Smartphone EXIF Removal Smart Card

EXIF Removal - Do's and Don'ts

- Prevent your phone from including geolocation data when capturing images.
- Remove EXIF data before sharing or posting images, especially images captured in private homes or businesses.
- Whenever possible, use an EXIF viewer to verify EXIF data has been removed.
- Before uploading images, use privacy settings to limit the audience to only you or close friends and family.
- Minimize the use of apps that automatically upload and share captured images (e.g. Instagram, Flickr).
- Even with no EXIF data, the content of images may contain identifying information, including persons and locations. Screen content with the assumption that anyone can see, copy, or forward photos that you post online.

EXIF Data

EXIF (Exchangeable image File Format) is a standard format for storing and exchanging image metadata. Image metadata is included in a captured image file and provides a broad range of supplemental information. Some social networks and photo-sharing sites, such as Flickr, Google+, and Instagram, have features that share EXIF data alongside images. Others, including Facebook and Twitter, do not share EXIF data but my utilize the information internally. EXIF data is stored as tags, some of which reveal unique identifying information.

Tag Category	Important Tags	Identity Implications
Geolocation	GPSLongitude, GPSLongitudeRef, GPSLatitude, GPSLatitudeRef, GPSDateStamp, GPSTimeStamp, GPSAltitude, GPSAltitudeRef, GPSProcessingMethod	Ability to reveal the exact location of private places, such as homes or offices. Some photosharing sites, including Google+ and Flickr, publicly display image GPS coordinates on a map.
Timestamps	ModifyDate, DateTimeOriginal, CreateDate	Creates a log of behavioral patterns and personal timelines.
Camera	Make, Model, Serial Number	A unique serial number identifies the particular device for an image or sets of images.
Authorship	Artist, Owner Name, Copyright	Links images with a name or organization.
Image Summary	ImageDescription, UniqueImageID, UserComment	Potentially reveals identifying information about the content of the images, such as captured persons or locations.

Limiting EXIF data, especially geolocation information, before distributing image files can help protect your online identity from overexposure. This should be done in two stages: 1) Preventing your smartphone from storing identifying EXIF data in image files and 2) Removing existing EXIF data from image files using an EXIF removal application.

Prevent the Capture of Geolocation Data

iOS (v6.0.1)

If iOS location services are turned off, images captured with the native iPhone camera app will not contain geolocation EXIF data.

1 Select the *Settings* app and navigate *Privacy >Location Services*.

2 Turn off location services altogether or for the iPhone's camera applications.

3 Return to the *Settings* app and navigate *Privacy >Photos*.

4 Disable the permissions for other apps to have access to the photos stored in the device's camera roll.

Android (v4.3)

Turning off location storage in the Android Jelly Bean camera application prevents captured images from containing EXIF data.

1 Open the camera app. A white camera symbol in the bottom right corner indicates the app is in camera mode.

2 Tap the white circle in the bottom right corner to bring up a cluster of options in the middle of the screen. Click the settings symbol.

3 Click the location icon on the far left to disable location data.

4 When the location symbol appears with a line through it, then location data has been successfully disabled.

Prevent the Capture of Geolocation Data

- Taking a screenshot of a photo on a device running iOS 7 or Android Jelly Bean will create a new image containing no EXIF data. To take a screenshot on an iOS device, simultaneously press the lock and home buttons; with a Galaxy S3 or Note, press the power and home buttons simultaneously; with a Nexus 4, press the lock and the volume-down buttons simultaneously.
- Photos taken in airplane mode contain geolocation data. Novetta recommends turning off location services/storage for your smartphone's camera application, as shown above.
- Remember that uploading or sharing a lower quality image will still contain EXIF data. EXIF data and image quality have no correlation.

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EXIF Removal Smartphone Apps

TrashEXIF for iOS

TrashEXIF is a free app that deletes geolocation and Camera information from image files stored on your iOS device.

1 Download the TrashEXIF app from the *App Store*.

2 Open the TrashEXIF app and select a photo(s) to clear of EXIF data.

3 Select *Presets*, then in the *Removal Presets* [sic] window, select *Remove Location* and *Remove Device Information*.

4 Return to the previous screen by clicking the name of the image in the upper-left.

5 Scroll down and click *Remove Exif*. This creates a copy of the image file(s) without EXIF and does not alter the original image file. The copy with No EXIF is displayed as most recent in your iPhone Photo app.
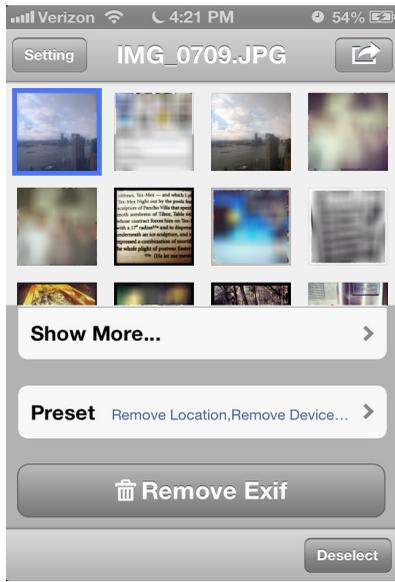
PhotoInfo Eraser for Android

PhotoInfo Eraser is a free app that deletes all EXIF data from image files stored on your Android device.

1 Download the PhotoInfo Eraser from the *Play Store*.

2 Open the PhotoInfo Eraser app and select *Gallery*.

3 Navigate your phone and select an image.

4 Select *Tag Delete* and press OK.

5 Navigate *Gallery*. A copy of your photo with no EXIF is now available in the *PIEraser* folder.

Viewing and Removing EXIF Data in OS X

Use the ImageOptim application (available at http://imageoptim.com/) to remove EXIF data on your OS X device.

1 Open the ImageOptim application

2 Drag the photos for EXIF removal into the application window and wait for a green check mark to appear next to the file name.
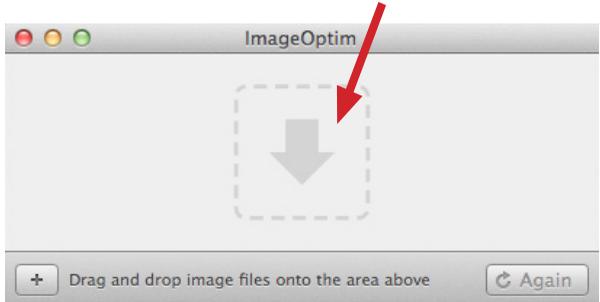
3 Check that the EXIF data has been removed by right-clicking the image and select Get Info. EXIF data is listed under More Info.

Viewing and Removing EXIF Data in Windows 8

Use the Windows 8 OS to verify EXIF data has been removed.

1 Navigate to an image in File Explorer, right-click the image, and select *Properties*.

2 In the *Properties* window, select the *Details* tab.

3 Most EXIF data, including geolocation, is contained in the Details tab if it is included with the image.

4 Windows 8 also allows system administrators to remove all EXIF data from the selected image file by clicking the *Remove Properties and Personal Information* link.
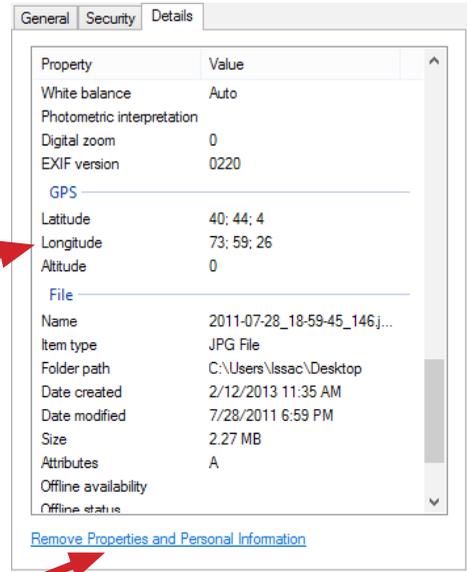
Useful Links

A Parent's Guide to Internet Safety
Privacy Rights Clearinghouse
Microsoft Safety and Security
Online Guardian

www.fbi.gov/stats-services/publications/parent-guide
www.privacyrights.org/fs/fs18-cyb.htm
www.microsoft.com/security/online-privacy/social-network
www.onguardonline.gov/topics/social-networking-sites.aspx