osxphotos

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CHAPTER

ONE

OSXPHOTOS

1.1 What is osxphotos?

OSXPhotos provides both the ability to interact with and query Apple's Photos.app library on macOS directly from your python code as well as a very flexible command line interface (CLI) app for exporting photos. You can query the Photos library database – for example, file name, file path, and metadata such as keywords/tags, persons/faces, albums, etc. You can also easily export both the original and edited photos.

1.2 Supported operating systems

Only works on macOS (aka Mac OS X). Tested on macOS Sierra (10.12.6) until macOS Catalina (10.15.7). Beta support for macOS Big Sur (10.16.01/11.01).

This package will read Photos databases for any supported version on any supported macOS version. E.g. you can read a database created with Photos 5.0 on MacOS 10.15 on a machine running macOS 10.12 and vice versa.

Requires python >= `3.7`.

1.3 Installation

If you are new to python and just want to use the command line application, I recommend you to install using pipx. See other advanced options below.

1.3.1 Installation using pipx

If you aren't familiar with installing python applications, I recommend you install `osxphotos` with pipx. If you use `pipx`, you will not need to create a virtual environment as `pipx` takes care of this. The easiest way to do this on a Mac is to use homebrew:

- Open `Terminal` (search for `Terminal` in Spotlight or look in `Applications/Utilities`)
- Install `homebrew` according to instructions at https://brew.sh/
- Type the following into Terminal: `brew install pipx`
- Then type this: `pipx install osxphotos`
- Now you should be able to run `osxphotos` by typing: `osxphotos`

1.3.2 Installation using pip

You can also install directly from pypi:

```
pip install osxphotos
```

1.3.3 Installation from git repository

OSXPhotos uses setuptools, thus simply run:

```
git clone https://github.com/RhetTbull/osxphotos.git
cd osxphotos
python3 setup.py install
```

I recommend you create a virtual environment before installing osxphotos.

WARNING The git repo for this project is very large (> 1GB) because it contains multiple Photos libraries used for testing on different versions of macOS. If you just want to use the osxphotos package in your own code, I recommend you install the latest version from PyPI which does not include all the test libraries. If you just want to use the command line utility, you can download a pre-built executable of the latest release or you can install via `pip` which also installs the command line app. If you aren't comfortable with running python on your Mac, start with the pre-built executable or `pipx` as described above.

1.4 Command Line Usage

This package will install a command line utility called `osxphotos` that allows you to query the Photos database and export photos. Alternatively, you can also run the command line utility like this: `python3 -m osxphotos`

```
> osxphotos
Usage: osxphotos [OPTIONS] COMMAND [ARGS]...

Options:
  --db <Photos database path>  Specify Photos database path. Path to Photos
                               library/database can be specified using either
                               --db or directly as PHOTOS_LIBRARY positional
                               argument. If neither --db or PHOTOS_LIBRARY
                               provided, will attempt to find the library to
                               use in the following order: 1. last opened
                               library, 2. system library, 3.
                               ~/Pictures/Photos Library.photoslibrary
  --json                       Print output in JSON format.
  -v, --version                Show the version and exit.
  -h, --help                   Show this message and exit.

Commands:
  about     Print information about osxphotos including license.
  albums    Print out albums found in the Photos library.
  dump      Print list of all photos & associated info from the Photos...
  export    Export photos from the Photos database.
  help      Print help; for help on commands: help <command>.
  info      Print out descriptive info of the Photos library database.
  keywords  Print out keywords found in the Photos library.
  labels    Print out image classification labels found in the Photos...
  list      Print list of Photos libraries found on the system.
```

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```
  persons   Print out persons (faces) found in the Photos library.
  places    Print out places found in the Photos library.
  query     Query the Photos database using 1 or more search options; if...
```

To get help on a specific command, use `osxphotos help <command_name>`

1.4.1 Command line examples

1.4.1.1 export all photos to ~/Desktop/export group in folders by date created

```
osxphotos export --export-by-date ~/Pictures/Photos\ Library.photoslibrary
~/Desktop/export
```

Note: Photos library/database path can also be specified using `--db` option:

```
osxphotos export --export-by-date --db ~/Pictures/Photos\ Library.
photoslibrary ~/Desktop/export
```

1.4.1.2 find all photos with keyword "Kids" and output results to json file named results.json:

```
osxphotos query --keyword Kids --json ~/Pictures/Photos\ Library.photoslibrary
>results.json
```

1.4.1.3 export photos to file structure based on 4-digit year and full name of month of photo's creation date:

```
osxphotos export ~/Desktop/export --directory "{created.year}/{created.month}"
```

(by default, it will attempt to use the system library)

1.4.1.4 export photos to file structure based on 4-digit year of photo's creation date and add keywords for media type and labels (labels are only awailable on Photos 5 and higher):

```
osxphotos export ~/Desktop/export --directory "{created.year}"
--keyword-template "{label}" --keyword-template "{media_type}"
```

1.4.1.5 export default library using 'country name/year' as output directory (but use "NoCountry/year" if country not specified), add persons, album names, and year as keywords, write exif metadata to files when exporting, update only changed files, print verbose ouput

```
osxphotos export ~/Desktop/export --directory "{place.name.country,NoCountry}/
{created.year}" --person-keyword --album-keyword --keyword-template "{created.
year}" --exiftool --update --verbose
```

1.4.1.6 find all videos larger than 200MB and add them to Photos album "Big Videos" creating the album if necessary

```
osxphotos query --only-movies --min-size 200MB --add-to-album "Big Videos"
```

1.5 Example uses of the package

```
""" Simple usage of the package """
import osxphotos

def main():
    photosdb = osxphotos.PhotosDB()
    print(photosdb.keywords)
    print(photosdb.persons)
    print(photosdb.album_names)

    print(photosdb.keywords_as_dict)
    print(photosdb.persons_as_dict)
    print(photosdb.albums_as_dict)

    # find all photos with Keyword = Foo and containing John Smith
    photos = photosdb.photos(keywords=["Foo"],persons=["John Smith"])

    # find all photos that include Alice Smith but do not contain the keyword Bar
    photos = [p for p in photosdb.photos(persons=["Alice Smith"])
                if p not in photosdb.photos(keywords=["Bar"]) ]
    for p in photos:
        print(
            p.uuid,
            p.filename,
            p.original_filename,
            p.date,
            p.description,
            p.title,
            p.keywords,
            p.albums,
            p.persons,
            p.path,
        )

if __name__ == "__main__":
    main()
```

```
""" Export all photos to specified directory using album names as folders
    If file has been edited, also export the edited version,
    otherwise, export the original version
    This will result in duplicate photos if photo is in more than album """

import os.path
import pathlib
import sys

import click
from pathvalidate import is_valid_filepath, sanitize_filepath
```

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```
import osxphotos


@click.command()
@click.argument("export_path", type=click.Path(exists=True))
@click.option(
    "--default-album",
    help="Default folder for photos with no album. Defaults to 'unfiled'",
    default="unfiled",
)
@click.option(
    "--library-path",
    help="Path to Photos library, default to last used library",
    default=None,
)
def export(export_path, default_album, library_path):
    export_path = os.path.expanduser(export_path)
    library_path = os.path.expanduser(library_path) if library_path else None

    if library_path is not None:
        photosdb = osxphotos.PhotosDB(library_path)
    else:
        photosdb = osxphotos.PhotosDB()

    photos = photosdb.photos()

    for p in photos:
        if not p.ismissing:
            albums = p.albums
            if not albums:
                albums = [default_album]
            for album in albums:
                click.echo(f"exporting {p.filename} in album {album}")

                # make sure no invalid characters in destination path (could be in␣
↪album name)
                album_name = sanitize_filepath(album, platform="auto")

                # create destination folder, if necessary, based on album name
                dest_dir = os.path.join(export_path, album_name)

                # verify path is a valid path
                if not is_valid_filepath(dest_dir, platform="auto"):
                    sys.exit(f"Invalid filepath {dest_dir}")

                # create destination dir if needed
                if not os.path.isdir(dest_dir):
                    os.makedirs(dest_dir)

                # export the photo
                if p.hasadjustments:
                    # export edited version
                    exported = p.export(dest_dir, edited=True)
                    edited_name = pathlib.Path(p.path_edited).name
                    click.echo(f"Exported {edited_name} to {exported}")
                # export unedited version
                exported = p.export(dest_dir)
```

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```
                click.echo(f"Exported {p.filename} to {exported}")
        else:
            click.echo(f"Skipping missing photo: {p.filename}")


if __name__ == "__main__":
    export()  # pylint: disable=no-value-for-parameter
```

1.6 Package Interface

Reference full documentation on GitHub

1.6.1 osxphotos command line interface (CLI)

1.6.1.1 osxphotos

```
osxphotos [OPTIONS] COMMAND [ARGS]...
```

Options

--db <Photos database path>
: Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
: Print output in JSON format.

-v, --version
: Show the version and exit.

about

Print information about osxphotos including license.

```
osxphotos about [OPTIONS]
```

albums

Print out albums found in the Photos library.

```
osxphotos albums [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
Print output in JSON format.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

dump

Print list of all photos & associated info from the Photos library.

```
osxphotos dump [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
Print output in JSON format.

--deleted
Include photos from the 'Recently Deleted' folder.

--deleted-only
Include only photos from the 'Recently Deleted' folder.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

export

Export photos from the Photos database. Export path DEST is required. Optionally, query the Photos database using 1 or more search options; if more than one option is provided, they are treated as "AND" (e.g. search for photos matching all options). If no query options are provided, all photos will be exported. By default, all versions of all photos will be exported including edited versions, live photo movies, burst photos, and associated raw images. See –skip-edited, –skip-live, –skip-bursts, and –skip-raw options to modify this behavior.

```
osxphotos export [OPTIONS] [PHOTOS_LIBRARY]... DEST
```

Options

--db <Photos database path>
: Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

-V, --verbose
: Print verbose output.

--keyword <KEYWORD>
: Search for photos with keyword KEYWORD. If more than one keyword, treated as "OR", e.g. find photos matching any keyword

--person <PERSON>
: Search for photos with person PERSON. If more than one person, treated as "OR", e.g. find photos matching any person

--album <ALBUM>
: Search for photos in album ALBUM. If more than one album, treated as "OR", e.g. find photos matching any album

--folder <FOLDER>
: Search for photos in an album in folder FOLDER. If more than one folder, treated as "OR", e.g. find photos in any FOLDER. Only searches top level folders (e.g. does not look at subfolders)

--name <FILENAME>
: Search for photos with filename matching FILENAME. If more than one –name options is specified, they are treated as "OR", e.g. find photos matching any FILENAME.

--uuid <UUID>
: Search for photos with UUID(s).

--uuid-from-file <FILE>
: Search for photos with UUID(s) loaded from FILE. Format is a single UUID per line. Lines preceded with # are ignored.

--title <TITLE>
: Search for TITLE in title of photo.

--no-title
: Search for photos with no title.

--description <DESC>
: Search for DESC in description of photo.

--no-description
: Search for photos with no description.

--place <PLACE>
Search for PLACE in photo's reverse geolocation info

--no-place
Search for photos with no associated place name info (no reverse geolocation info)

--label <LABEL>
Search for photos with image classification label LABEL (Photos 5 only). If more than one label, treated as "OR", e.g. find photos matching any label

--uti <UTI>
Search for photos whose uniform type identifier (UTI) matches UTI

-i, --ignore-case
Case insensitive search for title, description, place, keyword, person, or album.

--edited
Search for photos that have been edited.

--external-edit
Search for photos edited in external editor.

--favorite
Search for photos marked favorite.

--not-favorite
Search for photos not marked favorite.

--hidden
Search for photos marked hidden.

--not-hidden
Search for photos not marked hidden.

--shared
Search for photos in shared iCloud album (Photos 5 only).

--not-shared
Search for photos not in shared iCloud album (Photos 5 only).

--burst
Search for photos that were taken in a burst.

--not-burst
Search for photos that are not part of a burst.

--live
Search for Apple live photos

--not-live
Search for photos that are not Apple live photos.

--portrait
Search for Apple portrait mode photos.

--not-portrait
Search for photos that are not Apple portrait mode photos.

--screenshot
Search for screenshot photos.

--not-screenshot
Search for photos that are not screenshot photos.

--slow-mo
Search for slow motion videos.

--not-slow-mo
Search for photos that are not slow motion videos.

--time-lapse
Search for time lapse videos.

--not-time-lapse
Search for photos that are not time lapse videos.

--hdr
Search for high dynamic range (HDR) photos.

--not-hdr
Search for photos that are not HDR photos.

--selfie
Search for selfies (photos taken with front-facing cameras).

--not-selfie
Search for photos that are not selfies.

--panorama
Search for panorama photos.

--not-panorama
Search for photos that are not panoramas.

--has-raw
Search for photos with both a jpeg and raw version

--only-movies
Search only for movies (default searches both images and movies).

--only-photos
Search only for photos/images (default searches both images and movies).

--from-date <from_date>
Search by item start date, e.g. 2000-01-12T12:00:00, 2001-01-12T12:00:00-07:00, or 2000-12-31 (ISO 8601 with/without timezone).

--to-date <to_date>
Search by item end date, e.g. 2000-01-12T12:00:00, 2001-01-12T12:00:00-07:00, or 2000-12-31 (ISO 8601 with/without timezone).

--from-time <from_time>
Search by item start time of day, e.g. 12:00, or 12:00:00.

--to-time <to_time>
Search by item end time of day, e.g. 12:00 or 12:00:00.

--has-comment
Search for photos that have comments.

--no-comment
Search for photos with no comments.

--has-likes
Search for photos that have likes.

--no-likes
Search for photos with no likes.

--is-reference
Search for photos that were imported as referenced files (not copied into Photos library).

--in-album
Search for photos that are in one or more albums.

--not-in-album
Search for photos that are not in any albums.

--min-size <SIZE>
Search for photos with size >= SIZE bytes. The size evaluated is the photo's original size (when imported to Photos). Size may be specified as integer bytes or using SI or NIST units. For example, the following are all valid and equivalent sizes: '1048576' '1.048576MB', '1 MiB'.

--max-size <SIZE>
Search for photos with size <= SIZE bytes. The size evaluated is the photo's original size (when imported to Photos). Size may be specified as integer bytes or using SI or NIST units. For example, the following are all valid and equivalent sizes: '1048576' '1.048576MB', '1 MiB'.

--regex <REGEX TEMPLATE>
Search for photos where TEMPLATE matches regular expression REGEX. For example, to find photos in an album that begins with 'Beach': '–regex "^Beach" "{album}"'. You may specify more than one regular expression match by repeating '–regex' with different arguments.

--query-eval <CRITERIA>
Evaluate CRITERIA to filter photos. CRITERIA will be evaluated in context of the following python list comprehension: *photos = [photo for photo in photos if CRITERIA]* where photo represents a PhotoInfo object. For example: *–query-eval photo.favorite* returns all photos that have been favorited and is equivalent to –favorite. You may specify more than one CRITERIA by using –query-eval multiple times. CRITERIA must be a valid python expression. See https://rhettbull.github.io/osxphotos/ for additional documentation on the PhotoInfo class.

--missing
Export only photos missing from the Photos library; must be used with –download-missing.

--deleted
Include photos from the 'Recently Deleted' folder.

--deleted-only
Include only photos from the 'Recently Deleted' folder.

--update
Only export new or updated files. See notes below on export and –update.

--ignore-signature
When used with '–update', ignores file signature when updating files. This is useful if you have processed or edited exported photos changing the file signature (size & modification date). In this case, '–update' would normally re-export the processed files but with '–ignore-signature', files which exist in the export directory will not be re-exported. If used with '–sidecar', '–ignore-signature' has the following behavior: 1) if the metadata (in Photos) that went into the sidecar did not change, the sidecar will not be updated; 2) if the metadata (in Photos) that went into the sidecar did change, a new sidecar is written but a new image file is not; 3) if a sidecar does not exist for the photo, a sidecar will be written whether or not the photo file was written or updated.

--only-new
If used with –update, ignores any previously exported files, even if missing from the export folder and only exports new files that haven't previously been exported.

--dry-run
Dry run (test) the export but don't actually export any files; most useful with –verbose.

--export-as-hardlink
Hardlink files instead of copying them. Cannot be used with –exiftool which creates copies of the files with embedded EXIF data. Note: on APFS volumes, files are cloned when exporting giving many of the same advantages as hardlinks without having to use –export-as-hardlink.

--touch-file
Sets the file's modification time to match photo date.

--overwrite
Overwrite existing files. Default behavior is to add (1), (2), etc to filename if file already exists. Use this with caution as it may create name collisions on export. (e.g. if two files happen to have the same name)

--retry <RETRY>
Automatically retry export up to RETRY times if an error occurs during export. This may be useful with network drives that experience intermittent errors.

--export-by-date
Automatically create output folders to organize photos by date created (e.g. DEST/2019/12/20/photoname.jpg).

--skip-edited
Do not export edited version of photo if an edited version exists.

--skip-original-if-edited
Do not export original if there is an edited version (exports only the edited version).

--skip-bursts
Do not export all associated burst images in the library if a photo is a burst photo.

--skip-live
Do not export the associated live video component of a live photo.

--skip-raw
Do not export associated raw images of a RAW+JPEG pair. Note: this does not skip raw photos if the raw photo does not have an associated jpeg image (e.g. the raw file was imported to Photos without a jpeg preview).

--current-name
Use photo's current filename instead of original filename for export. Note: Starting with Photos 5, all photos are renamed upon import. By default, photos are exported with the the original name they had before import.

--convert-to-jpeg
Convert all non-jpeg images (e.g. raw, HEIC, PNG, etc) to JPEG upon export. Only works if your Mac has a GPU.

--jpeg-quality <jpeg_quality>
Value in range 0.0 to 1.0 to use with –convert-to-jpeg. A value of 1.0 specifies best quality, a value of 0.0 specifies maximum compression. Defaults to 1.0

--download-missing
Attempt to download missing photos from iCloud. The current implementation uses Applescript to interact with Photos to export the photo which will force Photos to download from iCloud if the photo does not exist on disk. This will be slow and will require internet connection. This obviously only works if the Photos library is synched to iCloud. Note: –download-missing does not currently export all burst images; only the primary photo will be exported–associated burst images will be skipped.

--sidecar <FORMAT>
Create sidecar for each photo exported; valid FORMAT values: xmp, json, exiftool; –sidecar xmp: create XMP sidecar used by Digikam, Adobe Lightroom, etc. The sidecar file is named in format photoname.ext.xmp The XMP sidecar exports the following tags: Description, Title, Keywords/Tags, Subject (set to Keywords + PersonInImage), PersonInImage, CreateDate, ModifyDate, GPSLongitude, Face Regions (Metadata Working Group and Microsoft Photo). –sidecar json: create JSON sidecar useable by exiftool (https://exiftool.org/) The sidecar

file can be used to apply metadata to the file with exiftool, for example: "exiftool -j=photoname.jpg.json photoname.jpg" The sidecar file is named in format photoname.ext.json; format includes tag groups (equivalent to running 'exiftool -G -j'). –sidecar exiftool: create JSON sidecar compatible with output of 'exiftool -j'. Unlike '–sidecar json', '–sidecar exiftool' does not export tag groups. Sidecar filename is in format photoname.ext.json; For a list of tags exported in the JSON and exiftool sidecar, see '–exiftool'. See also '–ignore-signature'.

Options xmp | json | exiftool

--sidecar-drop-ext
Drop the photo's extension when naming sidecar files. By default, sidecar files are named in format 'photo_filename.photo_ext.sidecar_ext', e.g. 'IMG_1234.JPG.xmp'. Use '–sidecar-drop-ext' to ignore the photo extension. Resulting sidecar files will have name in format 'IMG_1234.xmp'. Warning: this may result in sidecar filename collisions if there are files of different types but the same name in the output directory, e.g. 'IMG_1234.JPG' and 'IMG_1234.MOV'.

--exiftool
Use exiftool to write metadata directly to exported photos. To use this option, exiftool must be installed and in the path. exiftool may be installed from https://exiftool.org/. Cannot be used with –export-as-hardlink. Writes the following metadata: EXIF:ImageDescription, XMP:Description (see also –description-template); XMP:Title; XMP:TagsList, IPTC:Keywords, XMP:Subject (see also –keyword-template, –person-keyword, –album-keyword); XMP:PersonInImage; EXIF:GPSLatitudeRef; EXIF:GPSLongitudeRef; EXIF:GPSLatitude; EXIF:GPSLongitude; EXIF:GPSPosition; EXIF:DateTimeOriginal; EXIF:OffsetTimeOriginal; EXIF:ModifyDate (see –ignore-date-modified); IPTC:DateCreated; IPTC:TimeCreated; (video files only): QuickTime:CreationDate; QuickTime:CreateDate; QuickTime:ModifyDate (see also –ignore-date-modified); QuickTime:GPSCoordinates; UserData:GPSCoordinates.

--exiftool-path <EXIFTOOL_PATH>
Optionally specify path to exiftool; if not provided, will look for exiftool in $PATH.

--exiftool-option <OPTION>
Optional flag/option to pass to exiftool when using –exiftool. For example, –exiftool-option '-m' to ignore minor warnings. Specify these as you would on the exiftool command line. See exiftool docs at https://exiftool.org/exiftool_pod.html for full list of options. More than one option may be specified by repeating the option, e.g. –exiftool-option '-m' –exiftool-option '-F'.

--exiftool-merge-keywords
Merge any keywords found in the original file with keywords used for '–exiftool' and '–sidecar'.

--exiftool-merge-persons
Merge any persons found in the original file with persons used for '–exiftool' and '–sidecar'.

--ignore-date-modified
If used with –exiftool or –sidecar, will ignore the photo modification date and set EXIF:ModifyDate to EXIF:DateTimeOriginal; this is consistent with how Photos handles the EXIF:ModifyDate tag.

--person-keyword
Use person in image as keyword/tag when exporting metadata.

--album-keyword
Use album name as keyword/tag when exporting metadata.

--keyword-template <TEMPLATE>
For use with –exiftool, –sidecar; specify a template string to use as keyword in the form '{name,DEFAULT}' This is the same format as –directory. For example, if you wanted to add the full path to the folder and album photo is contained in as a keyword when exporting you could specify –keyword-template "{folder_album}" You may specify more than one template, for example –keyword-template "{folder_album}" –keyword-template "{created.year}". See '–replace-keywords' and Templating System below.

--replace-keywords
Replace keywords with any values specified with –keyword-template. By default, –keyword-template will add keywords to any keywords already associated with the photo. If –replace-keywords is specified, values from –keyword-template will replace any existing keywords instead of adding additional keywords.

--description-template <TEMPLATE>
For use with –exiftool, –sidecar; specify a template string to use as description in the form '{name,DEFAULT}' This is the same format as –directory. For example, if you wanted to append 'exported with osxphotos on [today's date]' to the description, you could specify –description-template "{descr} exported with osxphotos on {today.date}" See Templating System below.

--finder-tag-template <TEMPLATE>
Set MacOS Finder tags to TEMPLATE. These tags can be searched in the Finder or Spotlight with 'tag:tagname' format. For example, '–finder-tag-template "{label}"' to set Finder tags to photo labels. You may specify multiple TEMPLATE values by using '–finder-tag-template' multiple times. See also '–finder-tag-keywords and Extended Attributes below.'.

--finder-tag-keywords
Set MacOS Finder tags to keywords; any keywords specified via '–keyword-template', '–person-keyword', etc. will also be used as Finder tags. See also '–finder-tag-template and Extended Attributes below.'.

--xattr-template <ATTRIBUTE TEMPLATE>
Set extended attribute ATTRIBUTE to TEMPLATE value. Valid attributes are: 'authors', 'comment', 'copyright', 'description', 'findercomment', 'headline', 'keywords'. For example, to set Finder comment to the photo's title and description: '–xattr-template findercomment "{title}; {descr}" See Extended Attributes below for additional details on this option.

--directory <DIRECTORY>
Optional template for specifying name of output directory in the form '{name,DEFAULT}'. See below for additional details on templating system.

--filename <FILENAME>
Optional template for specifying name of output file in the form '{name,DEFAULT}'. File extension will be added automatically–do not include an extension in the FILENAME template. See below for additional details on templating system.

--jpeg-ext <EXTENSION>
Specify file extension for JPEG files. Photos uses .jpeg for edited images but many images are imported with .jpg or .JPG which can result in multiple different extensions used for JPEG files upon export. Use –jpeg-ext to specify a single extension to use for all exported JPEG images. Valid values are jpeg, jpg, JPEG, JPG; e.g. '–jpeg-ext jpg' to use '.jpg' for all JPEGs.

Options jpeg | jpg | JPEG | JPG

--strip
Optionally strip leading and trailing whitespace from any rendered templates. For example, if –filename template is "{title,} {original_name}" and image has no title, resulting file would have a leading space but if used with –strip, this will be removed.

--edited-suffix <SUFFIX>
Optional suffix template for naming edited photos. Default name for edited photos is in form 'photoname_edited.ext'. For example, with '–edited-suffix _bearbeiten', the edited photo would be named 'photoname_bearbeiten.ext'. The default suffix is '_edited'. Multi-value templates (see Templating System) are not permitted with –edited-suffix.

--original-suffix <SUFFIX>
Optional suffix template for naming original photos. Default name for original photos is in form 'filename.ext'. For example, with '–original-suffix _original', the original photo would be named 'filename_original.ext'. The

default suffix is '' (no suffix). Multi-value templates (see Templating System) are not permitted with –original-suffix.

--use-photos-export
Force the use of AppleScript or PhotoKit to export even if not missing (see also '–download-missing' and '–use-photokit').

--use-photokit
Use with '–download-missing' or '–use-photos-export' to use direct Photos interface instead of AppleScript to export. Highly experimental alpha feature; does not work with iTerm2 (use with Terminal.app). This is faster and more reliable than the default AppleScript interface.

--report <path to export report>
Write a CSV formatted report of all files that were exported.

--cleanup
Cleanup export directory by deleting any files which were not included in this export set. For example, photos which had previously been exported and were subsequently deleted in Photos. WARNING: –cleanup will delete *any* files in the export directory that were not exported by osxphotos, for example, your own scripts or other files. Be sure this is what you intend before using –cleanup. Use –dry-run with –cleanup first if you're not certain.

--add-exported-to-album <ALBUM>
Add all exported photos to album ALBUM in Photos. Album ALBUM will be created if it doesn't exist. All exported photos will be added to this album. This only works if the Photos library being exported is the last-opened (default) library in Photos. This feature is currently experimental. I don't know how well it will work on large export sets.

--add-skipped-to-album <ALBUM>
Add all skipped photos to album ALBUM in Photos. Album ALBUM will be created if it doesn't exist. All skipped photos will be added to this album. This only works if the Photos library being exported is the last-opened (default) library in Photos. This feature is currently experimental. I don't know how well it will work on large export sets.

--add-missing-to-album <ALBUM>
Add all missing photos to album ALBUM in Photos. Album ALBUM will be created if it doesn't exist. All missing photos will be added to this album. This only works if the Photos library being exported is the last-opened (default) library in Photos. This feature is currently experimental. I don't know how well it will work on large export sets.

--exportdb <EXPORTDB_FILE>
Specify alternate name for database file which stores state information for export and –update. If –exportdb is not specified, export database will be saved to '.osxphotos_export.db' in the export directory. Must be specified as filename only, not a path, as export database will be saved in export directory.

--load-config <config file path>
Load options from file as written with –save-config. This allows you to save a complex export command to file for later reuse. For example: 'osxphotos export <lots of options here> –save-config osxphotos.toml' then 'osxphotos export /path/to/export –load-config osxphotos.toml'. If any other command line options are used in conjunction with –load-config, they will override the corresponding values in the config file.

--save-config <config file path>
Save options to file for use with –load-config. File format is TOML.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

DEST
Required argument

help

Print help; for help on commands: help <command>.

```
osxphotos help [OPTIONS] [TOPIC]
```

Arguments

TOPIC
Optional argument

info

Print out descriptive info of the Photos library database.

```
osxphotos info [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
Print output in JSON format.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

keywords

Print out keywords found in the Photos library.

```
osxphotos keywords [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
: Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
: Print output in JSON format.

Arguments

PHOTOS_LIBRARY
: Optional argument(s)

labels

Print out image classification labels found in the Photos library.

```
osxphotos labels [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
: Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
: Print output in JSON format.

Arguments

PHOTOS_LIBRARY
: Optional argument(s)

list

Print list of Photos libraries found on the system.

```
osxphotos list [OPTIONS]
```

Options

--json
Print output in JSON format.

persons

Print out persons (faces) found in the Photos library.

```
osxphotos persons [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
Print output in JSON format.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

places

Print out places found in the Photos library.

```
osxphotos places [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
Print output in JSON format.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

query

Query the Photos database using 1 or more search options; if more than one option is provided, they are treated as "AND" (e.g. search for photos matching all options).

```
osxphotos query [OPTIONS] [PHOTOS_LIBRARY]...
```

Options

--db <Photos database path>
Specify Photos database path. Path to Photos library/database can be specified using either –db or directly as PHOTOS_LIBRARY positional argument. If neither –db or PHOTOS_LIBRARY provided, will attempt to find the library to use in the following order: 1. last opened library, 2. system library, 3. ~/Pictures/Photos Library.photoslibrary

--json
Print output in JSON format.

--keyword <KEYWORD>
Search for photos with keyword KEYWORD. If more than one keyword, treated as "OR", e.g. find photos matching any keyword

--person <PERSON>
Search for photos with person PERSON. If more than one person, treated as "OR", e.g. find photos matching any person

--album <ALBUM>
Search for photos in album ALBUM. If more than one album, treated as "OR", e.g. find photos matching any album

--folder <FOLDER>
Search for photos in an album in folder FOLDER. If more than one folder, treated as "OR", e.g. find photos in any FOLDER. Only searches top level folders (e.g. does not look at subfolders)

--name <FILENAME>
Search for photos with filename matching FILENAME. If more than one –name options is specified, they are treated as "OR", e.g. find photos matching any FILENAME.

--uuid <UUID>
Search for photos with UUID(s).

--uuid-from-file <FILE>
Search for photos with UUID(s) loaded from FILE. Format is a single UUID per line. Lines preceded with # are ignored.

--title <TITLE>
Search for TITLE in title of photo.

--no-title
Search for photos with no title.

--description <DESC>
Search for DESC in description of photo.

--no-description
Search for photos with no description.

--place <PLACE>
Search for PLACE in photo's reverse geolocation info

--no-place
Search for photos with no associated place name info (no reverse geolocation info)

--label <LABEL>
Search for photos with image classification label LABEL (Photos 5 only). If more than one label, treated as "OR", e.g. find photos matching any label

--uti <UTI>
Search for photos whose uniform type identifier (UTI) matches UTI

-i, --ignore-case
Case insensitive search for title, description, place, keyword, person, or album.

--edited
Search for photos that have been edited.

--external-edit
Search for photos edited in external editor.

--favorite
Search for photos marked favorite.

--not-favorite
Search for photos not marked favorite.

--hidden
Search for photos marked hidden.

--not-hidden
Search for photos not marked hidden.

--shared
Search for photos in shared iCloud album (Photos 5 only).

--not-shared
Search for photos not in shared iCloud album (Photos 5 only).

--burst
Search for photos that were taken in a burst.

--not-burst
Search for photos that are not part of a burst.

--live
Search for Apple live photos

--not-live
Search for photos that are not Apple live photos.

--portrait
Search for Apple portrait mode photos.

--not-portrait
Search for photos that are not Apple portrait mode photos.

--screenshot
Search for screenshot photos.

--not-screenshot
Search for photos that are not screenshot photos.

--slow-mo
Search for slow motion videos.

--not-slow-mo
Search for photos that are not slow motion videos.

--time-lapse
Search for time lapse videos.

--not-time-lapse
Search for photos that are not time lapse videos.

--hdr
Search for high dynamic range (HDR) photos.

--not-hdr
Search for photos that are not HDR photos.

--selfie
Search for selfies (photos taken with front-facing cameras).

--not-selfie
Search for photos that are not selfies.

--panorama
Search for panorama photos.

--not-panorama
Search for photos that are not panoramas.

--has-raw
Search for photos with both a jpeg and raw version

--only-movies
Search only for movies (default searches both images and movies).

--only-photos
Search only for photos/images (default searches both images and movies).

--from-date <from_date>
Search by item start date, e.g. 2000-01-12T12:00:00, 2001-01-12T12:00:00-07:00, or 2000-12-31 (ISO 8601 with/without timezone).

--to-date <to_date>
Search by item end date, e.g. 2000-01-12T12:00:00, 2001-01-12T12:00:00-07:00, or 2000-12-31 (ISO 8601 with/without timezone).

--from-time <from_time>
Search by item start time of day, e.g. 12:00, or 12:00:00.

--to-time <to_time>
Search by item end time of day, e.g. 12:00 or 12:00:00.

--has-comment
Search for photos that have comments.

--no-comment
Search for photos with no comments.

--has-likes
Search for photos that have likes.

--no-likes
Search for photos with no likes.

--is-reference
Search for photos that were imported as referenced files (not copied into Photos library).

--in-album
Search for photos that are in one or more albums.

--not-in-album
Search for photos that are not in any albums.

--min-size <SIZE>
Search for photos with size >= SIZE bytes. The size evaluated is the photo's original size (when imported to Photos). Size may be specified as integer bytes or using SI or NIST units. For example, the following are all valid and equivalent sizes: '1048576' '1.048576MB', '1 MiB'.

--max-size <SIZE>
Search for photos with size <= SIZE bytes. The size evaluated is the photo's original size (when imported to Photos). Size may be specified as integer bytes or using SI or NIST units. For example, the following are all valid and equivalent sizes: '1048576' '1.048576MB', '1 MiB'.

--regex <REGEX TEMPLATE>
Search for photos where TEMPLATE matches regular expression REGEX. For example, to find photos in an album that begins with 'Beach': '–regex "^Beach" "{album}"'. You may specify more than one regular expression match by repeating '–regex' with different arguments.

--query-eval <CRITERIA>
Evaluate CRITERIA to filter photos. CRITERIA will be evaluated in context of the following python list comprehension: *photos = [photo for photo in photos if CRITERIA]* where photo represents a PhotoInfo object. For example: *–query-eval photo.favorite* returns all photos that have been favorited and is equivalent to –favorite. You may specify more than one CRITERIA by using –query-eval multiple times. CRITERIA must be a valid python expression. See https://rhettbull.github.io/osxphotos/ for additional documentation on the PhotoInfo class.

--deleted
Include photos from the 'Recently Deleted' folder.

--deleted-only
Include only photos from the 'Recently Deleted' folder.

--missing
Search for photos missing from disk.

--not-missing
Search for photos present on disk (e.g. not missing).

--cloudasset
Search for photos that are part of an iCloud library

--not-cloudasset
Search for photos that are not part of an iCloud library

--incloud
Search for photos that are in iCloud (have been synched)

--not-incloud
Search for photos that are not in iCloud (have not been synched)

--add-to-album <ALBUM>
Add all photos from query to album ALBUM in Photos. Album ALBUM will be created if it doesn't exist. All photos in the query results will be added to this album. This only works if the Photos library being queried is

the last-opened (default) library in Photos. This feature is currently experimental. I don't know how well it will work on large query sets.

Arguments

PHOTOS_LIBRARY
Optional argument(s)

1.6.2 osxphotos package

1.6.2.1 osxphotos module

class osxphotos.**PhotosDB**(*dbfile=None*, *verbose=None*, *exiftool=None*)
Processes a Photos.app library database to extract information about photos

property album_info
return list of AlbumInfo objects for each album in the photos database

property album_info_shared
return list of AlbumInfo objects for each shared album in the photos database only valid for Photos 5; on Photos <= 4, prints warning and returns empty list

property albums
return list of albums found in photos database

property albums_as_dict
return albums as dict of albums, count in reverse sorted order (descending)

property albums_shared
return list of shared albums found in photos database only valid for Photos 5; on Photos <= 4, prints warning and returns empty list

property albums_shared_as_dict
returns shared albums as dict of albums, count in reverse sorted order (descending) valid only on Photos 5; on Photos <= 4, prints warning and returns empty dict

property db_path
returns path to the Photos library database PhotosDB was initialized with

property db_version
return the database version as stored in LiGlobals table

property folder_info
return list FolderInfo objects representing top-level folders in the photos database

property folders
return list of top-level folder names in the photos database

get_db_connection()
Get connection to the working copy of the Photos database

Returns tuple of (connection, cursor) to sqlite3 database

get_photo(*uuid*)
Returns a single photo matching uuid

Parameters **uuid** – the UUID of photo to get

Returns PhotoInfo instance for photo with UUID matching uuid or None if no match

property import_info
return list of ImportInfo objects for each import session in the database

property keywords
return list of keywords found in photos database

property keywords_as_dict
return keywords as dict of keyword, count in reverse sorted order (descending)

property labels
return list of all search info labels found in the library

property labels_as_dict
count in reverse sorted order (descending)

Type return labels as dict of label

property labels_normalized
return list of all normalized search info labels found in the library

property labels_normalized_as_dict
count in reverse sorted order (descending)

Type return normalized labels as dict of label

property library_path
returns path to the Photos library PhotosDB was initialized with

property person_info
return list of PersonInfo objects for each person in the photos database

property persons
return list of persons found in photos database

property persons_as_dict
return persons as dict of person, count in reverse sorted order (descending)

photos(*keywords=None*, *uuid=None*, *persons=None*, *albums=None*, *images=True*, *movies=True*, *from_date=None*, *to_date=None*, *intrash=False*)
Return a list of PhotoInfo objects If called with no args, returns the entire database of photos If called with args, returns photos matching the args (e.g. keywords, persons, etc.) If more than one arg, returns photos matching all the criteria (e.g. keywords AND persons) If more than one keyword, uuid, persons, albums is passed, they are treated as "OR" criteria e.g. keywords=["wedding","vacation"] returns photos matching either keyword from_date and to_date may be either naive or timezone-aware datetime.datetime objects. If naive, timezone will be assumed to be local timezone.

Parameters

- **keywords** – list of keywords to search for
- **uuid** – list of UUIDs to search for
- **persons** – list of persons to search for
- **albums** – list of album names to search for
- **images** – if True, returns image files, if False, does not return images; default is True
- **movies** – if True, returns movie files, if False, does not return movies; default is True
- **from_date** – return photos with creation date >= from_date (datetime.datetime object, default None)
- **to_date** – return photos with creation date <= to_date (datetime.datetime object, default None)

- **intrash** – if True, returns only images in "Recently deleted items" folder, if False returns only photos that aren't deleted; default is False

Returns list of PhotoInfo objects

photos_by_uuid(*uuids*)

Returns a list of photos with UUID in uuids. Does not generate error if invalid or missing UUID passed. This is faster than using PhotosDB.photos if you have list of UUIDs. Returns photos regardless of intrash state.

Parameters **uuid** – list of UUIDs of photos to get

Returns list of PhotoInfo instance for photo with UUID matching uuid or [] if no match

query(*options: osxphotos.queryoptions.QueryOptions*) → List[osxphotos.photoinfo.photoinfo.PhotoInfo]

Run a query against PhotosDB to extract the photos based on user supplied options

Parameters **options** – a QueryOptions instance

class osxphotos.**PhotoInfo**(*db=None*, *uuid=None*, *info=None*)

Info about a specific photo, contains all the details about the photo including keywords, persons, albums, uuid, path, etc.

class ExifInfo(*flash_fired: bool*, *iso: int*, *metering_mode: int*, *sample_rate: int*, *track_format: int*, *white_balance: int*, *aperture: float*, *bit_rate: float*, *duration: float*, *exposure_bias: float*, *focal_length: float*, *fps: float*, *latitude: float*, *longitude: float*, *shutter_speed: float*, *camera_make: str*, *camera_model: str*, *codec: str*, *lens_model: str*)

EXIF info associated with a photo from the Photos library

aperture: float

bit_rate: float

camera_make: str

camera_model: str

codec: str

duration: float

exposure_bias: float

flash_fired: bool

focal_length: float

fps: float

iso: int

latitude: float

lens_model: str

longitude: float

metering_mode: int

sample_rate: int

shutter_speed: float

track_format: int

white_balance: int

class ExportResults(*exported=None*, *new=None*, *updated=None*, *skipped=None*, *exif_updated=None*, *touched=None*, *converted_to_jpeg=None*, *sidecar_json_written=None*, *sidecar_json_skipped=None*, *sidecar_exiftool_written=None*, *sidecar_exiftool_skipped=None*, *sidecar_xmp_written=None*, *sidecar_xmp_skipped=None*, *missing=None*, *error=None*, *exiftool_warning=None*, *exiftool_error=None*, *xattr_written=None*, *xattr_skipped=None*, *deleted_files=None*, *deleted_directories=None*, *exported_album=None*, *skipped_album=None*, *missing_album=None*)

holds export results for export2

all_files()

return all filenames contained in results

class ScoreInfo(*overall: float*, *curation: float*, *promotion: float*, *highlight_visibility: float*, *behavioral: float*, *failure: float*, *harmonious_color: float*, *immersiveness: float*, *interaction: float*, *interesting_subject: float*, *intrusive_object_presence: float*, *lively_color: float*, *low_light: float*, *noise: float*, *pleasant_camera_tilt: float*, *pleasant_composition: float*, *pleasant_lighting: float*, *pleasant_pattern: float*, *pleasant_perspective: float*, *pleasant_post_processing: float*, *pleasant_reflection: float*, *pleasant_symmetry: float*, *sharply_focused_subject: float*, *tastefully_blurred: float*, *well_chosen_subject: float*, *well_framed_subject: float*, *well_timed_shot: float*)

Computed photo score info associated with a photo from the Photos library

behavioral: float

curation: float

failure: float

harmonious_color: float

highlight_visibility: float

immersiveness: float

interaction: float

interesting_subject: float

intrusive_object_presence: float

lively_color: float

low_light: float

noise: float

overall: float

pleasant_camera_tilt: float

pleasant_composition: float

pleasant_lighting: float

pleasant_pattern: float

pleasant_perspective: float

pleasant_post_processing: float

pleasant_reflection: float

pleasant_symmetry: float

promotion: float

sharply_focused_subject: float

tastefully_blurred: float

well_chosen_subject: float

well_framed_subject: float

well_timed_shot: float

class SearchInfo(*photo*, *normalized=False*)

Info about search terms such as machine learning labels that Photos knows about a photo

property activities
returns list of activity names

property all
return all search info properties in a single list

asdict()
return dict of search info

property bodies_of_water
returns list of body of water names

property city
returns city/town

property country
returns country name

property holidays
returns list of holiday names

property labels
return list of labels associated with Photo

property locality_names
returns list of other locality names

property media_types
returns list of media types (photo, video, panorama, etc)

property month
returns month name

property neighborhoods
returns list of neighborhoods

property place_names
returns list of place names

property season
returns season name

property state
returns state name

property state_abbreviation
returns state abbreviation

property streets
returns list of street names

property venue_types
returns list of venue types

property venues
returns list of venue names

property year
returns year

property adjustments
Returns AdjustmentsInfo class for adjustment data or None if no adjustments; Photos 5+ only

property album_info
list of AlbumInfo objects representing albums the photo is contained in

property albums
list of albums picture is contained in

asdict()
return dict representation

property burst
Returns True if photo is part of a Burst photo set, otherwise False

property burst_album_info
If photo is a burst photo, returns list of AlbumInfo objects representing albums the photo is contained in as well as albums the burst key photo is contained in, otherwise returns self.album_info.

property burst_albums
If photo is burst photo, list of albums it is contained in as well as any albums the key photo is contained in, otherwise returns self.albums

property burst_default_pick
Returns True if photo is a burst image and is the photo that Photos selected as the default image for the burst set, otherwise False

property burst_key
Returns True if photo is a burst photo and is the key image for the burst set (the image that Photos shows on top of the burst stack), otherwise False

property burst_photos
If photo is a burst photo, returns list of PhotoInfo objects that are part of the same burst photo set; otherwise returns empty list. self is not included in the returned list

property burst_selected
Returns True if photo is a burst photo and has been selected from the burst set by the user, otherwise False

property comments
Returns list of Comment objects for any comments on the photo (sorted by date)

property date
image creation date as timezone aware datetime object

property date_added
Date photo was added to the database

property date_modified
image modification date as timezone aware datetime object or None if no modification date set

property date_trashed
Date asset was placed in the trash or None

property description
long / extended description of picture

property exif_info
Returns an ExifInfo object with the EXIF data for photo Note: the returned EXIF data is the data Photos stores in the database on import; ExifInfo does not provide access to the EXIF info in the actual image file Some or all of the fields may be None Only valid for Photos 5; on earlier database returns None

property exiftool
Returns an ExifTool object for the photo requires that exiftool (https://exiftool.org/) be installed If exiftool not installed, logs warning and returns None If photo path is missing, returns None

export (*dest*, **filename*, *edited=False*, *live_photo=False*, *raw_photo=False*, *export_as_hardlink=False*, *overwrite=False*, *increment=True*, *sidecar_json=False*, *sidecar_exiftool=False*, *sidecar_xmp=False*, *use_photos_export=False*, *timeout=120*, *exiftool=False*, *use_albums_as_keywords=False*, *use_persons_as_keywords=False*, *keyword_template=None*, *description_template=None*)
export photo dest: must be valid destination path (or exception raised) filename: (optional): name of exported picture; if not provided, will use current filename

> **NOTE**: if provided, user must ensure file extension (suffix) is correct. For example, if photo is .CR2 file, edited image may be .jpeg. If you provide an extension different than what the actual file is, export will print a warning but will export the photo using the incorrect file extension (unless use_photos_export is true, in which case export will use the extension provided by Photos upon export; in this case, an incorrect extension is silently ignored). e.g. to get the extension of the edited photo, reference PhotoInfo.path_edited

edited: (boolean, default=False); if True will export the edited version of the photo (or raise exception if no edited version)

live_photo: (boolean, default=False); if True, will also export the associted .mov for live photos raw_photo: (boolean, default=False); if True, will also export the associted RAW photo export_as_hardlink: (boolean, default=False); if True, will hardlink files instead of copying them overwrite: (boolean, default=False); if True will overwrite files if they alreay exist increment: (boolean, default=True); if True, will increment file name until a non-existant name is found

> if overwrite=False and increment=False, export will fail if destination file already exists

sidecar_json: if set will write a json sidecar with data in format readable by exiftool sidecar filename will be dest/filename.json; includes exiftool tag group names (e.g. *exiftool -G -j*)

sidecar_exiftool: if set will write a json sidecar with data in format readable by exiftool sidecar filename will be dest/filename.json; does not include exiftool tag group names (e.g. *exiftool -j*)

sidecar_xmp: if set will write an XMP sidecar with IPTC data sidecar filename will be dest/filename.xmp

use_photos_export: (boolean, default=False); if True will attempt to export photo via applescript interaction with Photos timeout: (int, default=120) timeout in seconds used with use_photos_export exiftool: (boolean, default = False); if True, will use exiftool to write metadata to export file returns list of full paths to the exported files use_albums_as_keywords: (boolean, default = False); if True, will include album names in keywords when exporting metadata with exiftool or sidecar use_persons_as_keywords: (boolean, default = False); if True, will include person names in keywords when exporting metadata with exiftool or sidecar keyword_template: (list of strings); list of template strings that will be rendered as used as keywords description_template: string; optional template string that will be rendered for use as photo description

Returns: list of photos exported

export2(*dest*, **filename*, *edited=False*, *live_photo=False*, *raw_photo=False*, *export_as_hardlink=False*, *overwrite=False*, *increment=True*, *sidecar=0*, *sidecar_drop_ext=False*, *use_photos_export=False*, *timeout=120*, *exiftool=False*, *use_albums_as_keywords=False*, *use_persons_as_keywords=False*, *keyword_template=None*, *description_template=None*, *update=False*, *ignore_signature=False*, *export_db=None*, *fileutil=<class 'osxphotos.fileutil.FileUtil'>*, *dry_run=False*, *touch_file=False*, *convert_to_jpeg=False*, *jpeg_quality=1.0*, *ignore_date_modified=False*, *use_photokit=False*, *verbose=None*, *exiftool_flags=None*, *merge_exif_keywords=False*, *merge_exif_persons=False*, *jpeg_ext=None*, *persons=True*, *location=True*, *replace_keywords=False*)

export photo, like export but with update and dry_run options dest: must be valid destination path or exception raised filename: (optional): name of exported picture; if not provided, will use current filename

NOTE: if provided, user must ensure file extension (suffix) is correct. For example, if photo is .CR2 file, edited image may be .jpeg. If you provide an extension different than what the actual file is, will export the photo using the incorrect file extension (unless use_photos_export is true, in which case export will use the extension provided by Photos upon export. e.g. to get the extension of the edited photo, reference PhotoInfo.path_edited

edited: (boolean, default=False); if True will export the edited version of the photo (or raise exception if no edited version)

live_photo: (boolean, default=False); if True, will also export the associted .mov for live photos raw_photo: (boolean, default=False); if True, will also export the associted RAW photo export_as_hardlink: (boolean, default=False); if True, will hardlink files instead of copying them overwrite: (boolean, default=False); if True will overwrite files if they alreay exist increment: (boolean, default=True); if True, will increment file name until a non-existant name is found

if overwrite=False and increment=False, export will fail if destination file already exists

sidecar: bit field: set to one or more of SIDECAR_XMP, SIDECAR_JSON, SIDECAR_EXIFTOOL

SIDECAR_JSON: if set will write a json sidecar with data in format readable by exiftool sidecar filename will be dest/filename.json; includes exiftool tag group names (e.g. *exiftool -G -j*)

SIDECAR_EXIFTOOL: if set will write a json sidecar with data in format readable by exiftool sidecar filename will be dest/filename.json; does not include exiftool tag group names (e.g. *exiftool -j*)

SIDECAR_XMP: if set will write an XMP sidecar with IPTC data sidecar filename will be dest/filename.xmp

sidecar_drop_ext: (boolean, default=False); if True, drops the photo's extension from sidecar filename (e.g. 'IMG_1234.json' instead of 'IMG_1234.JPG.json') use_photos_export: (boolean, default=False); if True will attempt to export photo via applescript interaction with Photos timeout: (int, default=120) timeout in seconds used with use_photos_export exiftool: (boolean, default = False); if True, will use exiftool to write metadata to export file use_albums_as_keywords: (boolean, default = False); if True, will include album names in keywords when exporting metadata with exiftool or sidecar use_persons_as_keywords: (boolean, default = False); if True, will include person names in keywords when exporting metadata with exiftool or sidecar keyword_template: (list of strings); list of template strings that will be rendered as used as keywords description_template: string; optional template string that will be rendered for use as photo description update: (boolean, default=False); if True export will run in update mode, that is, it will

not export the photo if the current version already exists in the destination

ignore_signature: (bool, default=False), ignore file signature when used with update (look only at filename) export_db: (ExportDB_ABC); instance of a class that conforms to ExportDB_ABC with methods

for getting/setting data related to exported files to compare update state

fileutil: (FileUtilABC); class that conforms to FileUtilABC with various file utilities dry_run: (boolean, default=False); set to True to run in "dry run" mode touch_file: (boolean, default=False); if True, sets file's modification time upon photo date convert_to_jpeg: boolean; if True, converts non-jpeg images to jpeg jpeg_quality: float in range 0.0 <= jpeg_quality <= 1.0. A value of 1.0 specifies use best quality, a value of 0.0 specifies use maximum compression. ignore_date_modified: for use with sidecar and exiftool; if True, sets EXIF:ModifyDate to EXIF:DateTimeOriginal even if date_modified is set verbose: optional callable function to use for printing verbose text during processing; if None (default), does not print output. exiftool_flags: optional list of flags to pass to exiftool when using exiftool option, e.g ["-m", "-F"] merge_exif_keywords: boolean; if True, merged keywords found in file's exif data (requires exiftool) merge_exif_persons: boolean; if True, merged persons found in file's exif data (requires exiftool) jpeg_ext: if set, will use this value for extension on jpegs converted to jpeg with convert_to_jpeg; if not set, uses jpeg; do not include the leading "." persons: if True, include persons in exported metadata location: if True, include location in exported metadata replace_keywords: if True, keyword_template replaces any keywords, otherwise it's additive

Returns: ExportResults class ExportResults has attributes: "exported", "new", "updated", "skipped", "exif_updated", "touched", "converted_to_jpeg", "sidecar_json_written", "sidecar_json_skipped", "sidecar_exiftool_written", "sidecar_exiftool_skipped", "sidecar_xmp_written", "sidecar_xmp_skipped", "missing", "error", "error_str", "exiftool_warning", "exiftool_error",

Note: to use dry run mode, you must set dry_run=True and also pass in memory version of export_db, and no-op fileutil (e.g. ExportDBInMemory and FileUtilNoOp)

property external_edit
Returns True if picture was edited outside of Photos using external editor

property face_info
list of FaceInfo objects for faces in picture

property favorite
True if picture is marked as favorite

property filename
filename of the picture

property has_raw
returns True if photo has an associated raw image (that is, it's a RAW+JPEG pair), otherwise False

property hasadjustments
True if picture has adjustments / edits

property hdr
Returns True if photo is an HDR photo, otherwise False

property height
returns height of the current photo version in pixels

property hidden
True if picture is hidden

property import_info
ImportInfo object representing import session for the photo or None if no import session

property incloud
Returns True if photo is cloud asset and is synched to cloud False if photo is cloud asset and not yet synched to cloud None if photo is not cloud asset

property intrash
True if picture is in trash ('Recently Deleted' folder)

property iscloudasset
Returns True if photo is a cloud asset (in an iCloud library), otherwise False

property ismissing
returns true if photo is missing from disk (which means it's not been downloaded from iCloud) NOTE: the photos.db database uses an asynchrounous write-ahead log so changes in Photos

> do not immediately get written to disk. In particular, I've noticed that downloading an image from the cloud does not force the database to be updated until something else e.g. an edit, keyword, etc. occurs forcing a database synch The exact process / timing is a mystery to be but be aware that if some photos were recently downloaded from cloud to local storate their status in the database might still show isMissing = 1

property ismovie
Returns True if file is a movie, otherwise False

property isphoto
Returns True if file is an image, otherwise False

property israw
returns True if photo is a raw image. For images with an associated RAW+JPEG pair, see has_raw

property isreference
Returns True if photo is a reference (not copied to the Photos library), otherwise False

json()
Return JSON representation

property keywords
list of keywords for picture

property labels
returns list of labels applied to photo by Photos image categorization only valid on Photos 5, on older libraries returns empty list

property labels_normalized
returns normalized list of labels applied to photo by Photos image categorization only valid on Photos 5, on older libraries returns empty list

property likes
Returns list of Like objects for any likes on the photo (sorted by date)

property live_photo
Returns True if photo is a live photo, otherwise False

property location
returns (latitude, longitude) as float in degrees or None

property orientation
returns EXIF orientation of the current photo version as int or 0 if current orientation cannot be determined

property original_filename
original filename of the picture Photos 5 mangles filenames upon import

property original_filesize
returns filesize of original photo in bytes as int

property original_height
returns height of the original photo version in pixels

property original_orientation
returns EXIF orientation of the original photo version as int

property original_width
returns width of the original photo version in pixels

property panorama
Returns True if photo is a panorama, otherwise False

property path
absolute path on disk of the original picture

property path_edited
absolute path on disk of the edited picture

property path_live_photo
Returns path to the associated video file for a live photo If photo is not a live photo, returns None If photo is missing, returns None

property path_raw
absolute path of associated RAW image or None if there is not one

property person_info
list of PersonInfo objects for person in picture

property persons
list of persons in picture

property place
Returns PlaceInfo object containing reverse geolocation info

property portrait
Returns True if photo is a portrait, otherwise False

property raw_original
returns True if associated raw image and the raw image is selected in Photos via "Use RAW as Original " otherwise returns False

render_template(*template_str*, *none_str='_'*, *path_sep=None*, *expand_inplace=False*, *inplace_sep=None*, *filename=False*, *dirname=False*, *strip=False*, *edited=False*)
Renders a template string for PhotoInfo instance using PhotoTemplate

Parameters

- **template_str** – a template string with fields to render
- **none_str** – a str to use if template field renders to None, default is "_".
- **path_sep** – a single character str to use as path separator when joining fields like folder_album; if not provided, defaults to os.path.sep
- **expand_inplace** – expand multi-valued substitutions in-place as a single string instead of returning individual strings
- **inplace_sep** – optional string to use as separator between multi-valued keywords with expand_inplace; default is ','
- **filename** – if True, template output will be sanitized to produce valid file name
- **dirname** – if True, template output will be sanitized to produce valid directory name
- **strip** – if True, strips leading/trailing white space from resulting template
- **edited** – if True, sets {edited_version} field to True, otherwise it gets set to False; set if you want template evaluated for edited version

Returns tuple of list of rendered strings and list of unmatched template values

Return type ([rendered_strings], [unmatched])

property score
Computed score information for a photo

Returns ScoreInfo instance

property screenshot
Returns True if photo is an HDR photo, otherwise False

property search_info
returns SearchInfo object for photo only valid on Photos 5, on older libraries, returns None

property search_info_normalized
returns SearchInfo object for photo that produces normalized results only valid on Photos 5, on older libraries, returns None

property selfie
Returns True if photo is a selfie (front facing camera), otherwise False

property shared
returns True if photos is in a shared iCloud album otherwise false Only valid on Photos 5; returns None on older versions

property slow_mo
Returns True if photo is a slow motion video, otherwise False

property time_lapse
Returns True if photo is a time lapse video, otherwise False

property title
name / title of picture

property tzoffset
timezone offset from UTC in seconds

property uti
Returns Uniform Type Identifier (UTI) for the image for example: public.jpeg or com.apple.quicktime-movie

property uti_edited
Returns Uniform Type Identifier (UTI) for the edited image if the photo has been edited, otherwise None; for example: public.jpeg

property uti_original
Returns Uniform Type Identifier (UTI) for the original image for example: public.jpeg or com.apple.quicktime-movie

property uti_raw
Returns Uniform Type Identifier (UTI) for the RAW image if there is one for example: com.canon.cr2-raw-image Returns None if no associated RAW image

property uuid
UUID of picture

property visible
True if picture is visble

property width
returns width of the current photo version in pixels

CHAPTER

TWO

INDICES AND TABLES

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INDEX

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