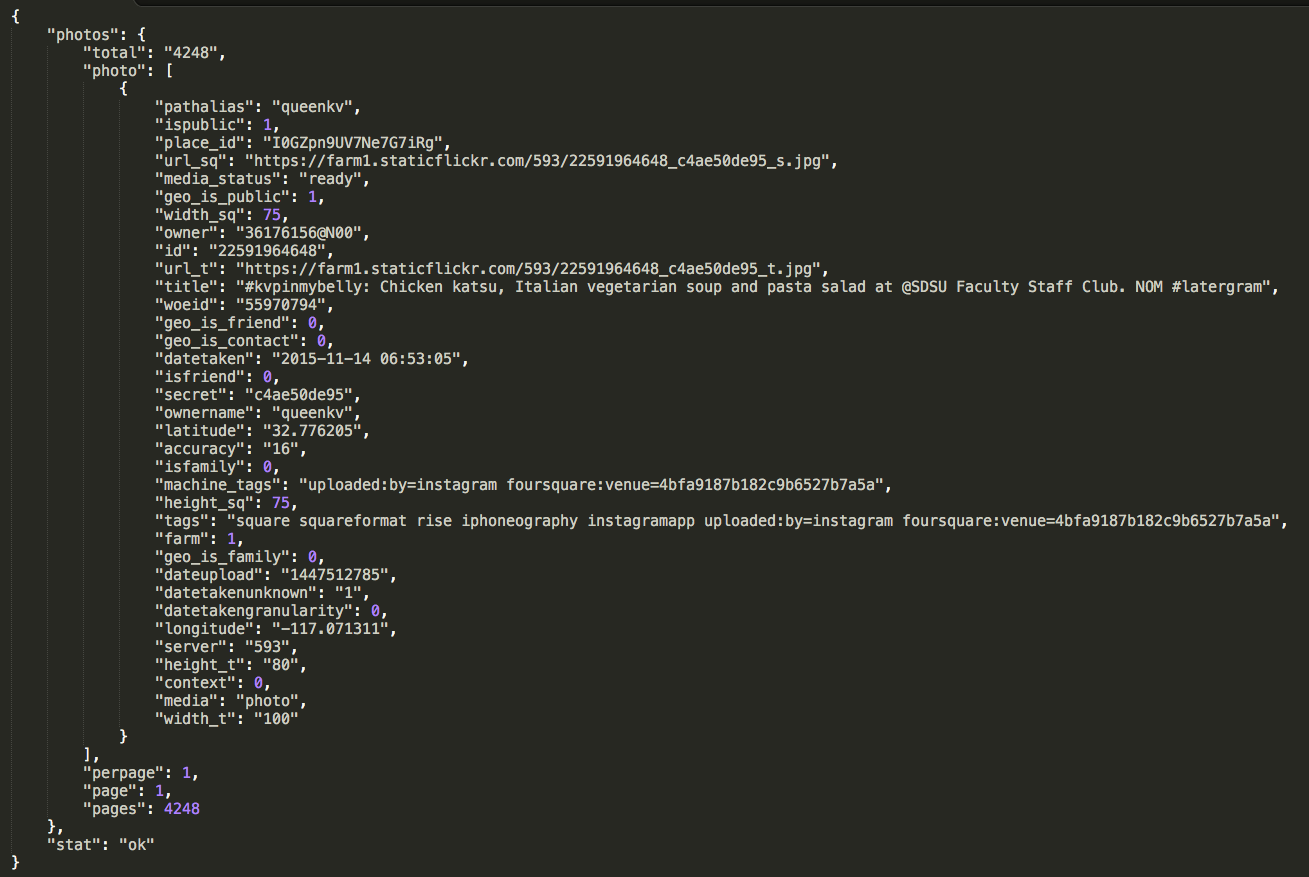


Figure 4, An JSON response of a Starbuck venue at SDSU