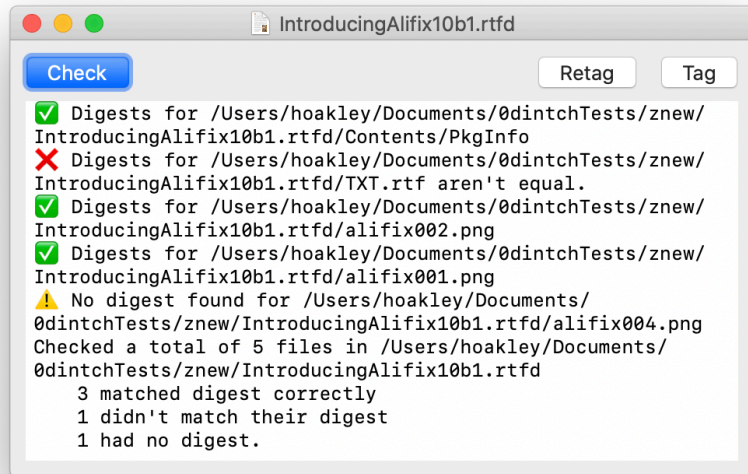


# Start



Fintch is a utility for tagging files with their checksum (actually SHA-256 digests), and checking whether previously tagged files have changed. This lets you determine whether files have changed as the result of 'bit rot', errors, or malicious activity. Fintch provides drag-and-drop support; for tagging and checking large folders, use Dintch.

To tag or check one or more files (including folders and bundles, simply drag and drop them onto its icon.

To tag that file or folder, click the **Tag** button.

To check its digests, click the **Check** button.

To refresh the tags in a previously file or folder, click the **Retag** button.


Save a report to a text file using the **Save...** command in the **File** menu.

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# Tag

Click the **Tag** button or use the shortcut ⌘T to tag a file, bundle or folder. Finch then computes the SHA256 digest for each file, and saves that to the file as an extended attribute.

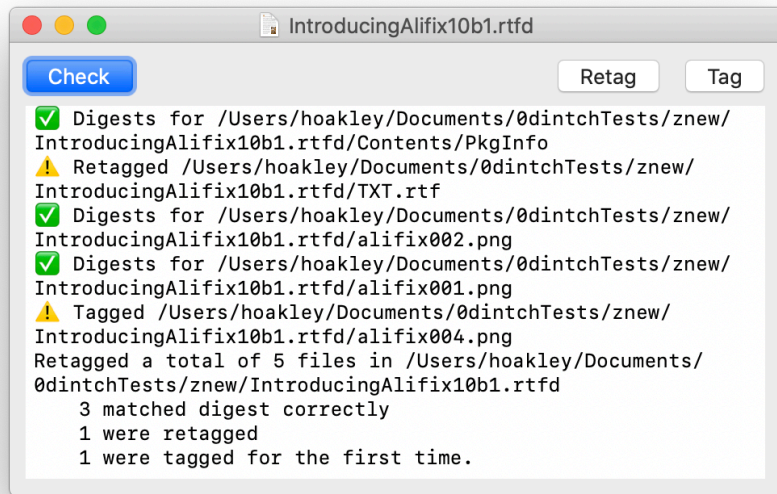
This is safe to perform even on files within signed bundles such as apps, as extended attributes aren't included in signature checks. That tag should remain associated with that file on all file systems such as HFS+ and APFS which respect extended attributes.

 Writing tags to files can count as changing them, and will result in some backup software, notably Time Machine, making a new backup of each tagged file. This can increase the size of your next backup very substantially.

Save the contents of the text view using the **Save...** command in the **File** menu. You can also change the size of the output text using ⌘+ to enlarge and ⌘– to reduce the size.

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# Retag



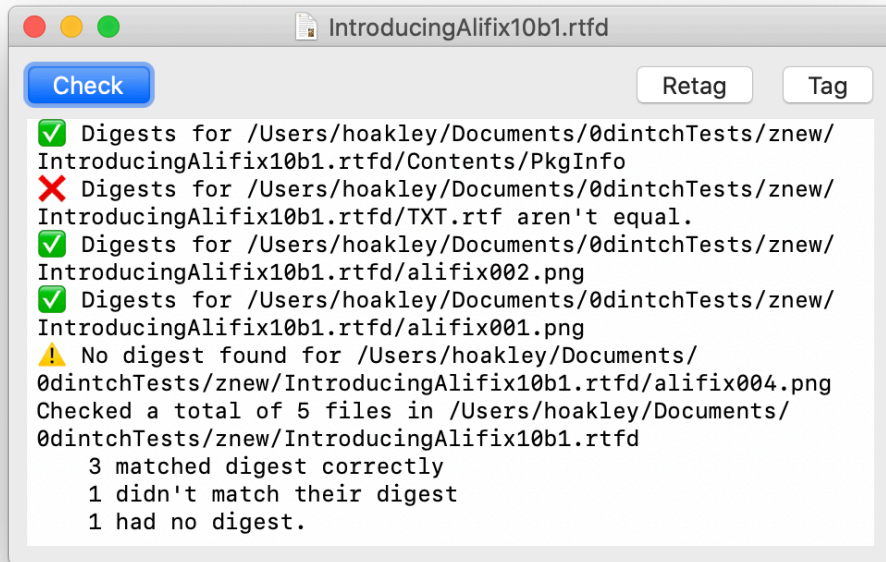
Click the **Retag** button or use the shortcut ⌘R to retag a file or folder. Fintch then computes its SHA256 digest and compares that to any already attached to that file. If they're the same, it doesn't alter the existing tag. If they're different, it writes the new digest as the file's tag. If the file doesn't have an existing tag, it adds one containing the new digest. This minimises the number of changed tags, and any subsequent Time Machine backup.

This is safe to perform even on files within signed bundles such as apps, as extended attributes aren't included in signature checks. That tag should remain associated with that file on all file systems such as HFS+ and APFS which respect extended attributes.

Save the contents of that text view using the **Save...** command in the **File** menu. You can also change the size of the output text using ⌘+ to enlarge and ⌘- to reduce the size.

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# Check



Click the **Check** button or use the shortcut `⌘⌘←` to check a file, bundle or folder. Fintch then compares its current SHA256 digests with any saved to those files already.

Save the contents of that text view using the **Save...** command in the **File** menu. You can also change the size of the output text using `⌘+` to enlarge and `⌘-` to reduce the size.

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# Updates

Whenever you open Fintch, it may check to see if an update is available. This *doesn't* use the popular Sparkle mechanism for updating in place, but works as detailed here.

Once Fintch has successfully completed its integrity check, it checks whether update checking has been turned off in its preferences file. If that has, it abandons any attempt to check for updates. If checking is allowed, it then checks when it last checked for updates. If that was more than 12 hours ago, it continues to perform the check. It then connects to my GitHub server, from where it downloads a list of current versions of my apps. It doesn't upload any data to the GitHub server at all, and no statistics beyond GitHub normal connection figures are collected either: no personal identifiers are recorded. If there is an update available, Fintch then checks that its location is on this WordPress blog, and posts a dialog which invites you to download the update.

If you click on the **Download** button, it then points your default browser at that update, which should trigger the update to be downloaded to your normal downloads folder. The update is received as a regular Zip archive, and is exactly the same as you would download from the Downloads page here. It also carries a quarantine flag, so that when you unZip it and install the app inside, it undergoes normal first run 'Gatekeeper' security checks. If you click on the **Ignore** button, Fintch won't remind you about it again for another 12 hours.

An additional item at the end of the **Help** menu explains the update status. If no update check is performed, or the check fails, the last item reads **Update not checked**. If the check is performed and update information is obtained, even when no update is available or you decline to download it, that menu item reads **Checked for update** and is ticked (but still disabled).

You can customise this behaviour by changing Fintch's preferences. The keys to use are:

- `noUpdateCheck`, a Boolean. When set to `true`, this disables all update checking. Default is `false`.
- `updateCheckInt`, a real number (Double). When set to a value greater than 1.0, the minimum time interval between checks, in seconds. Default is 43200, which is 12 hours. If you set it to any value less than 1, Fintch will reset it automatically to that default.

To change either of these, use a Terminal command of the form

```
defaults write co.electiclight.Fintch updateCheckInt '10'
```

which works properly through the preferences server `cfprefsd`.

# Technical Information

Fintch uses macOS CryptoKit's SHA-256 support for calculating digest on files, or its equivalent Common Crypto when running on Mojave and earlier. Digests written in different versions of macOS should be identical, so you can check digests in Catalina which were originally written in El Capitan. They are also identical to those used by Dintch.

When files are tagged with their digest, this is written to an extended attribute named `co.eclecticlight.dintch.hash`, with the flag **#S** in an attempt to preserve that xattr as much as possible. However, apps which use certain save-in-place schemes don't copy the xattr when saving. This effectively strips the xattr from the saved file.

Fintch doesn't support timestamps. If you want to attach those with tags, or check them, please use Dintch instead.

## Change list

*1.0:*

- first release.

14 April 2020.