NAME

mov2gpx − extracts gps data from MOV video

SYNOPSIS

mov2gpx [**−O** *path*] [**−v**] [**−g** *version*] [**−w**] [**−x**] [**−clean** *[true|false]*] [**−debug**] file . . .

mov2gps −h
mov2gps −V

DESCRIPTION

mov2gpx extracts GPS data from video MOV files and writes the results to gpx files.

Many video cameras with GPS, especially dashcams, embed the GPS points into the recorded video. Often those records are MOV files ⟨https://developer.apple.com/library/archive/documentation/QuickTime/QTFF/⟩. mov2gps attempts to extract that information from such files. The encoding of the GPS information is not documented, but several manufacturers seem to use a similar approach, perhaps because they use the same chip set. Thus mov2gpx may or may not work: please check the output. Later versions will support a wider range of cameras.

mov2gpx is written in portable go and so should work with any operating system supported by go.

mov2gpx was forked from sggps and so inherits the Apache License, Version 2.0.

OPTIONS

file... One or more MOV files. At present, the files must have a .mov extension, case insensitive.

−clean Some cameras write spurious positions with latitude and longitude both zero into the video file. This seems to be before GPS lock is acquired, or when it is lost. By default, **clean** is set to true which removes those points from the output. If by any remote chance you are at sea and close to (lat,long) = (0,0), you could set **clean** to false.

−debug
If debug is true, then tracing information is sent to stderr. This information is only likely to be of use to a developer. It may be helpful when a new model of camera or a new firmware revison is encountered which mov2gpx does not handle properly.

−g version
By default the output is gpx1.1. But some programs do not support all of the 1.1 extensions. For version gpx1.0, use **−g** 0. Since gpx1.1 does not support the <sat> tag, setting **-g** 0 can be useful when the camera reports the number of satellites acquired.

−h Help: a brief summary of usage and options.

−O directory
With one exception mov2gps always writes its output to a file name matching the input video file with the extension changed to .gpx. By default, this file is written to the directory containing the input file. **−O** outputdir redirects the output. A special case is **−O** − which writes to standard output. **− O** is particularly useful when the input video files are on flash media, perhaps sdhc cards: writing to another place conserves write cycles extending the life of the media.

−V Display the version of mov2gpx.

−v Slightly verbose. Normally mov2gpx is silent unless errors are encountered. Setting **-v** shows the name of the video file being processed: this may be useful when there are many. If the camera reports the model and firmware revision, this is also displayed. When the output file is not directed to the implicit default location, that is shown: see **−O.**

−x Camera and firmware versions vary in the amount of information written into the video file. This must always include latitude, longitude and time. Often speed and course are also included. Some firmware versions also write additional information in NMEA format. By default, mov2gps examines any "GPGGA" records detected, and then will also write elevation, geoid and hdop information to the gpx track. Of course, elevation values from typical consumer GPS units are likely to be rather inaccurate, but can nevertheless be useful as long as they are treated with due caution. Use

−x to avoid this extra information: this will reduce the length of the generated gpx files.

−w By default, mov2gpx will refuse to overwrite an existing output file. Set **−w** to allow rewriting.

mov2gps uses a go library to handle the flags. That is less flexible than usual, so flags can not be concatenated, and it requires strict spacing. For example, **−g0** will fail: use **−g** 0.

EXAMPLES

`mov2gpx dashcam.MOV`
The standard case: silently write the gps information into dashcam.gpx.

`mov2gpx -w -v *.MOV`
Process all the MOV files in the current directory, and write the gpx output files into this same directory, overwriting any that are already present. Report the name of each file as it is examined.

`mov2gpx -v -O /tmp/ *.mov`
Handle all the video files with a .mov extension in the current directory, and write the resulting gpx files into the /tmp/ directory.

`mov2gpx -g 0 journey.MOV`
Write journey.gpx in gpx version 1.0 for use with programs that don't fully support gpx 1.1 .

`mov2gpx -O - file.MOV |grep "<time>" |less`
Examine the time stamps in file.MOV.

`mov2gpx -g 0 -O - file.mov |grep "<sat>" |less`
Check the number of satellites acquired in file.mov

`mov2gpx -g 0 -O - *.MOV |grep "<sat>" |less`
Scan the number of satellites used on a long journey.

`mov2gpx -O - unknown.mov | less`
Check for gps in unknown.mov.

`mov2gpx -v -O - video.MOV > /dev/null`
Examine camera model and firmware if available.

```
mov2gpx *.MOV ;ip="";for f in *.MOV; do ip="$ip -f ${f%.MOV}.gpx" ;done ;
 gpsbabel -i gpx $ip -o gpx -F whole_journey.gpx
```
Process all MOV video files in the current directory & use gpsbabel to merge the resulting gpx files into a single file. This will leave the individual gpx files. For unix like systems. gpsprune is also useful for this operation, but uses a GUI.

`mov2gpx -g 0 -v -O - record.MOV | viking /dev/stdin`
Extract the gpx track from record.MOV and pass it to viking.

`mov2gpx -v -O - record.MOV | gpxinfo /dev/stdin`
Summarise the gpx information in record.MOV using gpxinfo.

NOTES

mov2gpx follows the unix philosophy of doing one thing and doing it well. Thus there is no facilty to combine all the generated gpx files when multiple video files are read. Other programs like gpsbabel, gpsprune or viking can be used to combine gpx files as in one of the more complex examples above.

mov2gpx is likely to generate an empty gpx track when reading MOV files which do not include gps information, or when that information is not in the expected form, but there are no guarantees.

mov2gps is available from here: ⟨https://github.com/clarified/mov2gps⟩

SEE ALSO

Useful programs for gpx include **gpsbabel** (1), **gpsprune** (1), **viking** (1), **gpxinfo** (1), **gpxviewer** (1) and **josm**

The units used in gpx files are specified in the gpx.xsd specification ⟨http://www.topografix.com/GPX/1/1/gpx.xsd⟩ which is not easy to read without a good knowledge of xml. A summary is that all times are UTC, all coordinates WGS84, and most units are metric. Thus elevations

are WGS84-referenced.

AUTHORS

A E Lawrence wrote **mov2gpx** which was forked from **sggps** ⟨github.com/kbsriram/dcutils/go/cmd/sggps⟩ by K B Sriram.