SearchKey 1.5 for High Sierra, Mojave, Catalina, Big Sur, Monterey & Ventura
Release Notes
Howard Oakley https://eclecticlight.co

These release notes describe the features of **SearchKey**, a simple GUI tool for adding keywords and other metadata to files, to improve Spotlight local search results.

Spotlight compiles indexes of metadata for use in local searches. For most files, the information used for those indexes is the (data) contents of the file. For text and PDF files, for example, that consists of the words contained within each file. If you search for files containing the word *macOS,* then Spotlight won't find any which refer only to *OS X.* If you search for files containing the word *auto,* then Spotlight won't find any which only use the European term of *car.*

One way to address this is to add keywords and other metadata which ensure that documents about macOS or autos, or whatever, can be found regardless of the words within them. Such metadata are also the only effective way of searching non-verbal content such as images, audio, and video.

Some file formats, particularly those used for non-verbal content, already provide for metadata, which Spotlight uses. macOS also provides a universal system through extended attributes, or xattrs, which can be attached to any file (or folder), and remain attached to the file wherever it goes. The problem with extended attributes is that, with a few exceptions, that cannot ordinarily be seen by the user, nor are they easy to edit.
SearchKey changes that, making it simple for you to add metadata in the form of extended attributes to any document or other file.

Not all extended attributes are preserved at all times. There are some file systems which strip them, NFS being one, but few users are likely to store their files on them. Those selected for use in SearchKey currently appear to be those which are most suitable for containing this type of metadata, are indexed and used for Spotlight local search, and are preserved in iCloud Drive.

What you need
- A Mac running High Sierra or later.
- A copy of the latest release of SearchKey from https://eclecticlight.co/downloads/
  (This is delivered by secure HTTPS download.)

SearchKey comes compressed as a Zip file, which you should decompress, and move the app to your preferred folder, such as /Applications. It is not fussy where it is run from, though.

Use
SearchKey currently lets you open any file or folder and add or change the following extended attributes:
- **Headline** is stored in the xattr com.apple.metadata:kMDItemHeadline.
- **Description** in com.apple.metadata:kMDItemDescription.
- **Creator** in com.apple.metadata:kMDItemCreator.
- **Copyright** in com.apple.metadata:kMDItemCopyright.
- **Keywords** in com.apple.metadata:kMDItemKeywords.

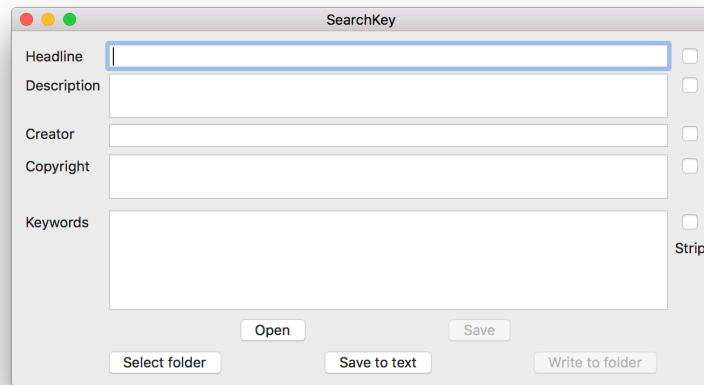**SearchKey** 1.5 for High Sierra, Mojave, Catalina, Big Sur, Monterey & Ventura
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TL;DR: Open a **New** window. Click on the **Open** button (not the menu command) to open a single file/folder. Edit the text boxes. Those left empty will not be saved to the file/folder as extended attributes; if the **Strip** box is ticked *and* the text empty, that attribute will be removed. Break lines in text with Opt-Enter. Click on the **Save** button (not the menu command) to save the metadata.
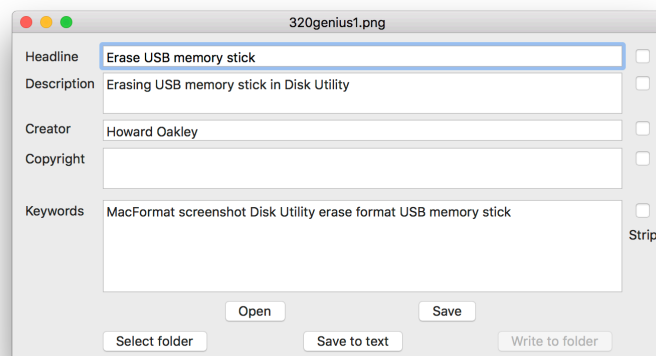
To apply one or more attributes to a folder of files and folders, click on the **Select folder** button and enter contents of the attributes to add/change. Click on the **Write to folder** button to save those metadata to all files and folders within that folder.

Details: Single file mode

When you open the SearchKey app, it should open a new window. You can always open another new window using the **New** menu command.

Click on the **Open** button on the window to select a file (or folder) to open and add/edit its attributes.
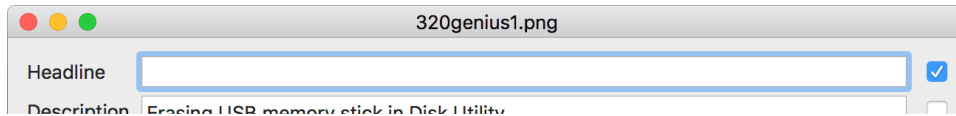

When you open an item, any metadata already contained in those five extended attributes will be displayed in their respective text boxes. You can then edit those metadata until you are

happy with them. ⚠️ **If you leave a text box empty, that extended attribute will not be written to the file when you save changes.**

If you want to **remove** one or more of the extended attributes which currently contains text, cut the contents of the respective text box to empty it, and tick the **Strip** checkbox at the far right of that text box, before clicking on the **Save** button. ⚠️ The text box needs to be empty *and* that box ticked for SearchKey to remove the entire attribute: this prevents accidental removal.

These extended attributes are best with short text content, although they will work with more than 100 KB of text in each. To break lines in the text boxes, press **Option-Enter**. You can cut, copy, and paste text in the text boxes as you would expect, but styling is not supported: the attributes only store plain not styled text.

⚠️ When you **Save** changes, the text which you have entered is converted into XML format before writing it out to each extended attribute. Unlike in xattred (which works in raw XML), you should *not* enter the XML 'escape' forms for characters, such as `&` for `&` (ampersand). SearchKey works with plain Unicode UTF-8 characters, and should handle any conversions automatically.

Once you are happy with the metadata, click on the **Save** button to write them out to the extended attributes for that file (or folder). You can then open another item to edit, open more new windows for other items, or quit the app in the normal way.
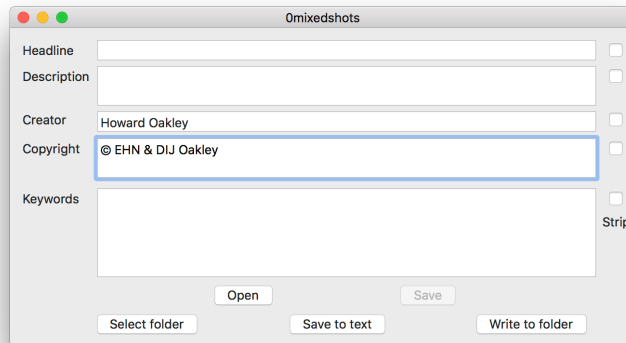
Details: multiple file mode

In addition to editing these extended attributes for one file (or folder) at a time, SearchKey lets you change one or more of them for entire folders full of files and sub-folders.

First, click on the **Select folder** button and select the folder which contains all the items (files, folders, and files and folders nested within those folders) which you want to change. This clears the contents of all the text boxes.

Next, enter the text which you want to appear in one or more of the extended attributes, using the same conventions as for single files.

When you are ready to apply those changes, click on the **Write to folder** button and SearchKey will then change or add those extended attributes throughout the selected folder.

This is most useful for adding common metadata, such as copyright information, to a large number of files.

Details: Save to text

At any time, you can click on the **Save to text** button to save the current text box contents to a text file. You will then be prompted for the name and location of the text file into which to save that text. This lets you make a separate record of the extended attributes.

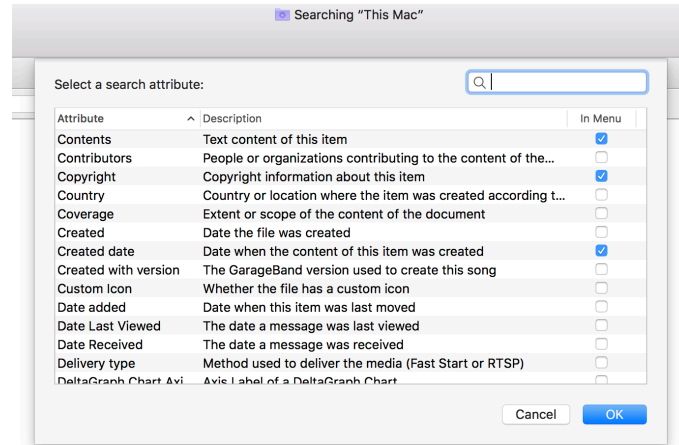### Details: easy access to attributes in search

When you perform a normal Spotlight search through the 🔍 icon in the menubar, Spotlight uses its metadata indexes which include all the text in these five extended attributes. However, there is a more powerful way of harnessing them, in Finder's **Find** command.

Before you can use this, you should add the four accessible extended attributes to the search criteria. Open a new window in the Finder, and select the **Find** command in the **File** menu. This changes the window from a normal Finder view to a Find window, in which the lowest row in the top part of the window contains search criteria, by default set to **Kind is Any**.
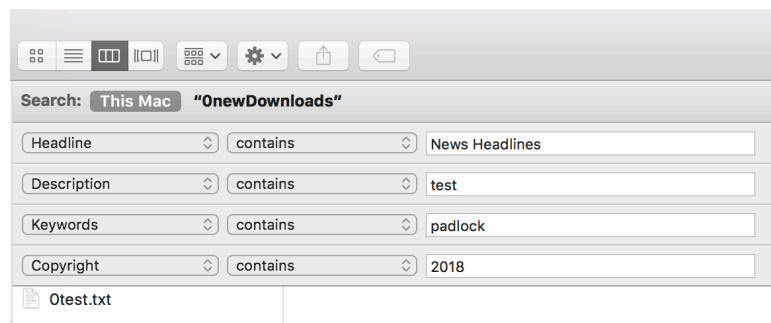
Open the popup menu containing the first part of that, **Kind**, and at the foot of that menu you will see the option **Other…** Choose that option to open the search attributes, and in that list tick the checkboxes next to **Headline**, **Descriptions**, **Keywords**, and **Copyright**. This adds them to that popup menu.

Now, you can perform Finder searches using the contents of those four extended attributes.

⚠️ There doesn't appear to be any way to add **Creator** to the search attributes used here, but the other four extended attributes are fully supported.

Applications which support Spotlight-based search may also offer these extended attributes in their search criteria; that varies according to the app.

Obtaining updates

Use the **Browse updates** command in the **Help** menu to open a page in your default browser which lists current versions of apps, and makes it easy to download updates.

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Change list

1.5:
- updated xattr code for future compatibility.

1.4:
- Universal App.

1.3:
- ported to Swift 5 and Xcode 10.3
- added code integrity check
- added Support Page link
- improved saving of window size and location.

1.2:
- ported to Swift 4.2.1 and Xcode 10.1
- notarized for Mojave.

1.1:
- fixed potential clash of data access in xattr code
- added Browse updates command in Help menu
- tweaked for full compatibility with Dark Mode
- ported to Swift 4.2
- built with Xcode 10ß.

1.0:
- tidied dialog
- checked code
- added Tooltips
- added Help book.

1.0b1:
- added Save as text button and text output
- tidied window layout with additional button
- tidied menus.

0.2a1:
- added strip option to single-file edit
- restructured class functions to bring xattr generation into View Controller
- improved handling of multi-line text in text boxes
- convert characters which need to be escaped in XML
- added batch feature.

0.1a1:
- first alpha release, without batch feature.

5 June 2023.