

gps tracking like a hacker

Bonus:

Scenario: Your child tells you they are at a friend's house studying after school. The friend's parents are not home from work, so you can't call them to verify. Due to past circumstances, you have an uneasy feeling as to whether or not your child is truly at the friend's house. You ask your child to take a "selfie" with the friend to prove they are actually together. In a few moments you receive a photo on your phone from your child with two smiling faces... your child and the friend. You can now verify the location. Do you want to know how?

1. Download exiftool here:
 - a. <http://www.sno.phy.queensu.ca/~phil/exiftool/>
 - i. Windows or Mac
2. Run the executable
3. You should end up with an icon on your desktop that looks like this:



- a. `exiftool(-k)...` (background color may not be brown)
4. Email the photo on your phone to your email account
5. Open your email on the computer with exiftool and download the photo
6. Drag and drop the photo onto the camel icon (exiftool only opens when a file is dropped onto the icon)
7. A command window will open that looks similar to this:

```

\Desktop\exiftool(-k).exe
ExifTool Version Number      : 8.54
File Name                    : photo.JPG
Directory                   : Desktop\Family
Forward Presentations/Parent Presentation/1-23-2014 Revamped/Demo
File Size                    : 1735 kB
File Modification Date/Time  : 2013:03:08 09:23:09-06:00
File Permissions            : rw-rw-rw-
File Type                   : JPEG
MIME Type                   : image/jpeg
Exif Byte Order             : Big-endian (Motorola, MM)
Make                        : Apple
Camera Model Name           : iPhone 4S
Orientation                 : Rotate 90 CW
X Resolution                : 72
Y Resolution                : 72
Resolution Unit             : inches
Software                    : 6.1.2
Modify Date                 : 2013:03:08 09:18:19
Y Cb Cr Positioning        : Centered
Exposure Time               : 1/20
F Number                    : 2.4
Exposure Program           : Program AE
ISO                          : 64
Exif Version                : 0221
Date/Time Original         : 2013:03:08 09:18:19
Create Date                 : 2013:03:08 09:18:19
Components Configuration   : Y, Cb, Cr, -
Shutter Speed Value        : 1/20
Aperture Value              : 2.4
Brightness Value           : 3.416296296
Metering Mode               : Multi-segment
Flash                      : Auto, Did not fire
Focal Length                : 4.3 mm
Subject Area                : 1631 1223 881 881
Flashpix Version           : 0100
Color Space                 : sRGB
Exif Image Width           : 3264
Exif Image Height          : 2448
Sensing Method             : One-chip color area
Exposure Mode              : Auto
White Balance               : Auto
Focal Length In 35mm Format : 35 mm
Scene Capture Type         : Standard
GPS Latitude Ref           : North
GPS Longitude Ref          : West
GPS Altitude Ref           : Above Sea Level
GPS Time Stamp             : 15:18:18.89
GPS Img Direction Ref      : True North
GPS Img Direction          : 327.6882353
Compression                : JPEG (old-style)
Thumbnail Offset           : 982
Thumbnail Length           : 5819
Image Width                : 3264
Image Height               : 2448
Encoding Process           : Baseline DCT, Huffman coding
Bits Per Sample            : 8
Color Components           : 3
Y Cb Cr Sub Sampling       : YCbCr4:2:0 (2 2)
Aperture                   : 2.4
GPS Altitude               : 182 m Above Sea Level
GPS Latitude               : 32 deg 45' 1.20" N
GPS Longitude              : 97 deg 20' 2.40" W
GPS Position               : 32 deg 45' 1.20" N, 97 deg 20' 2.40" W
Image Size                 : 3264x2448
Scale Factor To 35 mm Equivalent: 8.2
Shutter Speed              : 1/20
Thumbnail Image            : <Binary data 5819 bytes, use -b option to extr
act>
Circle Of Confusion        : 0.004 mm
Field Of View              : 54.4 deg
Focal Length               : 4.3 mm (35 mm equivalent: 35.0 mm)
Hyperfocal Distance        : 2.08 m
Light Value                 : 7.5
-- press any key --

```

- a.
- b. I added the red arrow as this is the information you will need
8. Resize the window if needed and scroll toward the bottom of the information. You will see GPS information. Write down the Latitude and Longitude Information.
 - a. In my example it would be the following:
 - i. Lat 32 45 1.2
 - ii. Lon 97 20 2.4
9. Go to this website:
 - a. <http://transition.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html>
 - b. Under “Degrees Minutes Seconds to Decimal Degrees” enter your latitude and longitude information (broken into three parts as I have listed above into the three separate fields for each) into the converter and click “Convert to Decimal”
 - c. Your output should look like this:

Degrees Minutes Seconds to Decimal Degrees

Enter Degrees Minutes Seconds latitude:

Enter Degrees Minutes Seconds longitude:

Results: Latitude: Longitude:

- d. In another tab on your browser, go to <http://maps.google.com>
- e. Copy the decimal degree from Latitude and Paste into the search field, then add a comma and space
- f. Copy the decimal degree from the Longitude field and paste just after the comma in the search field
- g. Add a negative sign to the Longitude number
- h. Your search on maps.google.com should look like this:

i.

- ii. Don't forget the negative Longitude value or you will end up on the other side of the world! Literally, it will look like the location is somewhere in the mountains just over ten miles southeast of Yushu, China.
- i. Click the blue box with magnifying glass to search (or hit enter)

Using the photo I took as an example, the coordinates would place you at Burnett Plaza in downtown Fort Worth, TX. Of course, the location of your child's photo will more than likely be different. Looking at my example, you will see the location looks to be several meters away from the building; however, is still relatively close. I would suggest you play around with taking a picture in your home, map it, and see where it puts you. A few meters off here and there is normal. It may look like you took the picture in your backyard when you actually took it in the front room of the house. That is normal. If it appears your child is in the general area (within 200 feet) of the friend's house, you have nothing to worry about. If it looks like they are a block or more away from that location, then worry.

I sincerely hope you found this information useful. Please remember that technology changes at a very fast pace. The information contained in this handout will not remain fresh forever. My analysis of products and my recommendations are based on the information current as of beginning of the year, 2014. I would encourage you to search for reviews on reputable sites such as Cnet and PC Magazine. These

sites have expert reviewers whose only job is to find, test, and review products and devices.

For additional information on keeping your children protected online, please visit the following links:

<http://www.fbi.gov/stats-services/publications/parent-guide>

<http://www.safekids.com/child-safety-on-the-information-highway/>

http://kidshealth.org/parent/positive/family/net_safety.html

<http://www.scholastic.com/parents/resources/article/your-child-technology/keeping-kids-safe-online>