



Caption Pro User Manual

Version 2.14

Sept 2021

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OVERVIEW OF CAPTION PRO CAPABILITIES	6
INSTALLATION, RUNNING, AND UNINSTALLATION	7
FIRST RUN	7
LICENSING	8
INTEGRATION WITH OTHER APPLICATIONS	9
OPERATING CAPTION PRO	9
EXTRACTING MULTIPLE PHOTOS FROM IMAGES	10
LOADING AND DISPLAYING FILES AND FOLDERS	11
Files	11
Video File Limitations	13
Folders.....	13
Drag/Drop, Paste, Append and Re-order	14
Showing or Hiding Controls.....	16
Changing Image Display Height.....	17
Batch Button – Captioning or Changing Multiple Image Files	18
Slideshows.....	19
Set Modified Date	20
ADDING AND EDITING CAPTIONS.....	22
Creating Captions and Sub-Captions from Speech.....	23
Possible Speech Transcription Problems.....	24
Face Recognition.....	26
Standard Method	27
Premium Method	29
Adding an Image Sub-Caption	34
Applying the Caption and Sub-Caption	38
Editing File Metadata After Captioning	40
Warning: Don't Edit Title, Subject or Comment Fields after Captioning	40
Auto-Captioning.....	41
Caption Data from Google Photos.....	44
Caption Data from Windows 10 Photos People	48
Adding a Logo to a Caption.....	50
Aspect Ratio	51
Translator.....	52
Editing Images	53
Viewing File Metadata	54
COPYING FILES AND EDITING FILE SELECTIONS.....	54
Copying	54
Editing File Selections.....	55
SEARCH.....	55
OPTIONS SCREEN	56
Caption and Sub-Caption Sources	56
Using Metadata Created by Other Applications.....	57
File MetaData	58
Persist Captions.....	58
Overwrite Original.....	58
Folder Location.....	58
Save Quality	59
Resize Captioned Images	59
Don't Show Processed File Options	59
Slide Show Interval.....	59
Show Video Controls	59
Logo	59
File Order in Folders	59
Tags from Sub-caption	59



Setting Fonts and Colours 60

PRINTING60

HELP63

ERRORS.....66

APPENDICES.....67

1. ADDING CAPTIONS TO IMAGES SHOWN IN GOOGLE PHOTOS..... 67

2. VIDEO EMBEDDING..... 69

Table of Figures

Figure 1 Context menu to send files of folders to Caption Pro by right-clicking on file or files	7
Figure 2 Licensing screen	8
Figure 3 Caption Pro main screen	9
Figure 4 Main Screen in Large View	10
Figure 5 Selecting files with image or video extensions	11
Figure 6 Screen after loading multiple images, showing slide scroll bar	12
Figure 7 Uncaptioned video file display (left), and controls accessed via right-clicking in the video (right).	12
Figure 8 Captioned video display. The height of the caption region is set by the Height controls.	12
Figure 9 Zoomed Display	13
Figure 10 Recursive/Top Only option screen when loading a folder.	13
Figure 11 Drag/Drop and Paste Screen	14
Figure 12 Drop/Screen showing re-ordering screen	15
Figure 13 Screen with all controls shown	16
Figure 14 Screen with only Caption control visible (some controls are hidden)	16
Figure 15 Changing Image Display Height	17
Figure 16 Batch Process Options	18
Figure 17 Slideshow Options on loading (left), after clicking Manual while showing a video (centre) and after clicking Play (right)	19
Figure 18 Slideshow Interval and Video Control Showing Setting on Options screen	20
Figure 19 Slideshow display of video via menu, with video controls shown	20
Figure 20 Set Modified Date screen	21
Figure 21 Setting Caption Size as a Proportion of Original Image Height	22
Figure 22 Setting Sub-caption Size as a Proportion of Original Image Height	22
Figure 23 Speech Input Screen	23
Figure 24 Speech Input Screen Showing Transcribed Speech	23
Figure 25 Face Recognition screen showing two detected faces with default labels	27
Figure 26 Settings for Face Recognition	28
Figure 27 Reference Face Folder definition	29
Figure 28 Image Caption Screen after Selecting File	35
Figure 29 Image Caption display with a shrink factor of 4	35
Figure 30 Image Caption Screen After Region Selection	36
Figure 31 Main Screen After Definition of Image Caption	37
Figure 32 Image After Addition of Image Caption	37
Figure 33 Image Sub-Caption and Text Caption Added	38
Figure 34 Processed File Options Screen	38
Figure 35 Different settings for Caption Height for a short caption (left: 15%, centre 7.5%, right 5%)	39
Figure 36 Different settings for Caption Height for a longer caption (left: 15%, centre 7.5%, right 5%)	39
Figure 37 An Image with a Continuous Caption and Multi-line Sub-Caption	40
Figure 38 Auto-caption screen	41
Figure 39 Options screen	41
Figure 40 Example of Create Caption results (left) and a photo of one of the incorrectly identified subjects	42
Figure 41 Image captioned by names of people identified with Windows Photos	49
Figure 42 Effect of changing the aspect ratio on processed image: Not Set (Top Left), 1.0 (Top Right), 0.66 (Bottom left) 1.6 (Bottom Right)	52

Figure 43 Caption translated into Chinese(left), Spanish (centre), and Vietnamese (right)	52
Figure 44 Example of image editing (cropping) using the Photos editor	53
Figure 45 Example of part of file metadata	54
Figure 46 Example of Copied Captioned Files with Sequence Numbers	54
Figure 47 Drop/Paste screen showing thumbnails from loaded selection	55
Figure 48 Search Screen	55
Figure 49 Options Screen – Captions Tab	56
Figure 50 Captioned image using different metadata sources	57
Figure 51 Google Photos Caption in Info pane (top) and beside image (bottom)	57
Figure 52 Image after creating Caption and Sub-Caption from Google Photos data	58
Figure 53 Fonts and Colours Screen	60
Figure 54 Selecting Print Option	61
Figure 55 Print Dialog Screen.....	61
Figure 56 Print Preview Screen.....	63
Figure 57 Help Options	64
Figure 58 Support screen.....	64
Figure 59 Errors from Current Instance	66
Figure 60 Display of All Errors.....	66

Overview of Caption Pro Capabilities

1. Add, remove or replace a caption bar containing a caption and a sub-caption in JPEG images. Caption text may use any installed font in any Windows language. Any background colour may be used for the caption bar.
 - a. Caption comprising continuous text
 - b. Sub-Caption may contain
 - a. -Multi-line text
 - b. -Part of an image selected separately
2. Support caption editing by retrieving applied captions, aspect ratios, and caption sizes after application
3. Adjust image aspect ratios
4. Load multiple files or the file content of multiple folders and customise the sequence in which they appear
5. Process or display images individually or in groups
6. Obtain image caption text automatically from metadata created by Photo Gallery, Picasa, Google Photos, Windows Photos and other applications, including GPS location data
7. Detect and label faces appearing in images and create captions from face labels
8. Search and display images containing specified text in the captions
9. Store processed images as new files or replacements for existing ones, optionally with resampling
10. Store image caption text in IPTC/XMP metadata, while preserving all existing metadata or only EXIF metadata
11. Store captioned images as JPEG files with default (75%) or high (94%) quality.
12. Set image file Modified date to date on which photo was taken or to arbitrary date
13. Change image file names to reflect ordering by Modified date
14. Display caption and sub-caption text together with video data for .mov, .mp4 and .3gp format video files
15. Edit caption and sub-caption text which has been shown with videos in any of the above format
16. Display captioned images and videos as a slideshow

Caption Pro requires Windows 7 or newer (64-bit operating system) with .Net 4.6.1 Framework or later. The Desktop application is 32-bit. Caption Pro operates only on JPEG format files and video files with .mov, .mp4 and .3gp extensions.

Installation, Running, and Uninstallation

The self-extracting installer Caption ProX.XX.XXX.exe (where X.XX.XXX is the version identifier) should be downloaded from the Aleka Consulting website

<https://captionpro.com.au:444/AlekaConsulting/index.php/caption-pro-download-form/>. The

application will run on Windows 7 or later, but the Speech Input facility will not work on Windows 7 systems. Double-click on the downloaded file to install the program. If an installation location within the user's profile is chosen, the option to send files to Caption Pro via a right-click on single or multiple files will be created once the program has been run once. The option appears in the Send To menu as shown below:

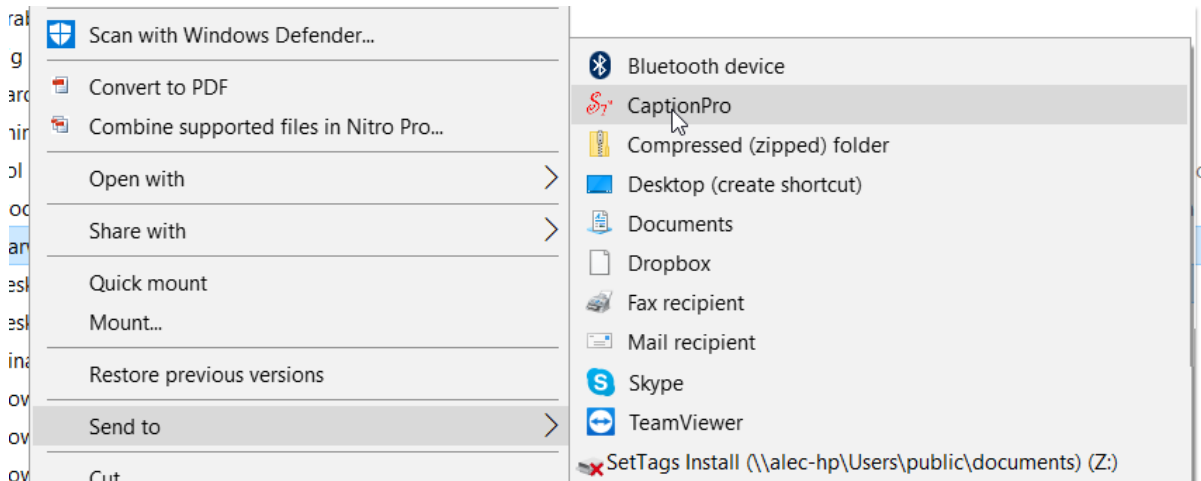
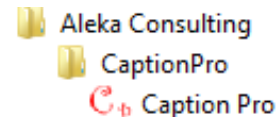


Figure 1 Context menu to send files or folders to Caption Pro by right-clicking on file or files

As Caption Pro can only process JPEG files, any non-JPEG files selected will be skipped.

The program can be found in the Aleka Consulting->Caption Pro folder in "All Programs" as shown below:



If desired the program can be pinned to the Start menu by right-clicking on the program and selecting Pin to Start Menu.

Caption Pro may be uninstalled from the Control Panel->Programs and Features list in the same way as any other application.

Installing Caption Pro on a machine from a user account with Administrator privileges will make the program accessible to all users of the machine. However, non-Administrator users will need to access a copy of the template database FindAlike_Load.vdb5 when running Caption Pro for the first time. This database can be downloaded from the Caption Pro web site and should be placed in the C:\Users\Public\Documents folder.

First Run

After installation, a Demo Desktop license is automatically created when Caption Pro is run (either by clicking the Program entry or by sending selected files to Caption Pro via right-click context menu), which expires 30 days after installation or after 25 captions have been applied or removed. A Demo license can only be used once. If Caption Pro is uninstalled and re-installed by the same user, a license must be obtained from Aleka Consulting.

Licensing

Purchased Caption Pro licenses are permanent but version-limited after expiry, meaning that newer versions cannot be run after license expiry, which is 12 months after purchase. The availability of new versions can be checked via the Help-> Check For Update menu item. The version limit is applied to the first two parts of the version string shown in the Help->About menu, and is shown in the License screen below to the right of the Buy License button. Demo licenses do not show the version number and operation is not possible after a Demo license expires.

License key installation is done by clicking on the License top-level menu to show the following screen:

Figure 2 Licensing screen

The screen shows License OK at the bottom left of the screen if the license is valid. If it is not, the reason is shown. The screen also provides a link to purchase a license from the Aleka Consulting webs site via Paypal by clicking the Buy License button. A license may be used on up to 2 computers.

For a Desktop Demo license, the number of captions applied is shown, and the maximum number allowed with a Desktop Demo license (25).

Any Application or Top-Up license code received is entered in the License Key text box and the Apply button clicked. License details are then shown and the Max Premium Transactions count increased if a Top-Up license key is entered. Note that Top-Up licenses can only be entered once. The option to restart Caption Pro after the license has been accepted should be selected.

Integration with Other Applications

Caption Pro may be integrated with other applications. Details are given in the document Integrating Caption Pro.

Operating Caption Pro

Once a valid license has been obtained, the Caption Pro main screen appears with File menu enabled

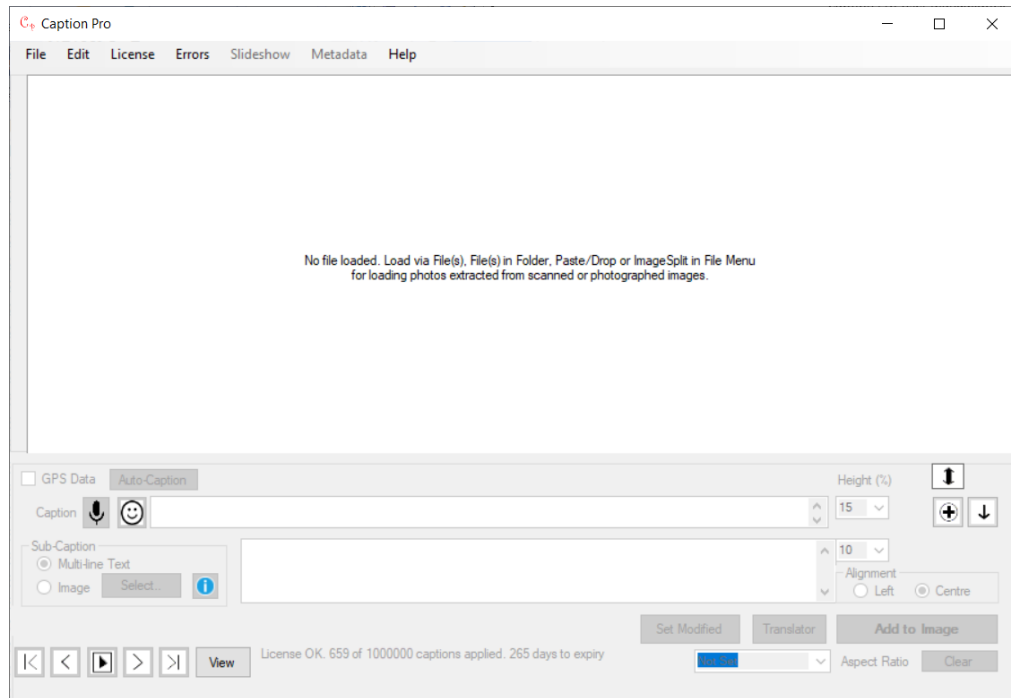


Figure 3 Caption Pro main screen

This screen allows setting of continuous captions and multi-line sub-captions using the Caption and Multi-Line Sub-Caption text boxes below the image. The proportion of the original image or video height used for these is set from the drop-down boxes at the right of the text boxes. The Alignment radio buttons determine whether the lines in the Sub-caption are centred or left aligned. The down arrow button on the lower right hides all controls below the caption box. The double-headed arrow allows the height of the Caption Pro window to be changed by clicking and dragging. This feature is useful when using Caption Pro from a tablet or mobile, with touch controls rather than a mouse. The application window can be resized to allow a view of the touch keyboard below it.

The button to the left of the down arrow button toggles between large and normal size for all controls as shown below. The button icon toggles between a plus (indicating that clicking will change to the Large mode) and a minus, indicating that clicking will return controls to normal size. This view is useful when accessing Caption Pro on a remote server from a mobile device with a small screen.

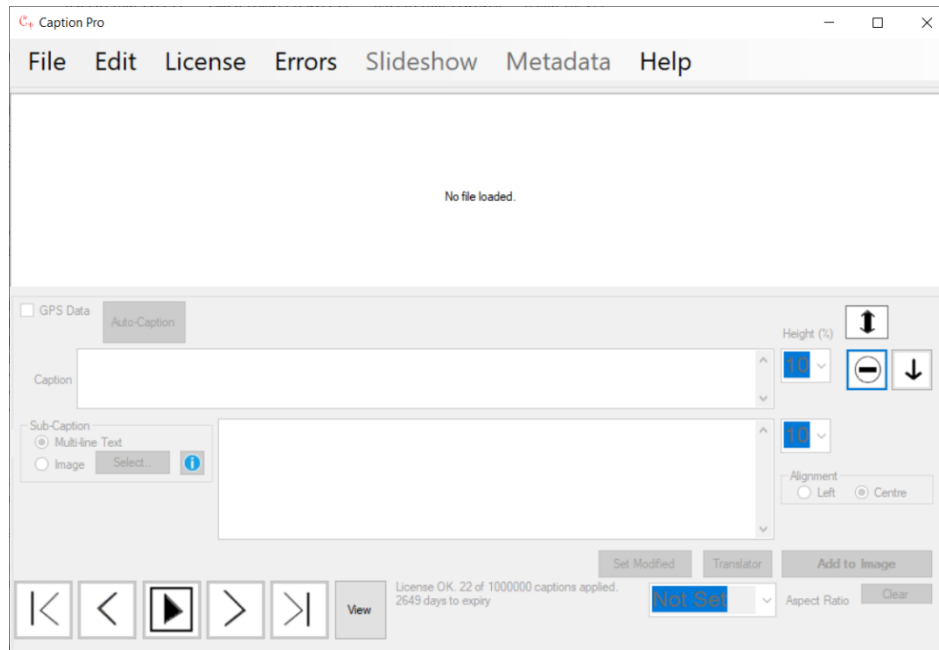


Figure 4 Main Screen in Large View

The license status and the number of days to expiry are shown at the bottom of the main screen. Selection of files or folders is disabled without a valid license. The Metadata menu item is only enabled once data has been loaded.

Extracting Multiple Photos from Images

Photos can be extracted as files from images of multiple photos from a scanner or a camera via the Files->ImageSplit.. option. Extracted photos can then be processed as described in this manual. Help for this process is available from [here](#).

Loading And Displaying Files and Folders

Files

Single or multiple JPEG files or videos in supported formats can be loaded via the File-> File(s).. option which shows a file browser searching for .jpg, .jpeg, .mov, .mp4 or .3gp file extensions

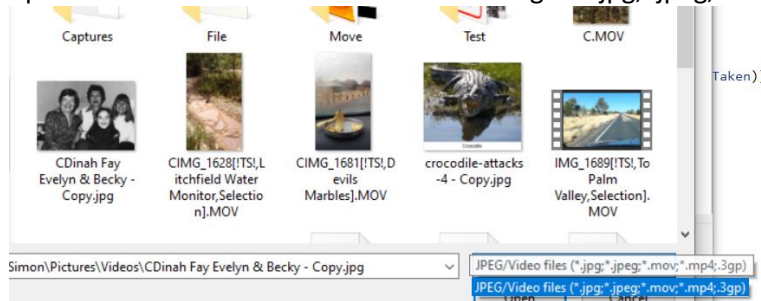


Figure 5 Selecting files with image or video extensions

Files which are less than 200 pixels in height will not be displayed, as they cannot be captioned legibly. Non-supported format files will not be visible for selection. The largest file (by pixel dimensions rather than storage size) which can be captioned depends on available memory, but 160 megapixel files have been successfully captioned. Larger files may require resampling.

If multiple files are selected, they are displayed in the default display order (Modified date) using the row of movement buttons below the image on the LHS, whose function are shown below:



The display order can be changed in the Options screen and via the Edit->Reorder/Append menu option. A scroll bar is shown below the image when multiple files are loaded, allowing movement through the collection of loaded files. Movement of the scroll bar does not result in application of captions. Files which do not have supported extensions are not loaded.

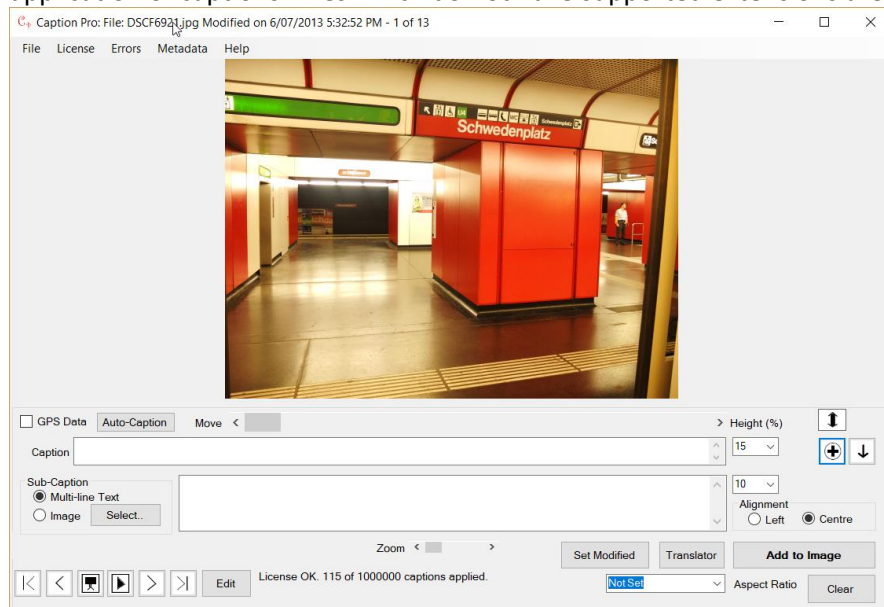


Figure 6 Screen after loading multiple images, showing slide scroll bar

The image is shown in the center of the screen, and its size may be increased by dragging the window boundary or by selecting the square Full-Screen option in the control box in the top RH corner.

Video files are displayed with display controls beneath the image as shown below if Show Video Controls is selected from the Options screen. The Embed button allows access to the Kapwing web application for embedding captions in video (see Appendix Video Embedding). If the video controls are hidden, the same functionality can be accessed by right-clicking the video image.

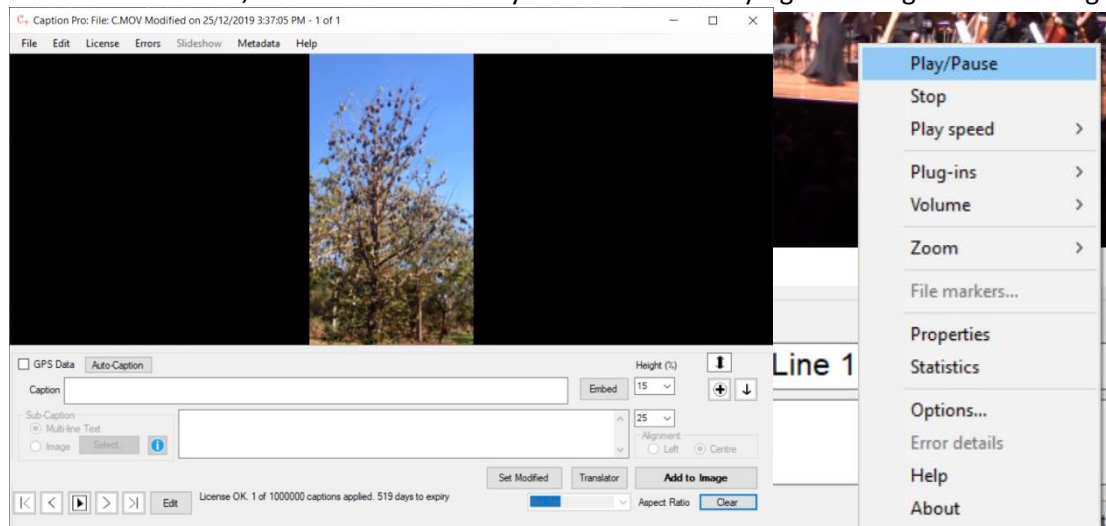


Figure 7 Uncaptioned video file display (left), and controls accessed via right-clicking in the video (right).

If a caption and/or a sub-caption is applied to a video, the display is as shown below. Captions are stored in the video file metadata and can thus be edited after application. However, the captions are not embedded in the video content as they are for images

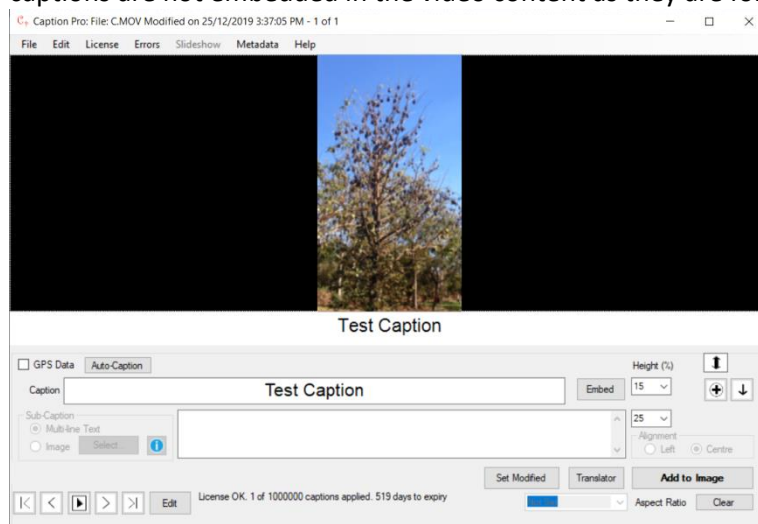



Figure 8 Captioned video display. The height of the caption region is set by the Height controls.

The alignment and aspect ratio controls are disabled for video files. Sub-captions are always displayed in the centre. The four movement buttons  show the first, next, previous and last images/videos of those selected. If either the caption or the sub-caption has been changed, the caption and sub-caption are added to the image, or displayed below the video and

written to file metadata. The keypad left and right buttons on the keyboard perform the same function as clicking the previous and next buttons on the screen.

The Zoom control allows images to be zoomed so that the display area exceeds the window size. Zoomed displays can be panned by clicking and dragging in the image.

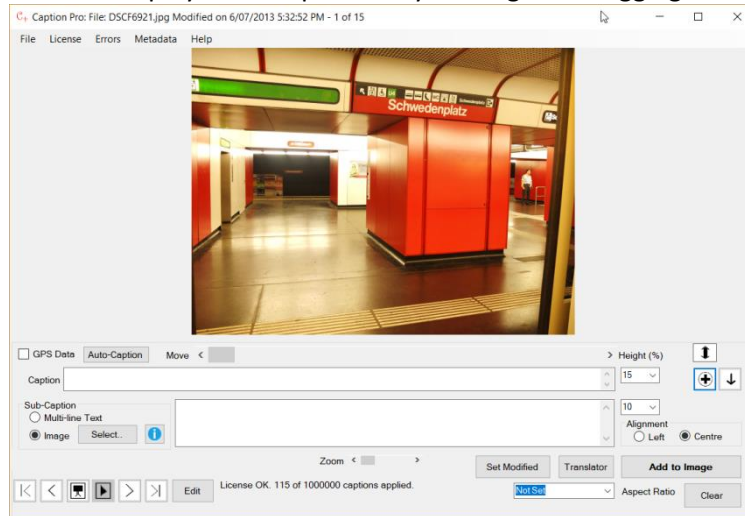


Figure 9 Zoomed Display

Video File Limitations

There are some limitations on the processing of video files. Caption data is not embedded in the displayed video, so it can only be viewed when the file is loaded into Caption Pro. The height of the white caption box shown below the video is not fixed but is determined by the settings of Caption and Sub-caption height on the main screen. Auto-captioning is not available for video files, as file metadata found in image files is not available in video files. Video files will be skipped if they are included in a selection of files to which batch processing is being applied. Editing, aspect ratio setting, use of image captions and logos, the selection of left or centre alignment for sub-captions, caption font and background colour are not available for video files.

Folders

Image and video files in single folders can be loaded by selecting a folder from the File-> File(s) in Folder.. menu option. This shows a folder browser. Selecting a folder will show the following screen, allowing all files in the selected folder and its sub-folders, or only files from the selected folder to be loaded:

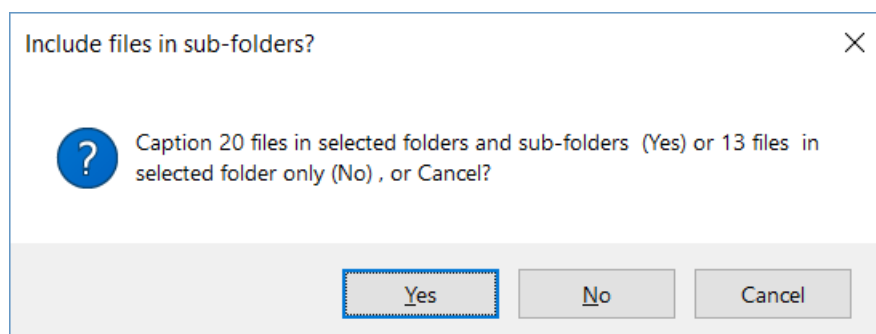


Figure 10 Recursive/Top Only option screen when loading a folder.

When multiple files are loaded, the movement buttons may be used to view different files. Files are ordered by Modified date by default.

Drag/Drop, Paste, Append and Re-order

Files and folder content can also be loaded by dragging and dropping, or by pasting images or files copied from the Clipboard. These options are accessed via the File->Paste/Drop option, which shows the following screen:

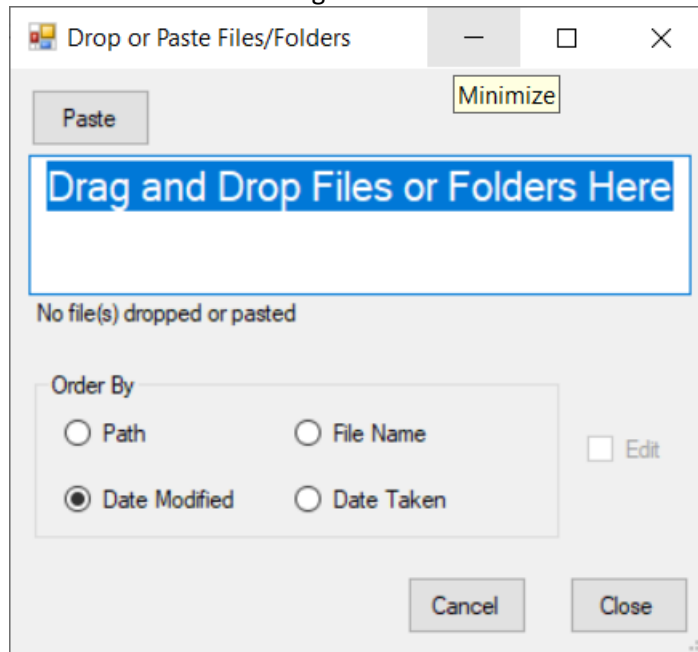


Figure 11 Drag/Drop and Paste Screen

Drop and Paste operations can be performed repeatedly, allowing the creation of a sorted set of images from multiple sources. This facility is particularly useful in preparing a display of photos from multiple sources, such as a mobile phone paired with a computer and an SD card from a digital camera.

Files can be sorted by any of the four options shown in the Order By buttons. If Date Taken does not exist, the file Modified date is used instead. Clicking Close displays the loaded images in the selected order, and Cancel closes the screen without displaying any of the added items. If a folder is included in the dropped items, a screen will be shown asking whether files in sub-folders should be included. Items from multiple drops can be added.

Images and files pasted onto the clipboard can be loaded by clicking Paste. When images are pasted, file is created in a temporary folder with the current modified date with the name Paste(nnn).jpg, where nnn is an incrementing counter

After one or more items have been added the Edit checkbox is enabled. Checking it displays thumbnails of the loaded items as shown below (after enlarging the screen by dragging a corner):

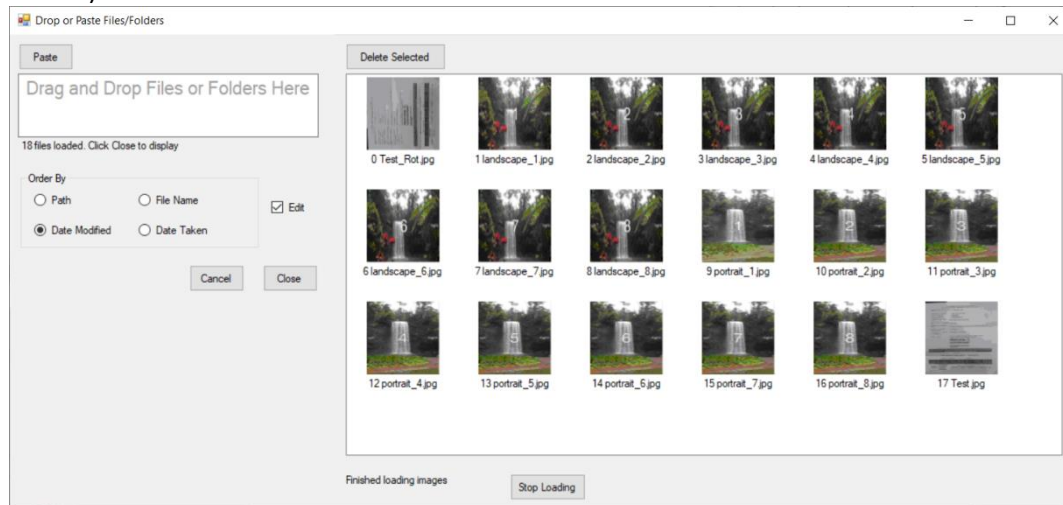


Figure 12 Drop/Screen showing re-ordering screen

The original sequence number and file name are shown below each image thumbnail. Single or multiple items can be dragged to a new location to re-order. If the number of images exceeds the available screen space, images can be dragged to new locations above or below the display area. The display will scroll to show additional images in the same way as File Explorer. Releasing the dragged image at a newly displayed image will replace that image with the dragged item. Scrolling can be terminated by clicking on the region just outside the image display. The display of images can be terminated by clicking the Stop Loading button. Selected items can be deleted from the selection by clicking the Delete Selected button.

Clicking Close will display the items in the order shown in the screen. This order will not persist between runs items have been re-ordered.

Showing or Hiding Controls

When captioning large numbers of files, it may be helpful to hide all controls below the caption box. This can be done by clicking the Hide Controls (Down arrow) button on the lower RHS of the screen:

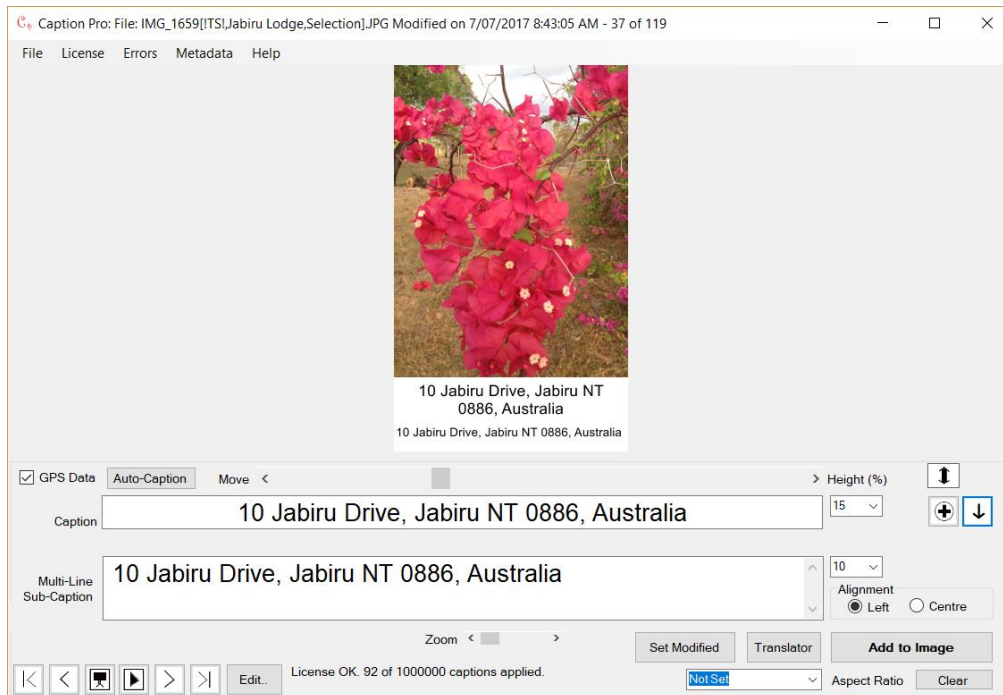


Figure 13 Screen with all controls shown



Figure 14 Screen with only Caption control visible (some controls are hidden)

In hidden controls mode, captions may be entered simply by typing the required caption, moving to another image with the left or right keypad buttons. Movement to another image after changing the caption results in its application. This allows rapid entry of simple captions.

Changing Image Display Height

The height of the image or video display can be changed by dragging the double arrow button, or by dragging the boundary between the upper and lower parts of the screen where the icon changes to a double headed arrow, as shown below:

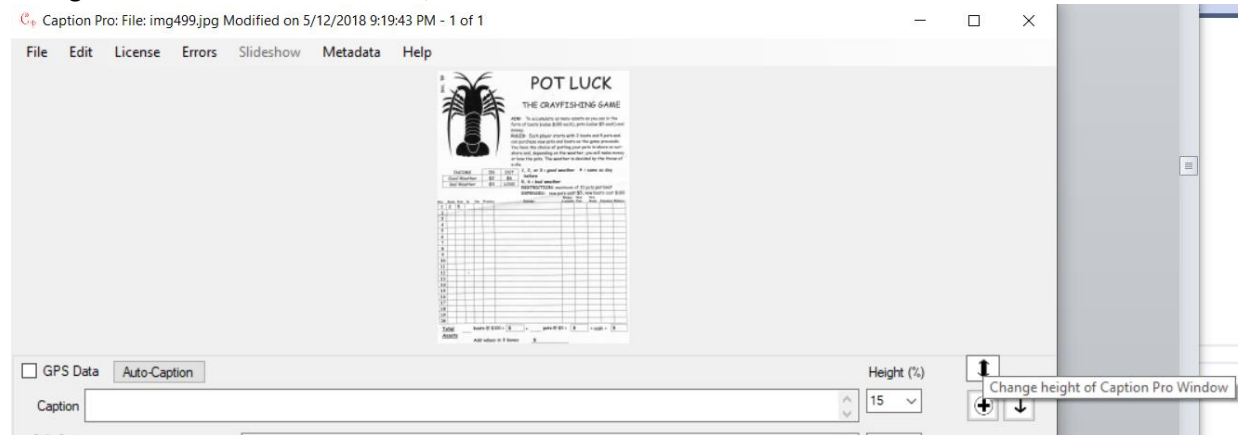



Figure 15 Changing Image Display Height

Batch Button – Captioning or Changing Multiple Image Files

The Batch button  applies automatic captioning to loaded images (but not videos) using settings defined in the Options screen if any source options other than None are checked in the Options screen. Note that video files will not be processed in batch operations. The button is disabled if the Image rather than the text Option is selected for the Multi-Line sub-caption. If Location is selected as a captioning source and there is no GPS data in the file, no location text is added to fields specifying it as a source. The checkbox to the left of the Auto-caption button indicates whether GPS data is present in the file. Clicking the Batch button shows the following screen:

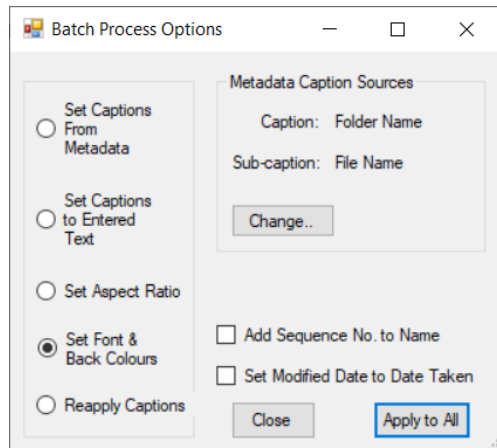


Figure 16 Batch Process Options

The five options (from top to bottom) are to:

- Define the caption for each image from metadata. The metadata may be the folder name, file name, IPTC Object Name (Title), IPTC Caption/Abstract(Description) or the address where the image was taken, as derived from GPS data. The selected metadata sources may be changed by clicking the Change.. button, which shows the screen as shown in Figure 39 on page 41.
- Set the caption and sub-caption to values entered on the current screen
- Reset the aspect ratio to the value set on the main screen
- Change font and background colours to those set in Options screen
- Re-apply stored captions to the images.

All batch processing uses the caption font specified on the Options screen shown on in Figure 39 on page 41. If no caption has been applied, the font and background colours are as specified in the Options screen.

The checkbox Add Sequence No. to Name changes the name for the processed file by adding the sequence number before it padded with leading zeros. As the sequence is always by ascending Modified date, this ensures that sorting by name (which is how albums of files are displayed on tablets and other devices) gives the same ordering as Modified date.

The checkbox Set Modified Date to Date Taken allows setting of Modified Date to the same date as stored in the EXIF Date/Time field and can be used if the file Modified date differs from the date on which a photo was taken. If the file does not contain this EXIF field (for example, if was produced by a scanner), the Modified date is unchanged. Note that individual image Modified dates can be set via the Set Modified date button on the main screen as described on page

Error! Bookmark not defined..

The Close button closes the screen without initiating any operation.

Slideshows

Slideshows can be used for displaying multiple images and videos sequentially without user intervention and with caption input controls hidden. Slideshow options are only enabled if multiple items are loaded. The menu item Slideshow->Start displays all subsequent images after the current one at a time interval specified in the Options screen shown on in Figure 39 on page 41, or selected from the Slideshow->Interval menu item. Other slideshow options are as shown below:

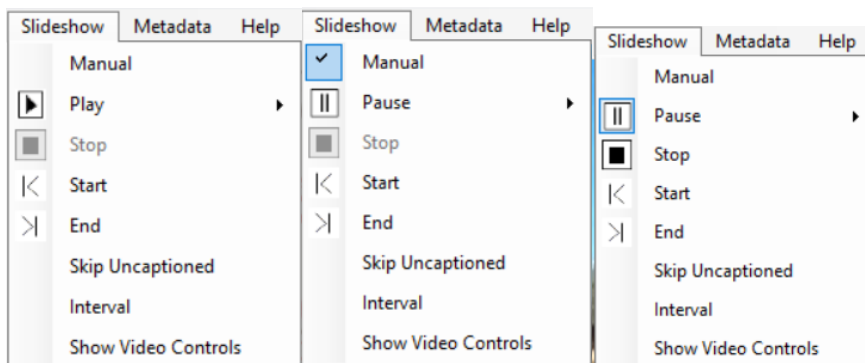



Figure 17 Slideshow Options on loading (left), after clicking Manual while showing a video (centre) and after clicking Play (right)

The Manual option displays the current input items using the entire Caption Pro window with all captioning controls hidden. When the current item is a video, it plays from the start and the Play button changes to Pause as shown above right. Clicking Pause pauses the video. Clicking Manual again returns to caption entry view. Video control visibility is controlled by Show Video Controls. Start and End change the current item to the first or last loaded item, and if it is a video, playback will start.

If Manual is not checked, clicking the Play menu item displays each item sequentially for a period defined by the Interval menu option, and the menu item name changes to Pause, as shown above right. The Stop menu item is now enabled, and clicking it returns to caption entry mode. Clicking the menu item now named Pause stops slideshow playback and the name changes to Resume, with the Play icon  shown beside it. Clicking this resumes playback.

Video files will play for their duration if this exceeds the slideshow interval, unless the interval is less than the time taken to start playing the video, which may be a couple of seconds. In this case the next slide will be shown. If the duration of the video is shorter than the slideshow interval, the video will be paused at the end until the duration has elapsed.

Skip Uncaptioned omits images and videos which do not have captions from the slideshow sequence.

Show Video Controls and the slideshow interval can both be set on the Options screen, accessed via File->Options.

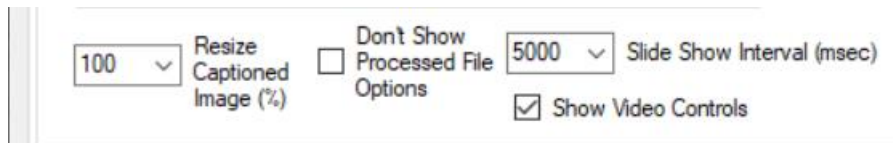


Figure 18 Slideshow Interval and Video Control Showing Setting on Options screen

When a slideshow is running, clicking the right or left arrow keys moves to the next or previous slide. Clicking and dragging to the right or left has the same effect. The slideshow display via the menu Slideshow->Start hides all controls as shown below:



Figure 19 Slideshow display of video via menu, with video controls shown

Set Modified Date

Clicking Set Modified button shows the following screen to allow resetting of the Modified date and optionally the Date Taken of the current file. The date can be set manually via the Date Picker box in the lower LHS of the screen, or selected from any one of the metadata fields shown in the box above it. After selection, clicking Set changes the date picker to the selected date. Clicking Change Modified then changes the Modified date visible in Windows Explorer to the selected value. The Date Taken field (which is always present in JPEG files on Windows) can optionally be set to the same value. This may be useful when adding the date as text to an image via Auto-Captioning.

If multiple images have been loaded from a folder or multiple file selection, the files should be reloaded to see the effect of the change on the order of display, which by default is ascending Modified date. Note that ordering can be also be changed via the Edit->Reorder/Append option

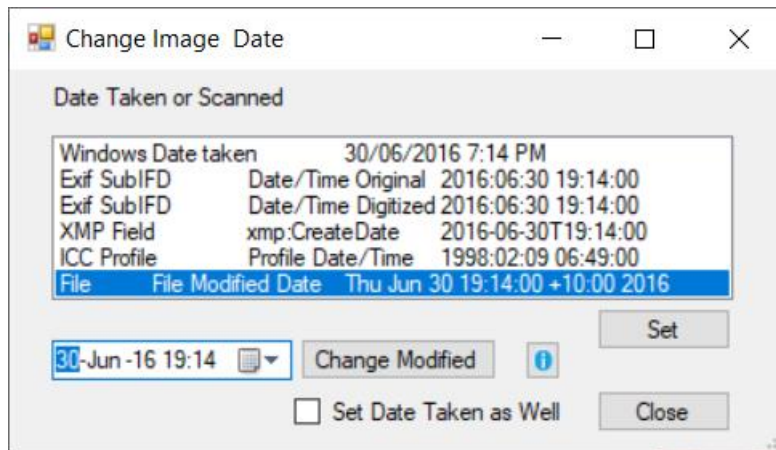


Figure 20 Set Modified Date screen

Resetting may be useful for presenting a series of images if scanned images are mixed with images taken with a digital camera. Modified dates for digital camera images are commonly the date at which the photograph was taken, whereas the scanned image Modified date is the date of scanning. The candidate Modified Date is the date and time at which a photo was taken or an image scanned. It can be set using the Set button. If the form is closed, a warning message will be shown if the Modified date in the Date Picker differs from the file Modified date on loading.

Adding and Editing Captions

Captions may be added in one or two parts. The first part (caption) is displayed as centred continuous text. Multiple spaces and newline characters are replaced by a single space. If the Multi-Line text option is selected for the sub-caption as shown below, new lines are shown if they are present in the data:



If the multiple-line sub-caption is exactly the same as the caption, it is deleted and only the caption is shown. The amount of space used by the caption part is set between 0 and 25% of the original image height from the following options:

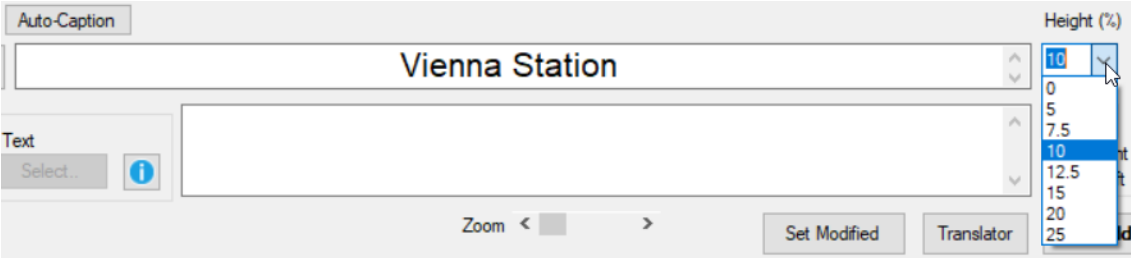


Figure 21 Setting Caption Size as a Proportion of Original Image Height

Setting the proportion to 0% prevents the caption text from being added to image pixels, but the caption is still stored in the IPTC Object Name metadata (sometimes called Document Title) and in the Windows Title field. This option may be useful when captioning for publications where the caption is not required in the image.

The second part (Sub-caption) height can be set between 0% and 200% of the original image height as shown below

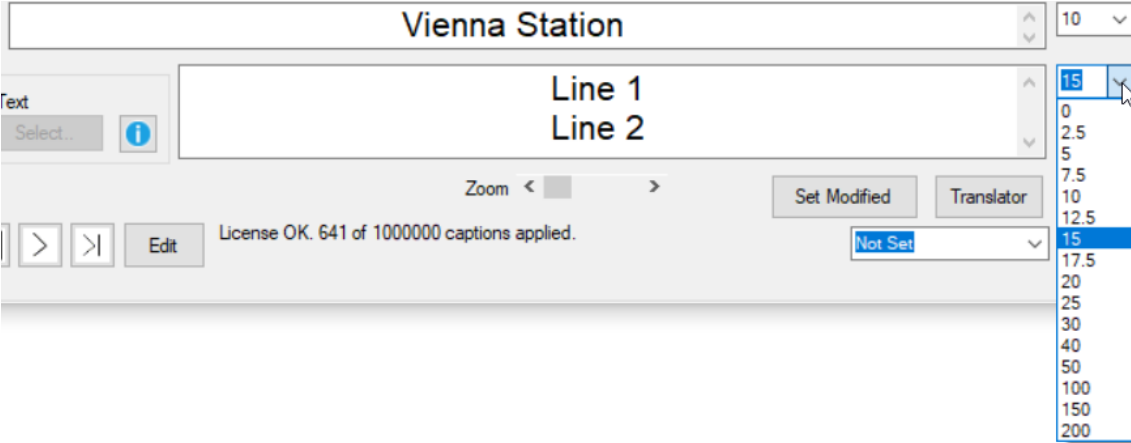
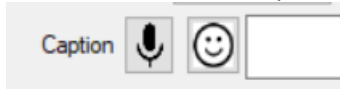


Figure 22 Setting Sub-caption Size as a Proportion of Original Image Height

Setting the Sub-caption size to 0% prevents the sub-caption text from being added to image pixels, but the sub caption is still stored in the IPTC Caption/Abstract metadata (sometimes called Caption or Description) and the concatenation of Caption and Sub-caption to the XMP Description field and in the Windows Subject field.

Creating Captions and Sub-Captions from Speech

Caption and sub-caption text can be set from speech by clicking the microphone icon to the left of the face icon and caption box:



This shows the speech input screen:

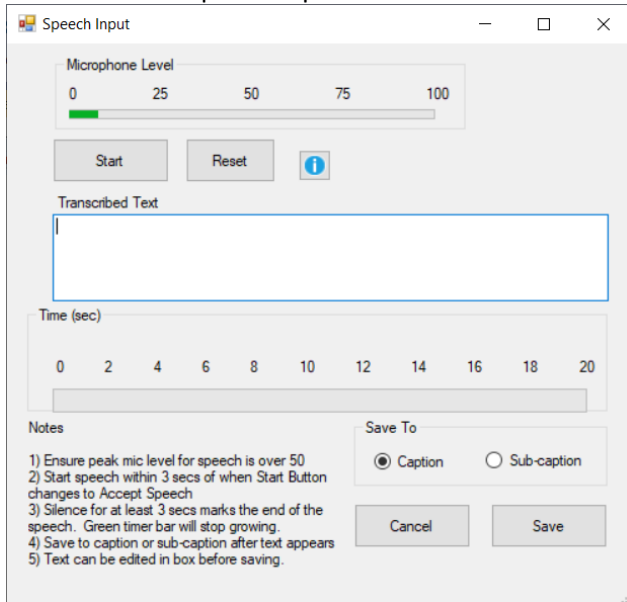


Figure 23 Speech Input Screen

To create a caption or sub-caption from speech picked up by your computer's default audio capture device, ensure that the peak recording level shown at the top of the screen of speech exceeds 50. Then click the Start button. The label will change to 'Accept Speech', the button will be disabled, and a green timer bar will appear and start growing to the right. Then, within 3 seconds, speak your desired caption or sub-caption (in English only at present) for up to 15 seconds. After you stop speaking, a transcription of your speech will appear in Transcribed Text box and the timer bar will stop moving after a delay depending on the accessibility of the web service used for transcription. In the best case this is a few seconds, but if there is Internet congestion it may be much longer or the connection may not be made at all, in which case an error message appears

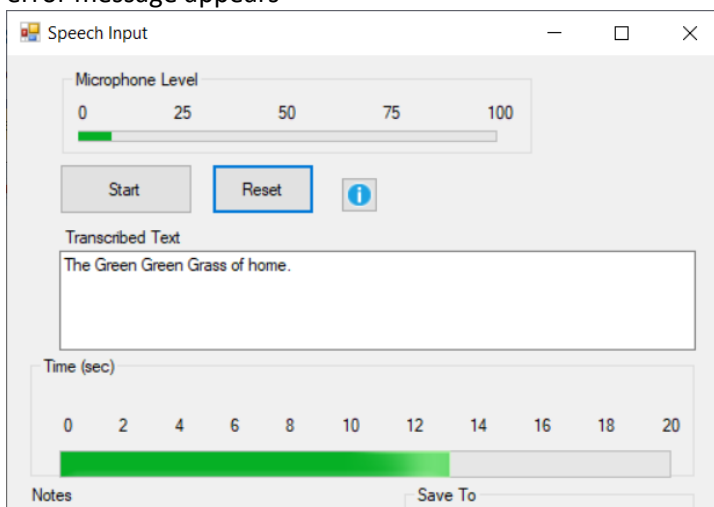
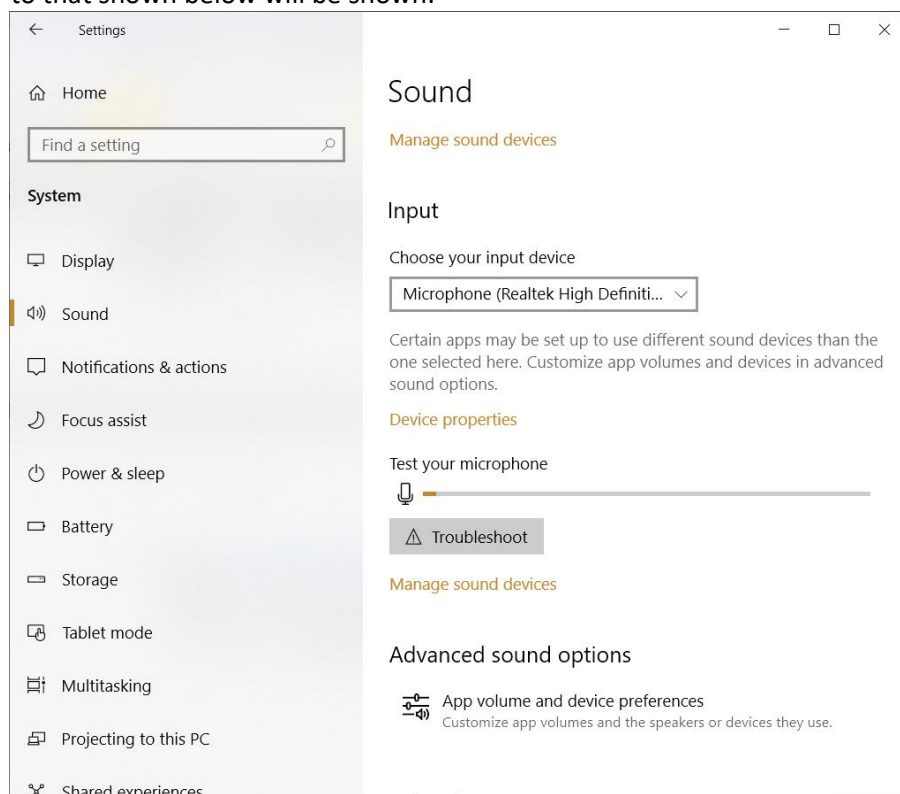


Figure 24 Speech Input Screen Showing Transcribed Speech

The text shown in Transcribed Text box can be edited if required and saved to either the Caption or Sub-Caption boxes on the main screen (depending on the Save To setting) by clicking Save. Clicking Cancel returns to the main screen without copying any text. The Reset button clears the Transcribed Text box and allows further speech to be transcribed. Text in the Transcribed Text box can be edited before clicking Save. New line characters will be included if the text is saved in the Sub-caption but will be converted to spaces if stored in the Caption.

Possible Speech Transcription Problems

1. Transcription accuracy is improved if speech is clearly enunciated.
2. Speech transcription uses a Web Service and requires Internet access. If your computer does not have access to the internet, an error message indicating a connection failure will appear in Transcribed Text box.
3. If speech starts more than 3 seconds after the Start button shows Accept Speech, no speech will be detected.
4. Problems with audio capture on computers are very common. Some Dell laptop users have reported very low microphone levels when using Windows 10. This will result in no speech being captured. For example, the computer may not have an enabled default audio capture device. In this case, the sound input screen timer will move to 20 seconds and a warning message will be shown. To check if this is the case can use the Settings->System->Sound option. If an Input Audio device exists and is enabled a screen similar to that shown below will be shown:



Speaking near the computer should grow the bar shown below Test Your Microphone. If the audio input device is disabled, or there is no audio input device available, the Input part of the screen will be as below:

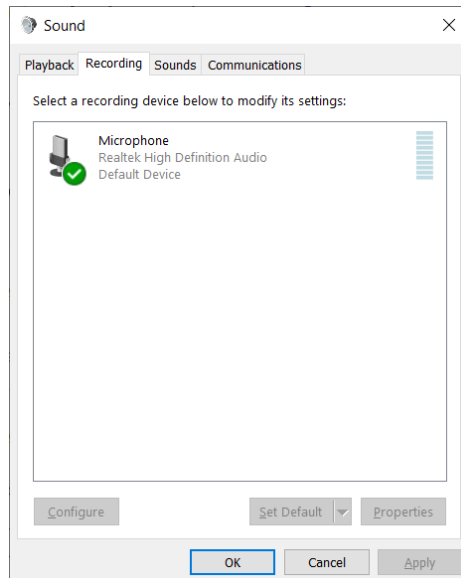
Input

Choose your input device

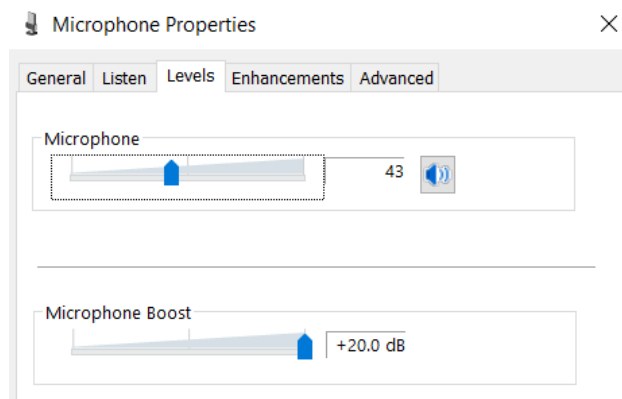
No input devices found

You may also need to adjust the Microphone Privacy Settings which are visible by scrolling down in the Sounds screen.

You can also access audio devices via Control Panel -> Sound. The Recording tab is shown below:

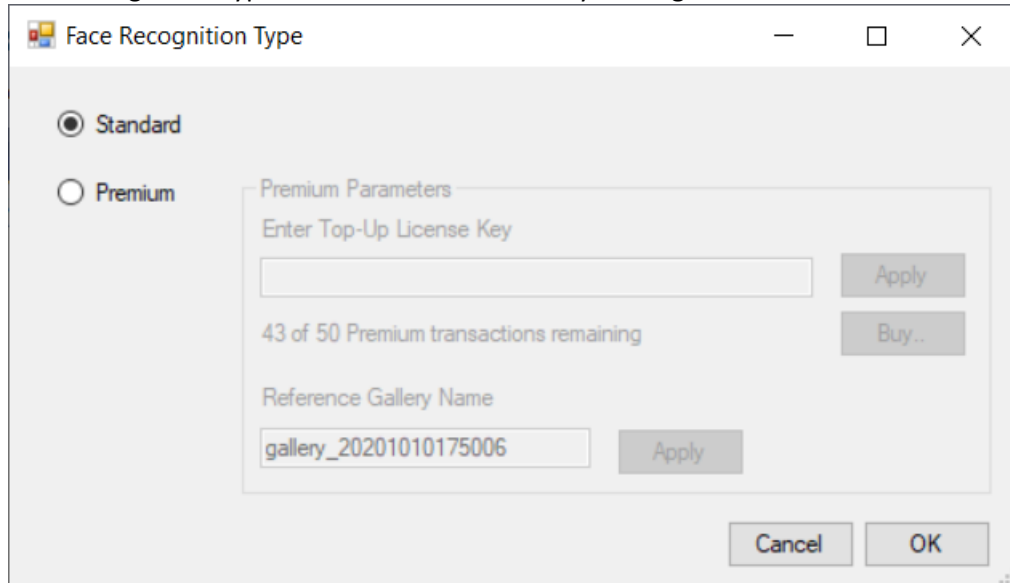


The sound level indicator on the right should flash when picking up speech. Clicking on a recording device enables the Properties button and the microphone level can be set to make speech peak level register of 50 on the input screen as shown below:



Face Recognition

Face recognition in Caption Pro generates a caption based on faces detected in an image. It can be performed by either a Standard or a Premium method. The method can be selected via the Face Recognition Type screen which is shown by clicking the face icon beside the caption:



Selecting the Premium option enables the Premium parameters. The default Standard method performs the recognition locally and has no limitations. The Premium method uses a highly-rated commercial web service and requires Internet access and an additional payment for more than 50 transactions. Purchased licenses may include a number of Premium recognition transactions. The Demo and Basic Caption Pro licenses include 50 premium transactions, but up to 1000 transactions may be included in the Caption Pro license or purchased separately as top-up licenses. The Premium option gives superior performance.

Differences between the Standard and Premium face recognition methods are summarised in the following table:

	Standard	Premium
Internet Access	Not required	Required
Cost	Unlimited use included in all licenses	US\$ 0.02 to 0.03 per transaction after free allowance of 50.
Privacy	All data stored on local machine	Data is stored on various Google and Amazon servers around the world. Only face parameters are stored, not images.
Speed (dependent on image size chosen)	Slow – highly compute intensive.	Fast – powerful cloud computer resources can be accessed
Face Recognition and Detection Performance	Moderate – adjustment of similarity threshold often required	Good – algorithm continually being improved by web service provider.
Platforms	Windows 8.1 and 10 only 64-bit	Windows 7, 8.1 and 10

Standard Method

Selecting the Standard options brings up the screen as shown below, with detected faces framed, and default labels of Person 1,2 etc. applied to each detected face in left-to-right order. If no faces have been labelled, a warning message appears.

Faces will be labelled with the reference face label if the detected face is similar to the reference face. If the detected face is similar to more than one reference face, the labels are separated by backslashes.

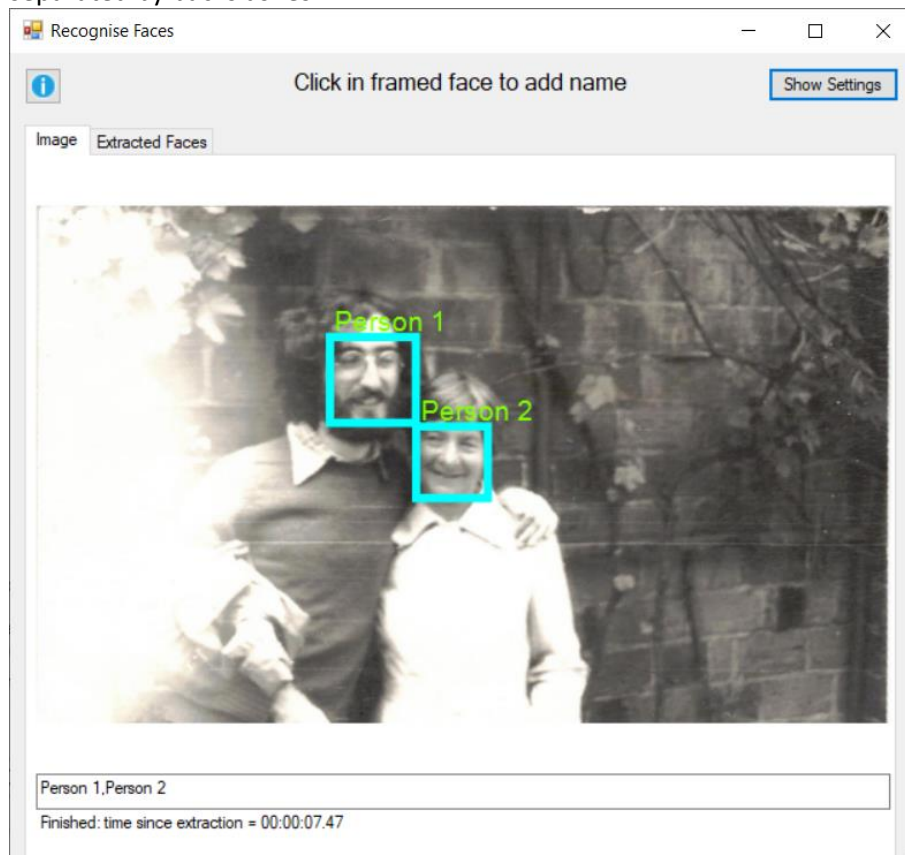
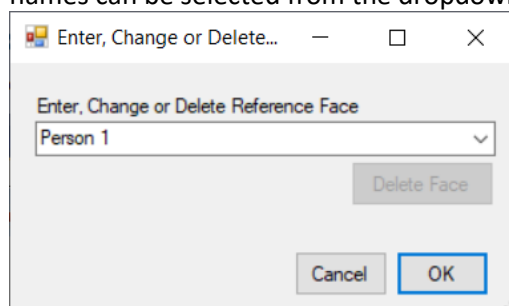
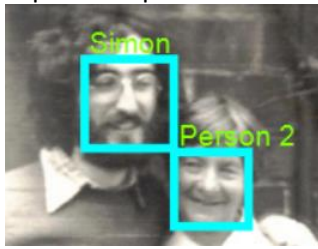


Figure 25 Face Recognition screen showing two detected faces with default labels

Faces can be labelled and used as reference images by clicking inside the frame and entering the desired name (or label) for the face in the form which appears as shown below. The default name (Person *n*) appears in the text box. It may be useful to have multiple reference faces for the same person, perhaps showing them at different ages or with or without sunglasses. If a name has been defined, the Delete Face button is enabled. Clicking it removes the name from the screen and the caption box, but does not remove the reference face image file. This can be done by editing the Reference folder content via the Ref Folder.. button. Other reference face names can be selected from the dropdown.

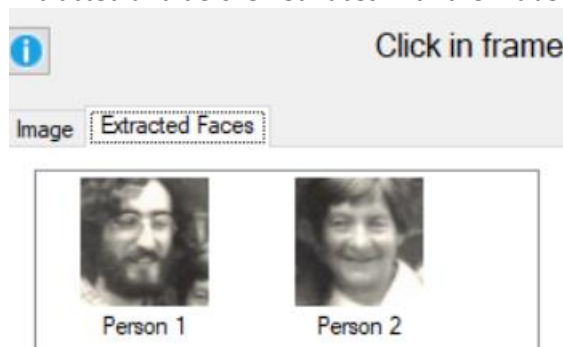


When the OK button is clicked, the name is shown in the parent screen as below, and the caption is updated:



The caption created from the faces is shown in the box below the image. This string is copied to the Caption field of the main screen when the face recognition screen is shown.

Extracted and de-skewed faces with their labels can be seen in the Extracted Faces tab:



Parameters for the recognition process and captioning can be viewed and changed by clicking the Show Settings button, whose text then changes to Hide Settings. Clicking it again hides the Settings values.

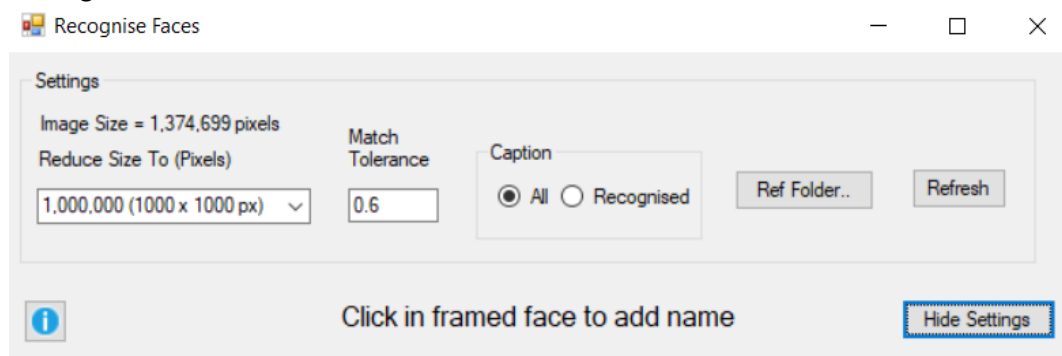


Figure 26 Settings for Face Recognition

As the face detection and matching is highly compute-intensive, input images are resampled to a specified number of pixels before processing to reduce processing times. The number of pixels to resample to can be set from the Reduce Size To combo box. The value depends on the number of pixels in the faces to be detected in loaded images. The detection and matching algorithm requires that each face should be at least 70 pixels square.

The Match Tolerance value defines the trade-off between precision and recall in the face matching process. Low values will give more precise results, but matches may be missed. High values tend to match to multiple reference faces.

The Caption radio button group determines whether captions include only recognised faces (where the input faces are deemed similar to a reference face) or whether the default labels of Person 1,2,3 etc. are included (All).

The Ref Folder button allows definition of the folder where reference face images are stored (default value C:\Users\<UserName>\Pictures\ReferenceFaces), and editing of the reference faces via the screen below:

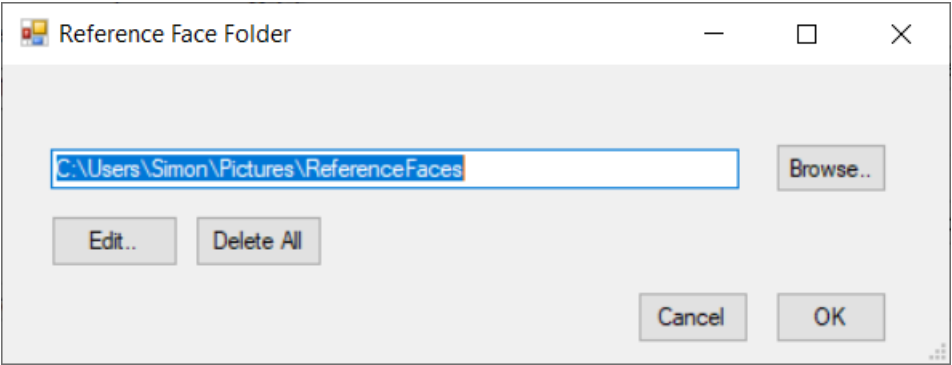
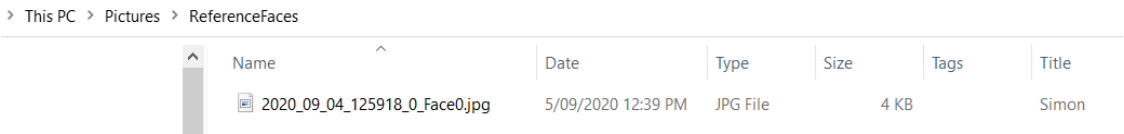


Figure 27 Reference Face Folder definition

The Edit button opens Explorer in the Reference folder to show the Reference face images, which are JPEG files with the name of the image file being analysed followed by *_Face_n*, where *n* is the position number of the detected face in left-right order. The Delete All button deletes all reference faces in the folder.

The labels assigned to the reference faces are shown in the image Title field, which can be displayed in File Explorer as shown below:



Closing the Face Recognition screen (via the X icon in the top RH Corner), transfers the caption to the main screen, where it can be applied (after editing if required) via the Add to Image Button.

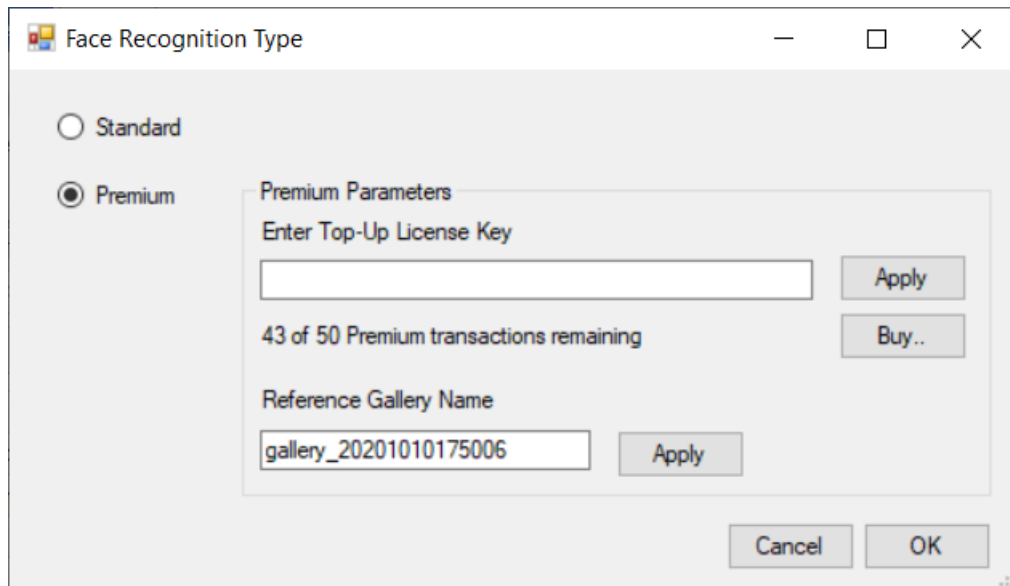
Standard Face Recognition Limitations

The Standard method works best where the faces are oriented toward the camera: oblique views may not be detected as faces. The face image should also be contained in a region of at least 40 x 40 pixels. Uniform illumination is also required: if one half of a face is much more strongly illuminated than the other it will not be detected. The similarity threshold is based on comparison of a large number of features and this may result in spurious matches if the threshold is set too high.

The analysis and matching process is computationally intensive, so for a small number of images, manual captioning of people appearing in an image will be faster and more accurate if the faces are known.

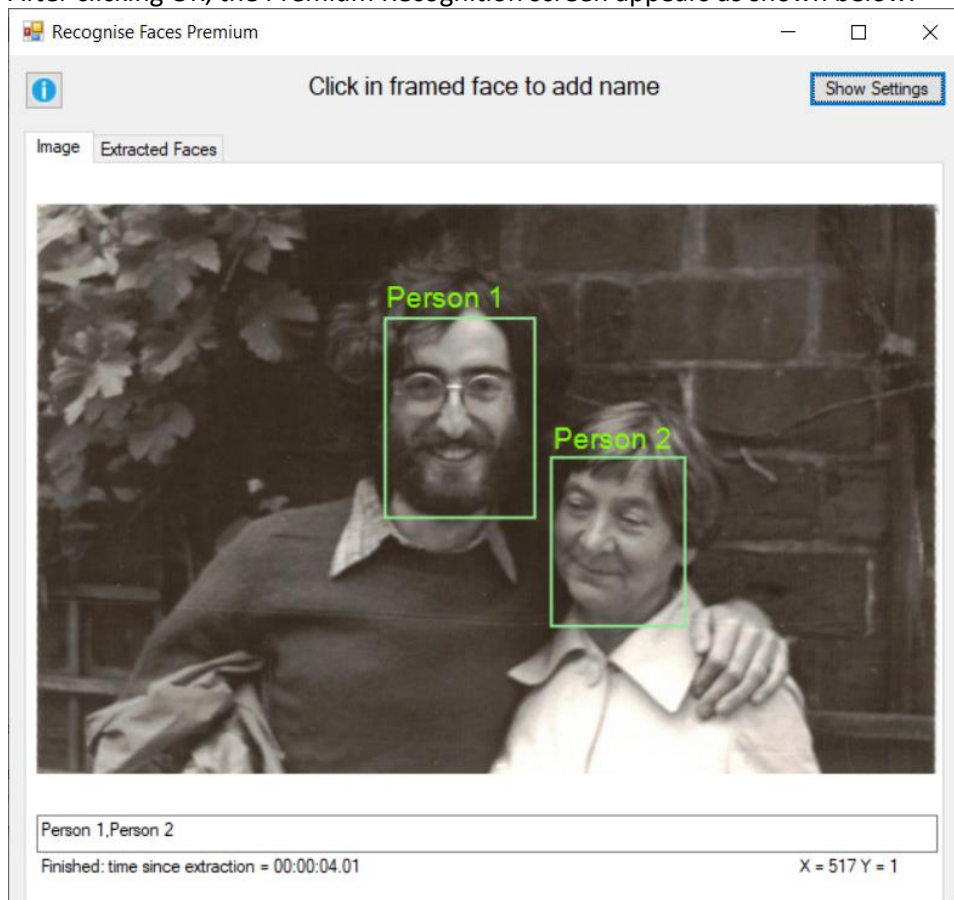
Premium Method

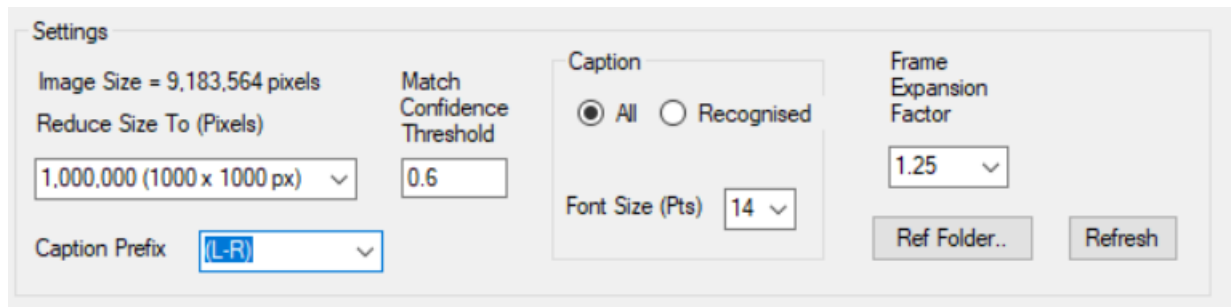
After selecting the Premium option, the Premium parameters area of the Face Recognition Type screen is enabled:



Reference faces are stored in the cloud-based gallery with a name automatically generated for each user. It can be changed if required. A Top-Up license to increase the number of transactions available can be purchased via the Buy button and entered here, or in the main License Screen. If the number of transactions exceeds the limit, the Premium button is disabled. A transaction is recorded each time a web request is made. This occurs when a reference face is defined or deleted, when a name associated with a face is changed, or when faces are detected in an image.

After clicking OK, the Premium Recognition screen appears as shown below:





The screenshot shows the 'Settings' dialog box for Caption Pro. It contains several sections: 'Image Size' with a value of 9,183,564 pixels and a 'Reduce Size To (Pixels)' dropdown set to 1,000,000 (1000 x 1000 px); 'Match Confidence Threshold' set to 0.6; 'Caption' options with 'All' selected and 'Recognised' as an alternative, and a 'Font Size (Pts)' dropdown set to 14; 'Frame Expansion Factor' set to 1.25; a 'Caption Prefix' dropdown set to '(L-R)'; and buttons for 'Ref Folder..' and 'Refresh'.

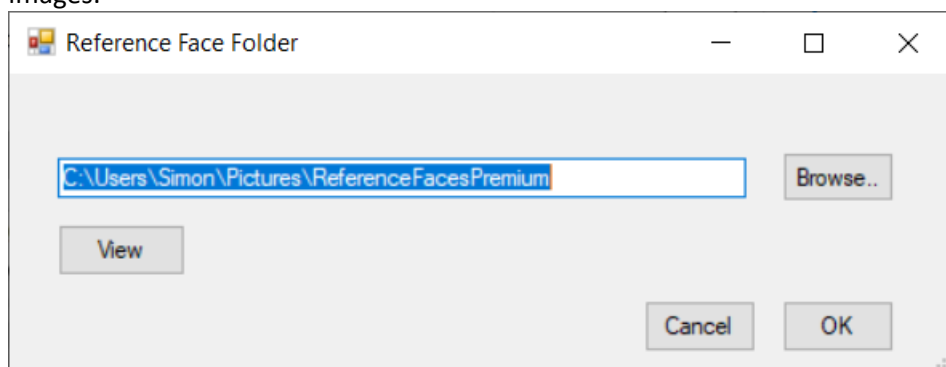
Settings for Premium Face Recognition can be shown by clicking the Show Settings button, and are shown above. They are similar to those used for Standard Face Recognition. The input image size is shown at the top left, and options are provided to resample it to a specified number of pixels which is less than the number present in the original image. A maximum image size of 1,000,000 pixels or larger will give best results. Resampling to smaller images may result in faces not being detected. The guidelines for face and image size in the following section (Premium Recommendations for Best Results) should be followed.

A Caption Prefix may be added to any caption derived from the image. The caption with the selected prefix is shown on the Caption Pro main screen after face recognition is closed. The Match Confidence Threshold specifies the recognition threshold above which faces are recognised and their default names (Person *n*) replaced.

The Caption box specifies whether labels for all detected faces (including Person *n* labels) are shown, or whether only recognised face labels are shown. The Font Size dropdown specifies the size of font used for face labels on the screen below.









The Frame Expansion factor sets the size of the box drawn around the detected faces and the boundaries of the region used as a reference face. If the box is too small, faces may be detected but may not be able to be enrolled and used as references. The same thing may happen if the box is much larger than the face. This setting may be important when the size of faces to be identified is a small proportion of the image size, as is the case for group photos with many people in them. A warning is given if enrolment fails after specifying a name. The display should be refreshed in this case.

The Ref Folder button allows users to specify and view the folder containing the reference face images:



The screenshot shows the 'Reference Face Folder' dialog box. It has a text field containing the path 'C:\Users\Simon\Pictures\ReferenceFacesPremium', a 'Browse..' button, a 'View' button, and 'Cancel' and 'OK' buttons at the bottom.

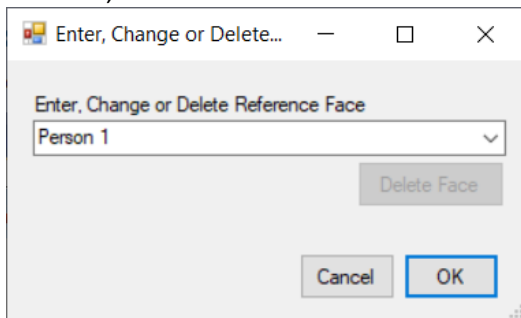
Image file names in the Reference Folder are composed of 3 parts. The first is the file name of the parent file from which the face was extracted. The second part is the name of the gallery used by the cloud storage in which face parameters are stored. The third part is the name given to the reference face. This name is also added as a file tag. An example of the reference folder content is shown below:

Name	Date	Type	Size	Tags
 DSCF6996_gallery_20201010175006_Ruth1.jpg	12/10/2020 12:11 PM	JPG File	4 KB	Ruth1
 O'Donohues[ITSI,Tag1,]_gallery_20201010175006_Sue.jpg	12/10/2020 3:25 PM	JPG File	2 KB	Sue
 Test (50a)_gallery_20201010175006_Helen.jpg	12/10/2020 10:27 AM	JPG File	3 KB	Helen
 Test (50a)_gallery_20201010175006_Lea.jpg	12/10/2020 10:27 AM	JPG File	3 KB	Lea
 Test (50a)_gallery_20201010175006_Noreen.jpg	12/10/2020 10:27 AM	JPG File	2 KB	Noreen
 Test (50a)_gallery_20201010175006_Simon.jpg	12/10/2020 10:27 AM	JPG File	3 KB	Simon
 Test (69)_gallery_20201010175006_Jane.jpg	12/10/2020 2:52 PM	JPG File	13 KB	Jane
 Test (69)_gallery_20201010175006_Sue.jpg	12/10/2020 2:52 PM	JPG File	16 KB	Sue

Files in the reference folder should not be deleted, renamed or moved. Their purpose is to indicate the contents of the cloud gallery storage where face parameters are stored.

The Refresh button redisplayes the images with settings values as specified.

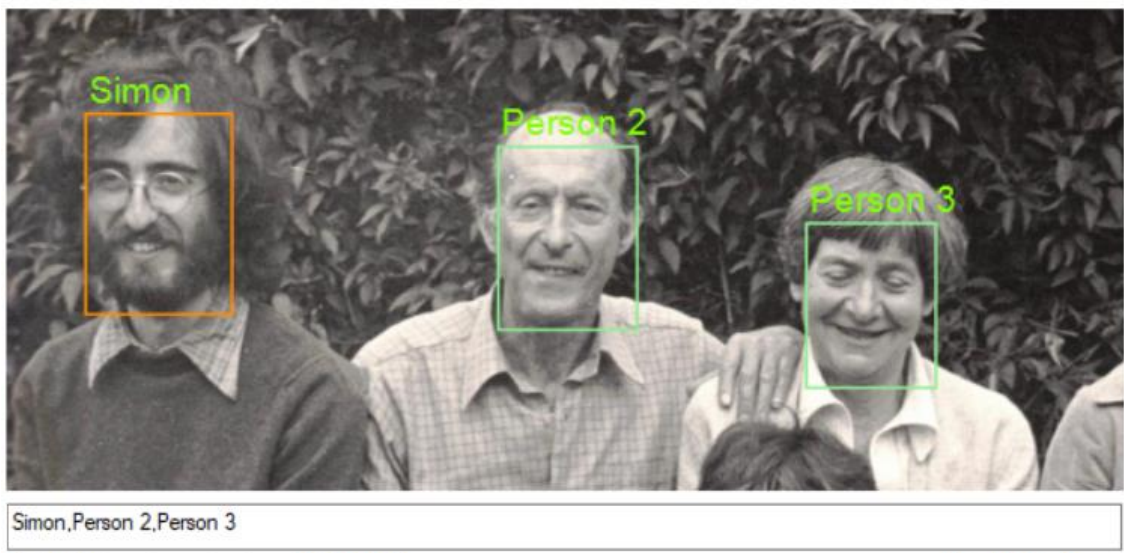
Reference faces are created by clicking in a detected face to show the Person Name screen, from which reference face names can be set, edited or deleted. Characters which cannot be used in Windows paths (e.g. \/:?) cannot be used, and names cannot start with the string 'Person'. Existing reference names can be selected from the dropdown. If a Reference face is selected, the Delete Face button is enabled.



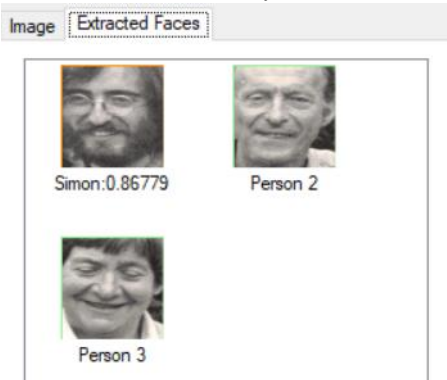
After defining the name and clicking OK, the selected name appears above the face rectangle as shown below, and a file is created in the Reference Face folder



Once reference faces have been defined, loading a new image results in detected faces in the image being matched with reference faces. If a match is detected, the detected face is framed in orange rather than green, as shown below. If the confidence of the match exceeds the threshold value, the name assigned to the reference face is shown. For unrecognised faces, the frame is shown in green and the name Person *n* is assigned, with *n* increasing from left to right. The names shown are listed below the image in a text box, which can be edited:



The extracted faces tab shows the content of each of the face rectangles, with the name and confidence value (between 0 and 1.0) where a face has been matched with a reference face and the confidence value exceeds the threshold. Where a match is found but the confidence level does not exceed the threshold, the name Person *n* is shown before the confidence level. Where no match is found only the name Person *n* is shown.



When the face recognition screen is closed, the names in the text box below the image are transferred to the caption box on the main screen, where they can be added in the usual way.



Premium Recommendations for Best Results

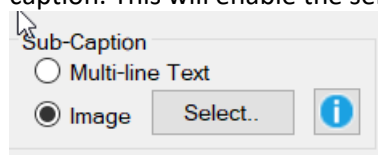
Faces need to be aligned approximately vertically to be recognised. Oblique views where some face features are not visible will not be detected.

There are two factors which affect the usability of a reference image: absolute face size in pixels and face size relative to the total size of the image. On average, the pixel width between a person's eyes is half the distance of their head width. There is no minimum image dimension requirement but there should be at least 64 pixels between a subject's two eyes and for best results the head to image width ratio should be no less than 1:8.

Under ideal circumstances images should have at least 160 pixels between the eyes. It is generally not necessary to use images with more than 400 pixels between the eyes, as this may increase processing time.

Adding an Image Sub-Caption

To use a portion of an image as the sub-caption, first select the Image option for the Sub-caption. This will enable the select button as shown below.



Then click Select to show the Image Caption screen, and browse for a JPEG file from which to select a region to use as a sub-caption. Dragging the RHS screen to the right shows more of the loaded image.

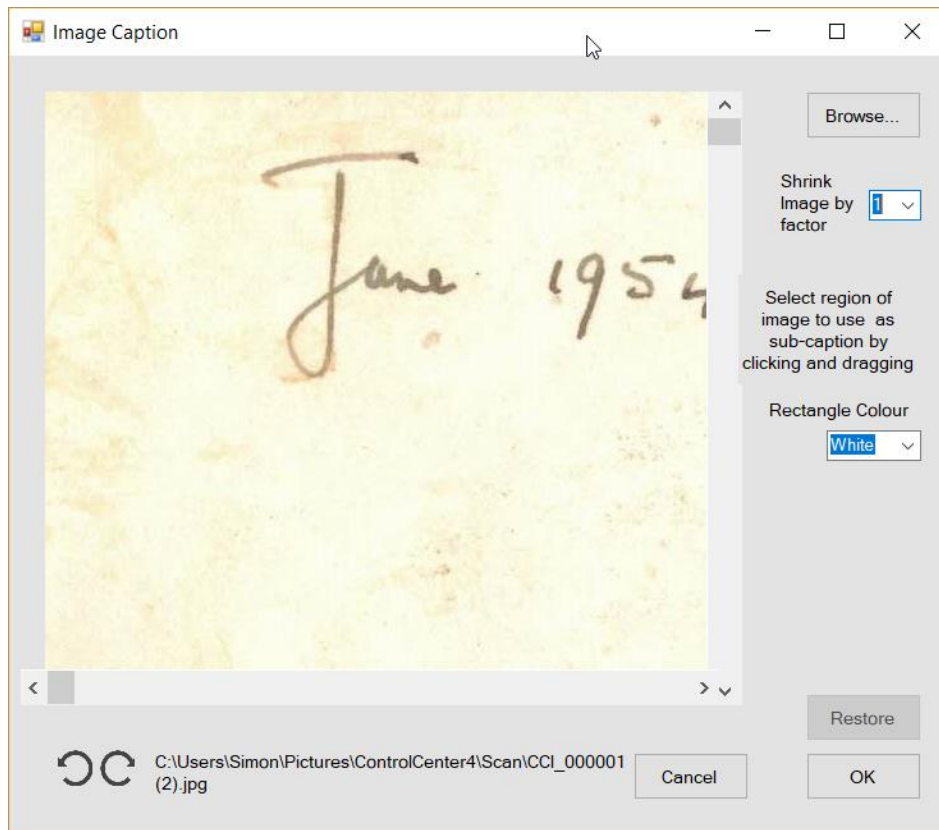


Figure 28 Image Caption Screen after Selecting File

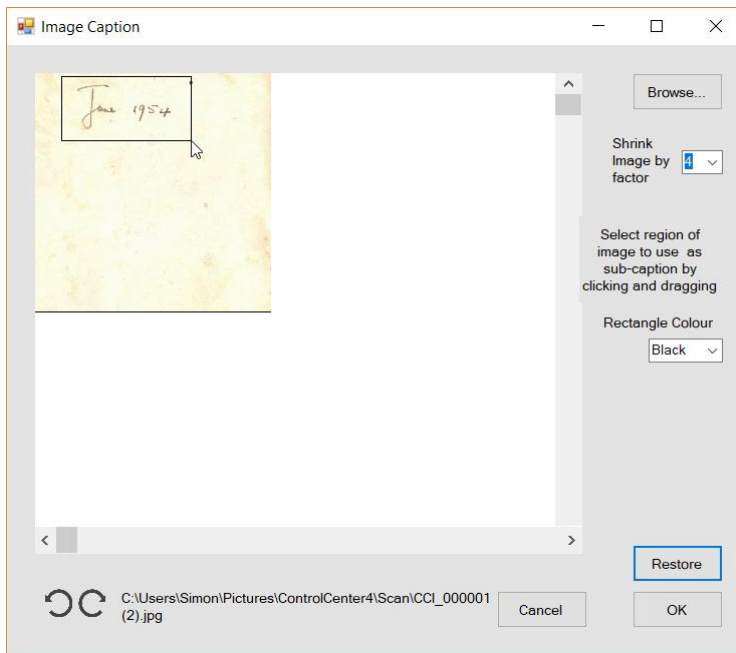
The loaded image can be shrunk on the screen by a factor determined by the Shrink Image Factor combo box on the right of the screen. Using a shrink factor of 4 the display is as below:



Figure 29 Image Caption display with a shrink factor of 4

The two buttons on the lower left rotate the image 90 degrees counter-clockwise or clockwise if required. The screen can be resized if required and the scroll bars used to locate the region to be used as a caption. The name of the file is shown below the image.

Once the region has been found, a rectangular box can be drawn around by left-clicking and dragging. A rectangle with the colour selected in the Rectangle Colour combo box will then enclose the region as shown below:



When the mouse button is released only the selected region is shown:

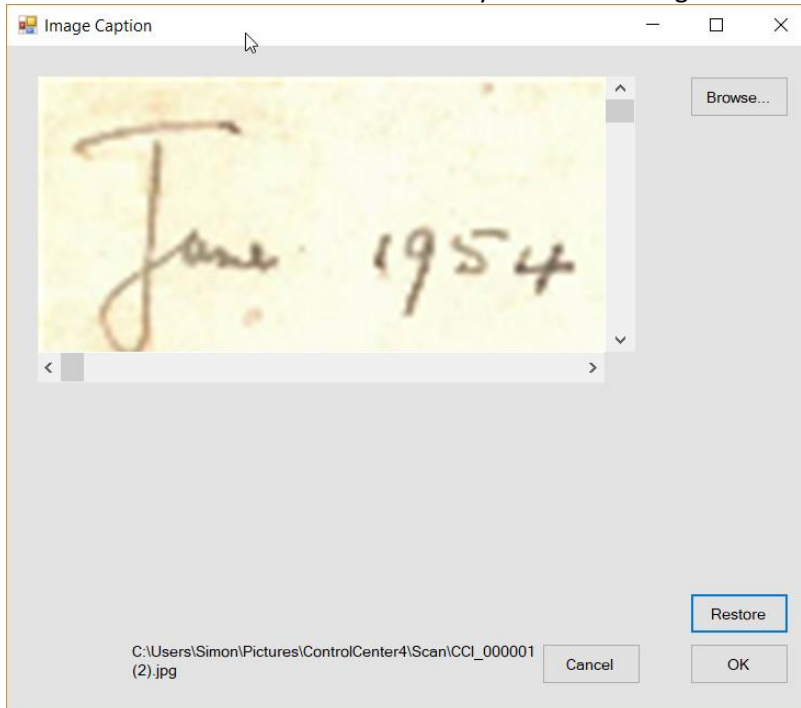


Figure 30 Image Caption Screen After Region Selection

Note that the rotate buttons are not shown after region selection. Clicking the Restore button will show the full image again, from which another selection can be made.

Clicking OK makes the selected region available for application as a sub-caption from the main screen, which shows the file name of the image caption file in the text box.

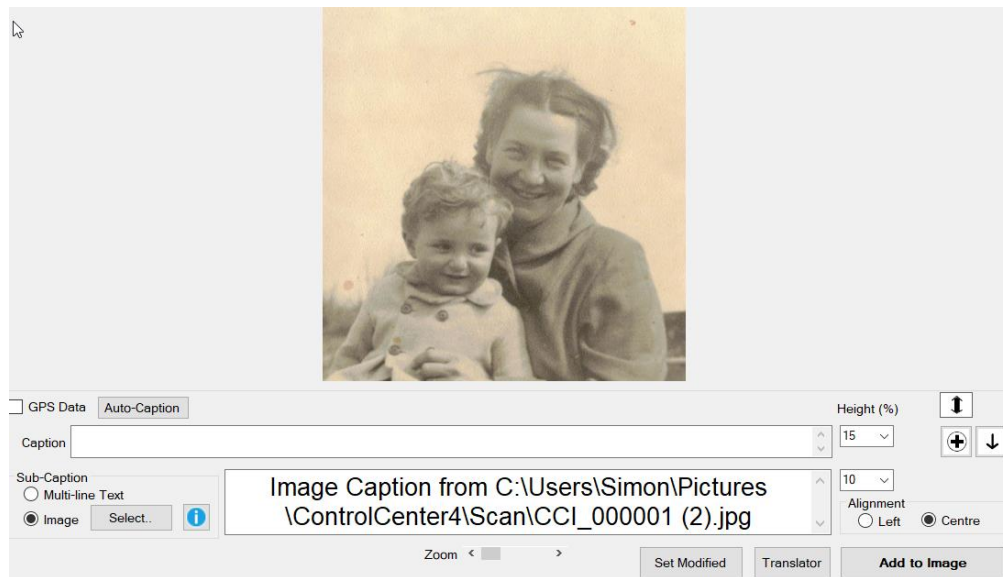


Figure 31 Main Screen After Definition of Image Caption

Clicking Add to Image then applies the image caption. The Multi-Line text box is set to “Image Caption Added”.

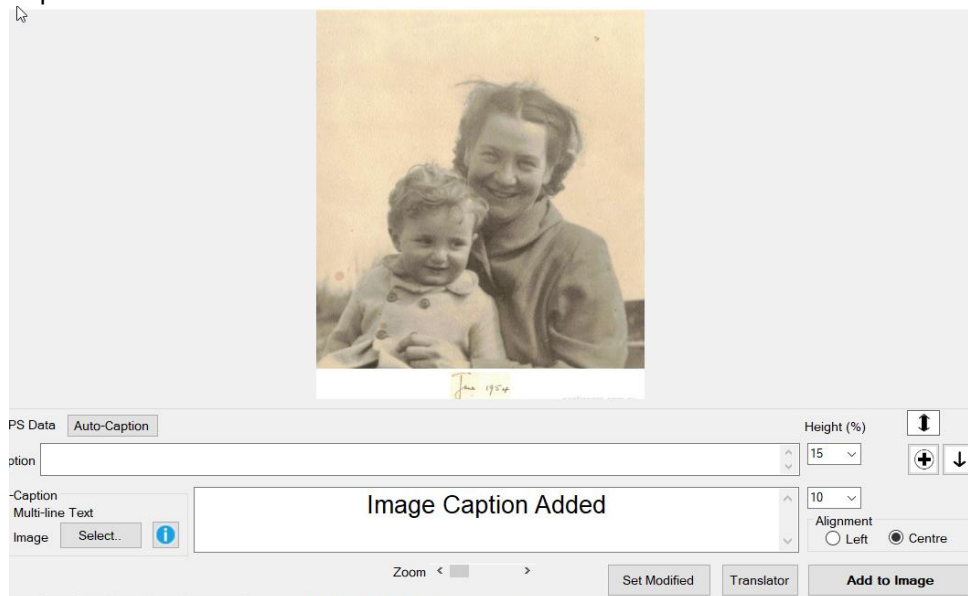


Figure 32 Image After Addition of Image Caption

The height of the region into which the image caption is placed (as a percentage of the original height) is set by the sub-caption height. As the aspect ratio of the image caption is fixed, expanding this height may result in truncation of the image caption at the sides.

The aspect ratio of an image cannot be adjusted when applying an image caption. If this is desired, a text sub-caption should be added with the aspect ratio set, and then the text sub-caption should be replaced by an image sub-caption.

When an image caption is added, the image caption is not stored in the file metadata and must be redefined if the caption is added again after re-opening. To clear an image caption, click Multi-line text, delete any text in the Text box and click Add to Image.

Text may be placed above the image by entering in the Caption box as shown below:

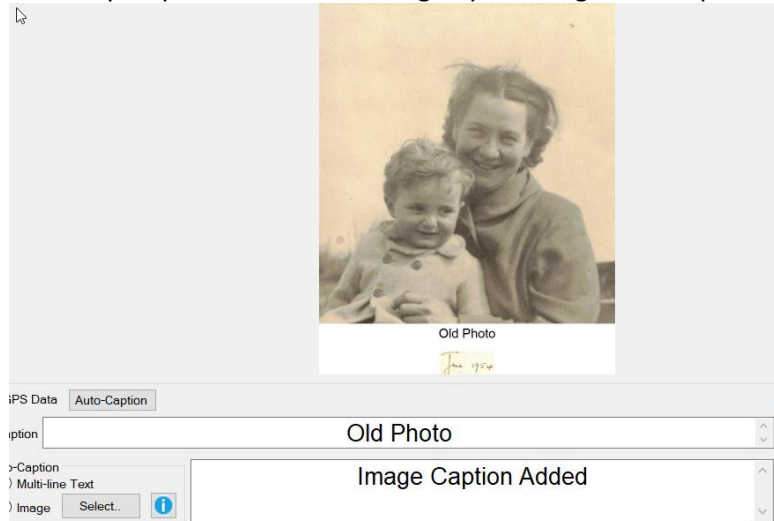


Figure 33 Image Sub-Caption and Text Caption Added

Note that the Batch button for automatically captioning multiple files is disabled if Image mode is chosen for the Sub-Caption mode.

Applying the Caption and Sub-Caption

Both the caption and sub-caption can be applied by clicking the Add To Image button or by clicking Enter (return) on the keyboard after entering the caption. A confirmation screen is then displayed as shown below, indicating whether the selected file will be overwritten, or a file created in the folder selected in the options screen which may overwrite any previously created file.

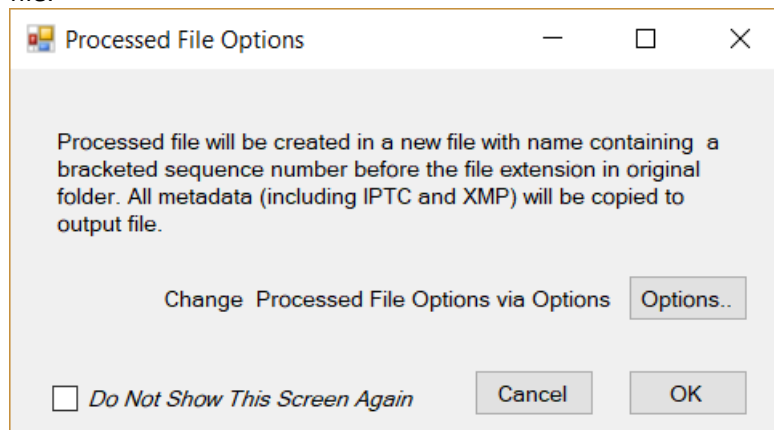


Figure 34 Processed File Options Screen

Processed file options may be changed by clicking the Options button, which shows the screen in Figure 49 on page 56. Clicking Do Not Show This Screen again prevents the screen from being shown when a caption is applied. If any change is made to the Overwrite status or folder location, the confirmation screen is shown again after any caption application. C

If multiple images have been loaded, the caption can be applied by moving on to another image with the movement buttons or by using the keypad left and right buttons.

If a file is read-only and the option to overwrite the existing file with the captioned one is selected, the file permission will be changed to remove the read-only attribute.

If a previously captioned image is being edited, the existing captions (and multiple-line sub-caption) are displayed. The heights of each part of the caption bar, the aspect ratio and multi-line alignment settings are also displayed and can be changed if required.

The entered caption fills the caption bar space.



Figure 35 Different settings for Caption Height for a short caption (left: 15%, centre 7.5%, right 5%)

The caption is spread over multiple lines if it is too long to fit across the image as a single line. The number of lines will vary depending on the size of the caption bar and the length of the caption.



Figure 36 Different settings for Caption Height for a longer caption (left: 15%, centre 7.5%, right 5%)

A multi-line caption of unlimited length may be added entering the required text in the multiple-line Sub-Caption box with the Sub-Caption Mode set to Text. Such captions are particularly useful for captioning photos of groups of people who need to be individually identified, such as school classes or sports teams.

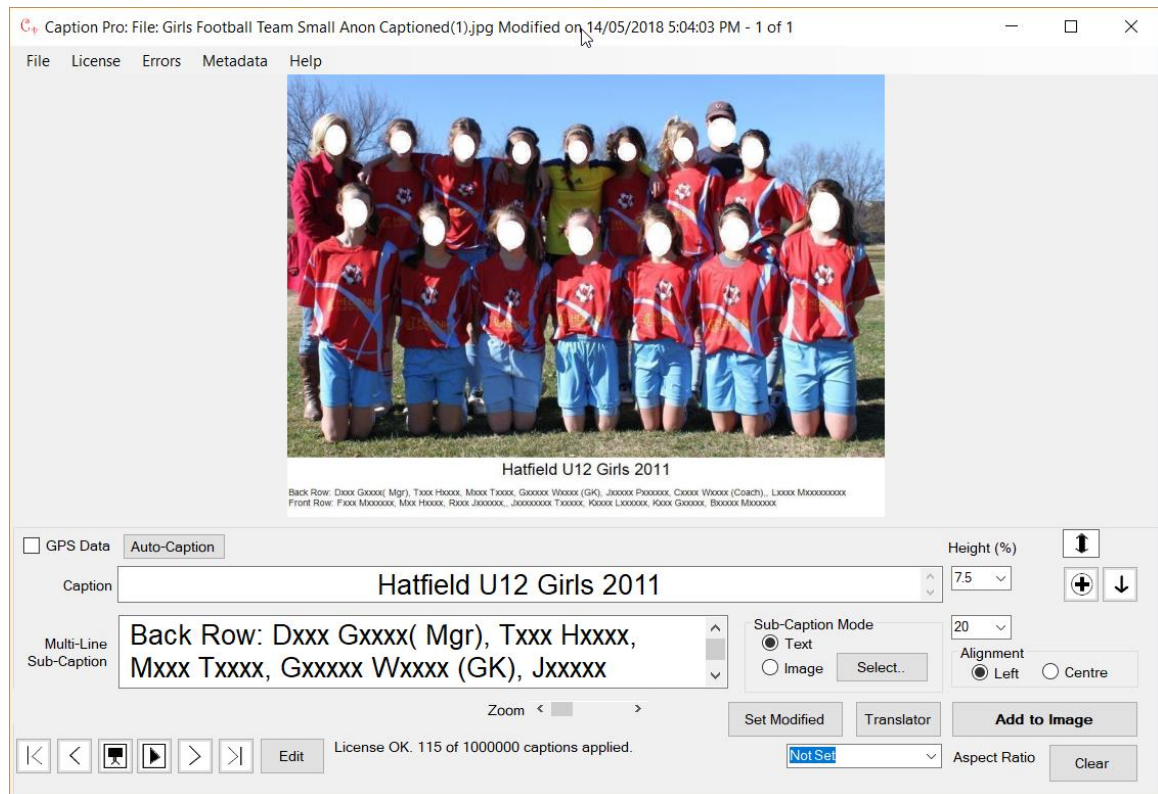


Figure 37 An Image with a Continuous Caption and Multi-line Sub-Caption

The maximum percentage of the original image height used for the multi-line sub-caption can be specified using the combo box at the right of the text box (20% in the above example). The actual percentage used depends on the length of the longest of the multiple lines. The font size is adjusted to make the longest line fit across the image width. The caption can be left-aligned below the image (default option) or centered using the Alignment radio buttons. The title and caption can be applied by clicking the Apply button.

The Caption and Multi-line sub-caption can be cleared by clicking the Clear button or by emptying either text box and clicking Apply. Caption data is stored in the EXIF metadata field XPTitle and sub-caption data in XPSubject. Any data written in these fields is shown when the file is loaded, allowing already captioned images to have their captions changed. Caption data is also written to IPTC Object Name (or Title) field and multi-line sub-caption to the IPTC Caption/Abstract (Caption or Description) field. Any newline characters in the multiline character set are replaced by spaces. A concatenation of the Caption and Sub-Caption data (with new line characters replaced by spaces) is also written to the XMP Description field. If both fields are empty, no IPTC or XMP data is changed.

Editing File Metadata After Captioning

Three EXIF metadata fields (XP Title, XP Subject, and XP Comment) are used by Caption Pro to store caption data (XP Title and XP Subject) and image configuration data (XP Comment). The Title and Subject metadata shown in the Details tab of File Properties for a captioned file may show this data when examined in File Explorer. Because this data is stored in double-byte form to accommodate non-English captions, it will render as Chinese characters.

Warning: Don't Edit Title, Subject or Comment Fields after Captioning

Don't try and edit any data in these fields via the Explorer File Properties Details tab after captions and sub-captions have been applied, as this will affect the editability of embedded

captions, as changing these fields will change the XP Title, XP Subject or XP Comment fields. Adding or changing the Caption field via Photo Gallery will overwrite XP Title field.

Auto-Captioning

The following screen is shown when clicking the Auto-caption button when an image is shown;

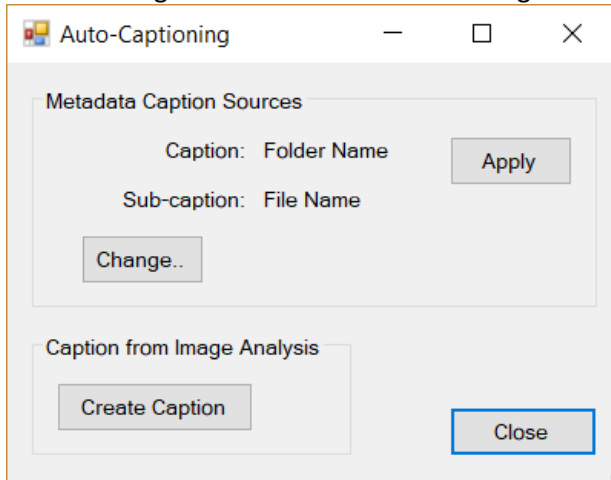


Figure 38 Auto-caption screen

Clicking the Apply button in the Metadata Caption Sources box applies captions and sub captions taken from the sources shown to the current file. These can be the file name, the folder name or the file location as derived from file GPS data. If the options need to be changed, clicking the Change.. button shows the Options screen, from which sources for Auto-captioning can be selected from the controls in the red rectangle:

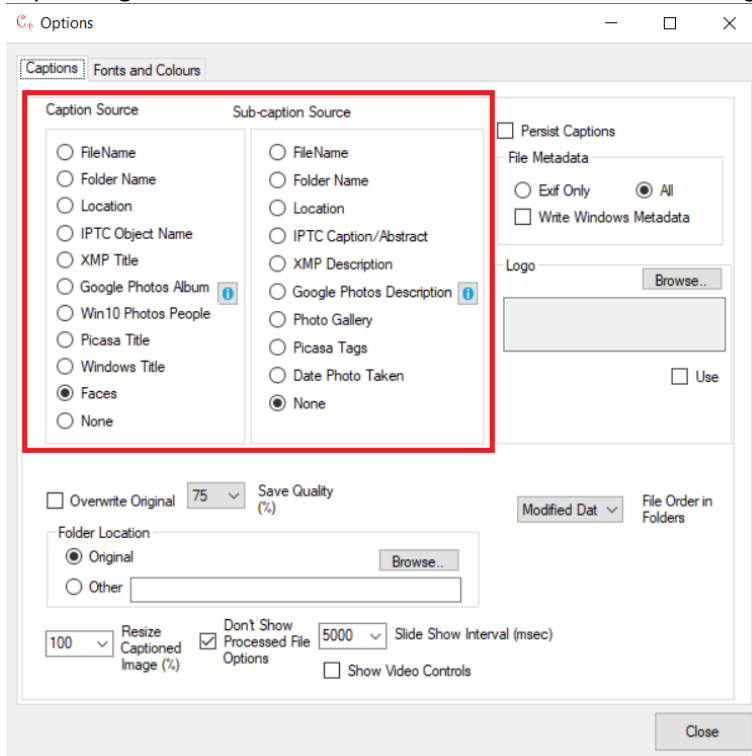


Figure 39 Options screen

The default source for the Caption is the folder name, and the default source for the Sub-caption is the file name. Other source options are IPTC Title (or Object Name field) , XMP Title Google Photos Album, Windows 10 Photos People, Windows Title and Faces for the caption, and IPTC Description (or Caption/Abstract field) , XMP Description, Google Photos Description,

Photo Gallery, Picasa or Windows Date Taken for the sub-caption. IPTC and XMP fields are often set in images taken by professional photographers who wish to record a great deal of information (including copyright) about each image. Programs such as Adobe LightRoom or IrfanView can be used for this purpose.

The Faces option detects faces in present images and creates a caption from labels applied to the faces in left-right order. In order to use this option, at least one labelled face must be created. The Standard or Premium method is used according to the option set when creating reference images.

The Photo Gallery option reads the metadata added by Windows Photo Gallery (a consumer-level photo viewing, editing and metadata addition program) and adds it as a sub-caption, with one line used for each of the four fields definable in Photo Gallery (Caption, People, Tags, and Geotag). If the selected field is not present, no caption is added to the respective caption or sub-caption. Picasa reads all the tag information applied to images in Picasa.

Another sub-caption option is Location, which is taken from GPS data which may be present in photos taken on a mobile phone if the phone has reception at the location where the photo was taken. This data (in the form of latitude and longitude in decimal degrees) is converted to an address via the Google Maps Web Service. Internet connectivity is required for this to work. If the service is not available, the default sources for Caption and Sub-Caption will be set.

Options chosen on this screen will be applied to multiple files via the Slideshow button (see page 19). The None option does not set caption data from any source. Any pre-existing data will be retained in this case, unless the Persist and Apply Captions checkbox is checked.

Selecting the Create Caption button in the Caption from Image Analysis box in the Auto-Caption screen sends the image to a Microsoft Image Analysis web service and retrieves an automated description of the content, which is written into the Caption box, but not applied automatically. The results are somewhat generic: individuals may be recognized as celebrities or public figures with a similar appearance:



Figure 40 Example of Create Caption results (left) and a photo of one of the incorrectly identified subjects

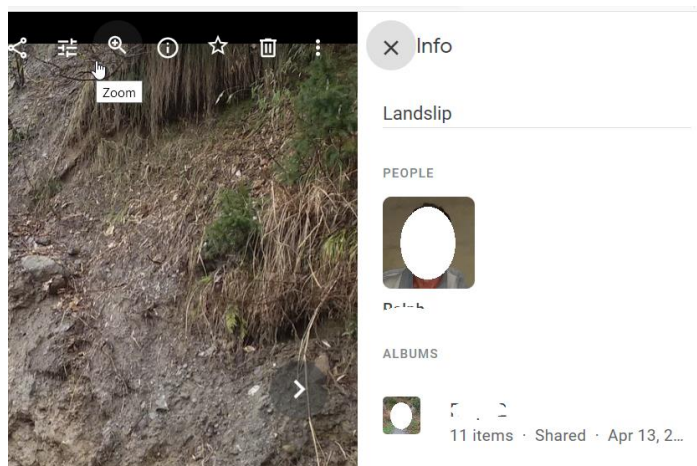
Leon Panetta is an American politician, who does not appear in the above image, even though the backdrop is correctly identified as a house.

An internet connection is required to use Create Caption. An error message will appear if there is no connection.

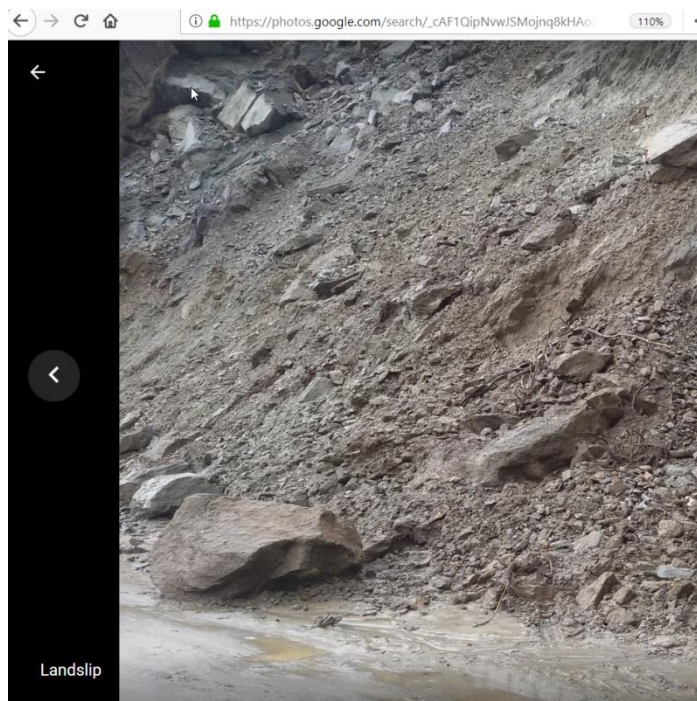
Caption Data from Google Photos

Google Photos can be used as a source of caption data, but the process is somewhat cumbersome. It only operates on files from a Google takeout archive. If the option is selected but files are not from a takeout archive, then no data from Google will be used for captioning.

Google Photos can organise photos by date and location, for which the data is stored in image file, and also perform automated image analysis, notably facial recognition, which allows images containing a labelled face to be identified across the image store. These groupings can be grouped into albums, and images can also be manually grouped in the same way. Captions (or descriptions) can also be added to individual images, but these are only visible in full via the Info tab as shown below:



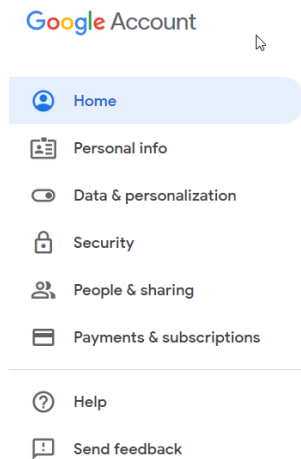
Descriptions are shown to the right of the image in normal view, but with no line breaks:



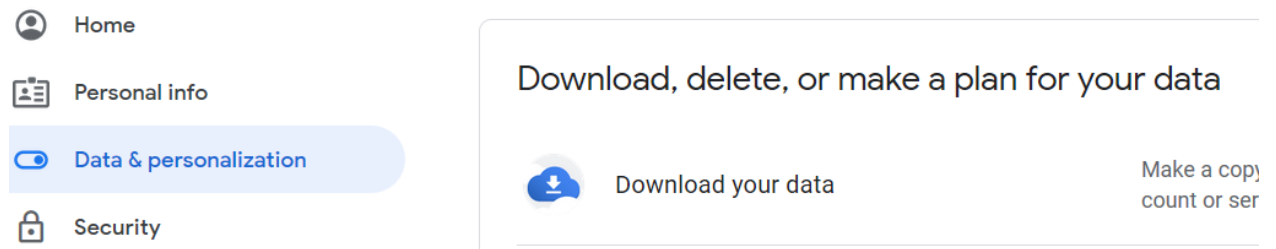
Descriptions are not shown at all in slideshow view, as the image occupies the entire screen

All of this additional data generated by Google or added by the user is not available if the image is downloaded via the Download menu item. However, it can be obtained by downloading all of the Google Photos data via the Takeout options. To download your photos, type

<https://takeout.google.com/>. If you are not logged in to Google you will be prompted for your credentials. After supplying them you will see the following Google Account options:

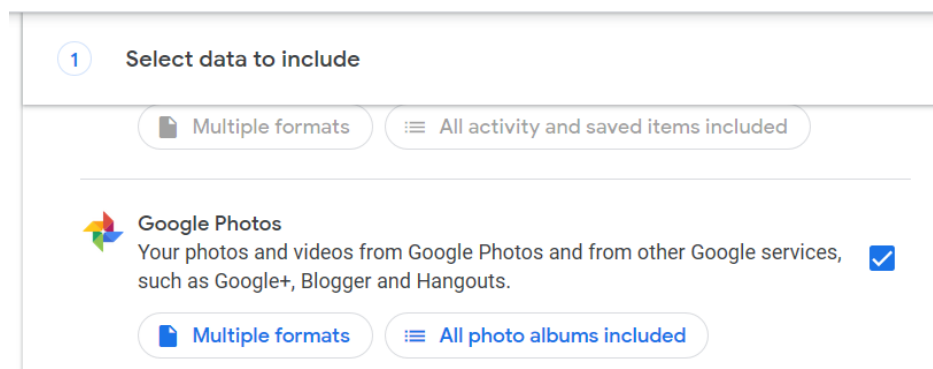


Select Data & personalisation and scroll down to Download, delete or make plan for your data, and select Download your data



All the data held by various Google services can then be downloaded. Click Unselect all and select only Google Photos:

← Download your data



Clicking Multiple Formats describes the downloaded data:

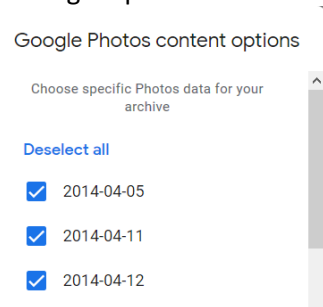
Google Photos formats

We will export your Google Photos data in the following formats:

Photos	Original format/PNG/JPG/WEBP
Unedited and edited photos contained in each album.	Format depends on quality chosen when uploaded.
Videos	Original format/MP4
Videos contained in each album.	Format depends on quality chosen when uploaded.
Album metadata	JSON
Data associated with each album, such as title or description.	Json is an open-standard file format that provides data in human readable form.
Photo metadata	JSON
Data associated with each photo or video, such as creation time or comments.	Json is an open-standard file format that provides data in human readable form.

Cancel OK

Clicking All photo albums allows selection of which albums should be downloaded, if desired



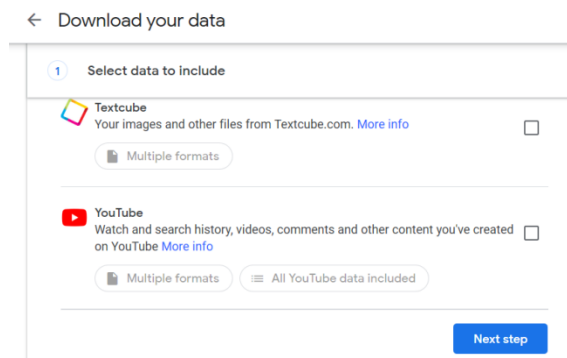
Google Photos content options

Choose specific Photos data for your archive

[Deselect all](#)

- ☒ 2014-04-05
- ☒ 2014-04-11
- ☒ 2014-04-12

Then scroll down to the end of the page and click Next Step:



← Download your data

1 Select data to include

Textcube
Your images and other files from Textcube.com. [More info](#)

☐

Multiple formats

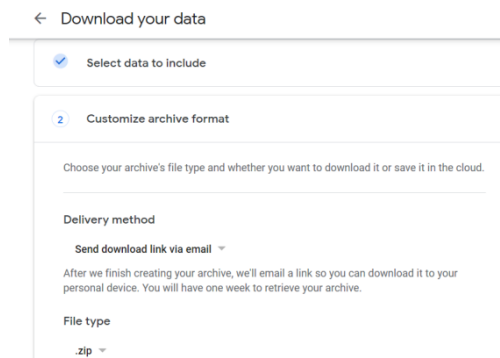
YouTube
Watch and search history, videos, comments and other content you've created on YouTube [More info](#)

☐

Multiple formats All YouTube data included

[Next step](#)

The delivery mechanism can then be specified:



← Download your data

2 Customize archive format

Choose your archive's file type and whether you want to download it or save it in the cloud.

Delivery method

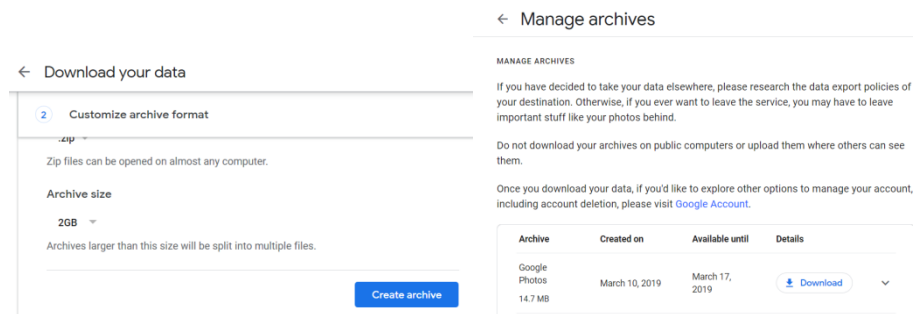
Send download link via email

After we finish creating your archive, we'll email a link so you can download it to your personal device. You will have one week to retrieve your archive.

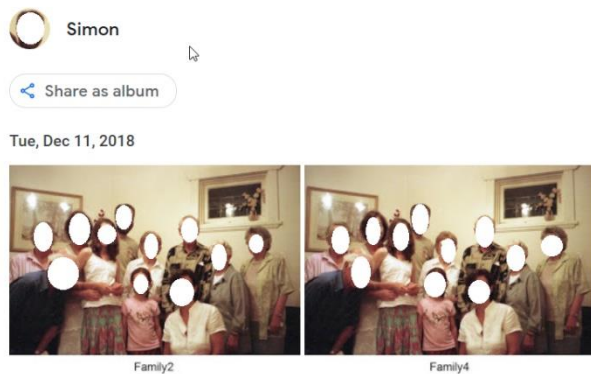
File type

.zip

Selecting Send download link via email and clicking Create Archive at the bottom of the page generates a Zip file which can eventually be downloaded, via the download button



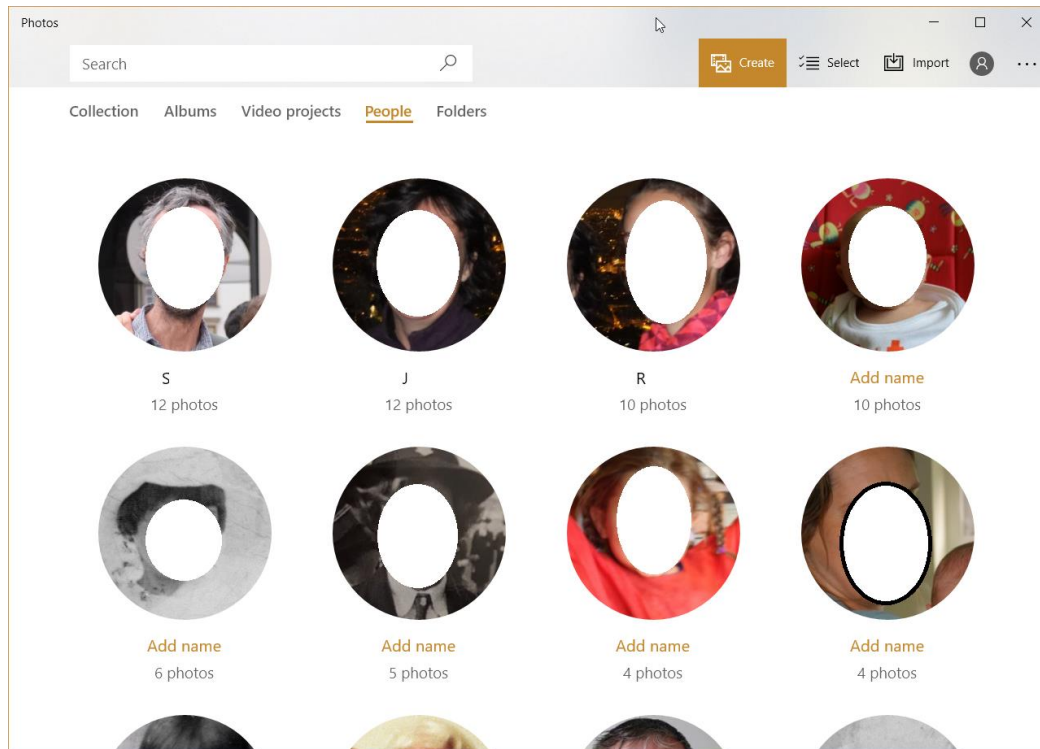
The downloaded Zip file has the name takeout-XXX.zip, where XXX is a unique string containing the current date. Unpacking it generates a folder tree where each album is a separate sub-folder. The takeout file contains albums for each day on which photos were taken by default. If an album is created by clicking on one of the People icons to show all photos containing the selected face and then Share as album, an album will be created containing all the photos with the selected face, which can be included in the takeout archive.



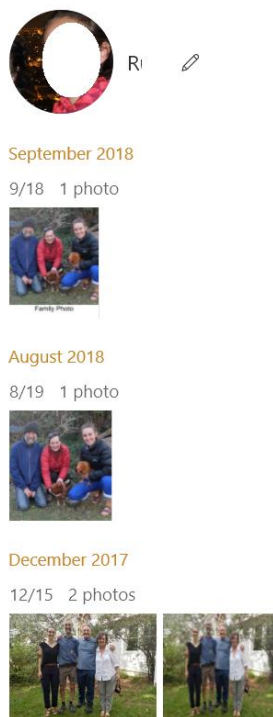
After the takeout archive file is unpacked, processing with the Google Photos Album option for the Caption uses the name of Google Photos album included in the takeout folder structure. The Google Photos Description option for the sub-caption uses the value entered for the image Description, which is visible in the Info pane, and stored in the .json file for each image in the unpacked takeout archive.

Caption Data from Windows 10 Photos People

Windows 10 contains a photo viewing and editing application called Photos, which has many of the features of Google Photos, including automatic detection of faces and other named features (e.g. animals, food etc.) in images. Faces can be labelled as shown below, where the first three faces are labelled S, J and R. The number of photos containing the person are shown beneath the face.

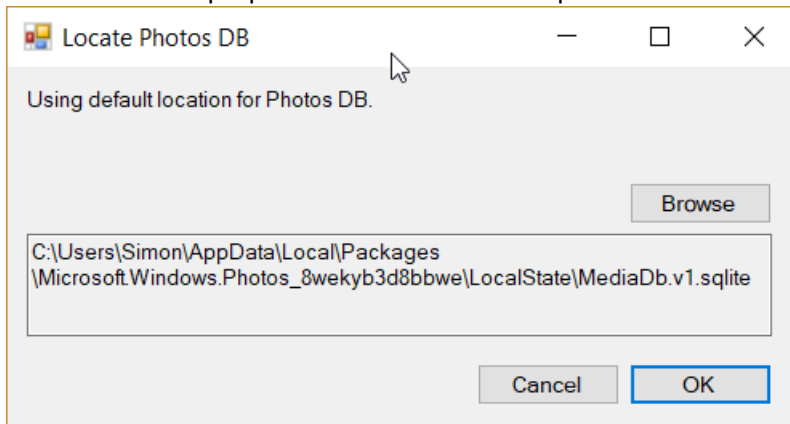


Clicking on the face shows all the images containing that face:



The data about which named faces appear in images can be extracted and added to the caption using the Windows 10 Photos People option. Extracting this data requires location of the Photos database.

A screen for this purpose is shown when the option is selected:



If the database file does not exist at the default location, it can be located via the Browse button. Once it has been located, any image selected for display which contains people named in Photos has the names of people added to the Caption box as shown below:

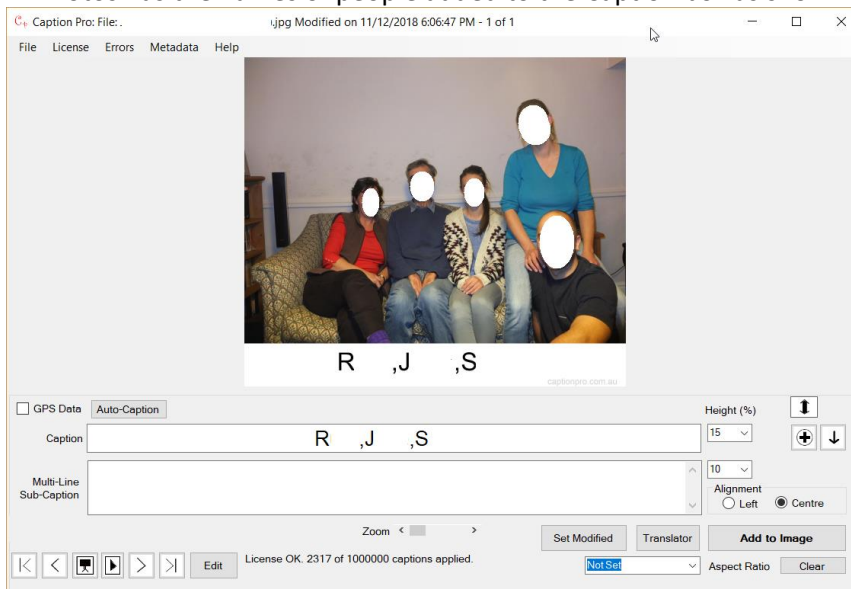
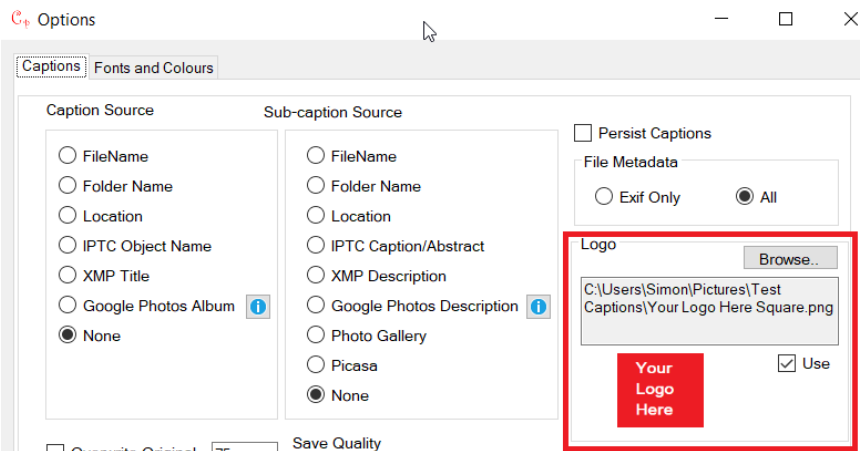


Figure 41 Image captioned by names of people identified with Windows Photos

This feature allows people in a single photo to be visibly named, rather than having all the photos containing a person to be grouped together.

Adding a Logo to a Caption

A logo can be added to the caption bar by selecting a logo file from the Options screen and checking the Use checkbox:



The logo file is selected from the browse button and can be in JPEG, TIFF, BMP, GIF or PNG format. The logo image is shown below the location textbox.

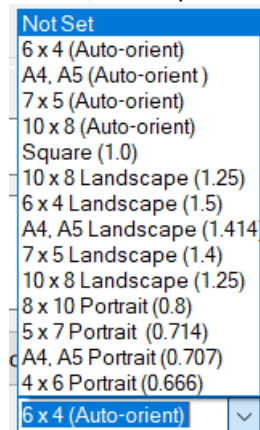
The logo is added at the bottom left of the caption bar and its size is scaled so that its height is 90% of the height of the caption bar as shown below. The caption is placed to the right of the logo:



Aspect Ratio

The aspect ratio of an image is the ratio of its width to its height. It is significant when images are printed on media of fixed dimensions, as an image whose aspect ratio differs from that of the print will either be truncated or stretched to display the image on the print. Truncation is much more common, as its effects are less noticeable unless a caption has been added below the image, in which case it may not be visible. If an image is displayed on an electronic device, the image can be scaled to be shown in its entirety whatever its aspect ratio, but some electronic image repositories may use square images as a visual index or an indication of graphic content. If a caption has been added below the image, this may not be shown if the aspect ratio is much less than 1.0 (portrait mode), as a square image may be generated by truncating the top and bottom of the image

To deal with this situation Caption Pro allows white padding to be added to a captioned image to make the processed image have a range of aspect ratios. Aspect ratio can be set in the main screen, with options as shown below:



Selecting Not Set does not add any padding to an image and removes it if it is present. The Auto-orient options add a caption bar below the oriented image, so that the orientation of the captioned image is the same as the image before processing and the ratio of longest to shortest side is as set. One of these options is most suitable for preparing photos for printing.

The Landscape and Square options orient the captioned image in Landscape mode. If the input image is in Portrait mode, a large amount of padding will be added at the side. Selecting any of the Portrait options will result in the output image being in Portrait mode. Landscape images will have a large amount of padding at top and bottom.

Selecting the desired aspect ratio does not change the image: Add to Image should be clicked after making the selection.

The default value of Not Set does not add any padding of the captioned image and the aspect ratio is determined solely by the input image aspect ratio and the size of the added caption. Results of captioning with different aspect ratio values are shown below. A border has been added to all images to highlight the effect of changing aspect ratios.

Note that aspect ratio cannot be set if only an image sub-caption is applied but if a text sub-caption is set and the aspect ratio adjusted, the text sub-caption can be replaced by an image to achieve this effect.

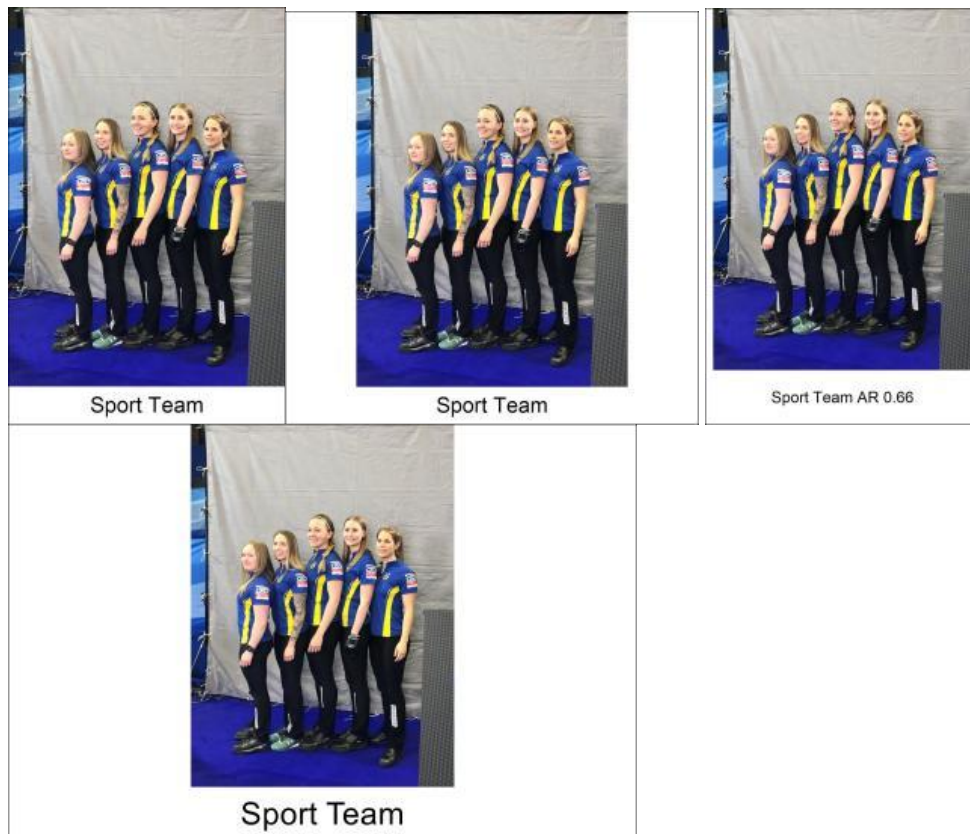


Figure 42 Effect of changing the aspect ratio on processed image: Not Set (Top Left), 1.0 (Top Right), 0.66 (Bottom left) 1.6 (Bottom Right)

Translator

A Translator button is provided to allow easy access to automated translation via the Google Translate website. Translated captions can be copied from this and pasted into the Caption text box.



Figure 43 Caption translated into Chinese(left), Spanish (centre), and Vietnamese (right)

Having the caption included in the image allows display of a slideshow in other applications (such as Google Photos) including captions. As the caption string is also stored as file metadata, the last-entered caption is shown below the image as well as within the image. This can be edited (or removed by deleting all the caption characters) before re-applying the caption.

The Modified date of the file is not changed by the action of adding the caption, but it may be useful to have this date set to the date on which the image was recorded via the Options setting.

Because the caption is shown in a caption bar of known dimensions below the image, it is possible to remove captions or re-apply a different caption to an image without having to keep track of multiple copies created by other applications for adding text to images.

Editing Images

Images (but not videos) may be edited by clicking the Edit button to the right of the movement controls, using the default editor for the type of image file on the operating system used. A common editing requirement is to rotate images which have incorrect orientation data stored. Below is the display from Photos, the default Windows 10 Photo editor and display application:

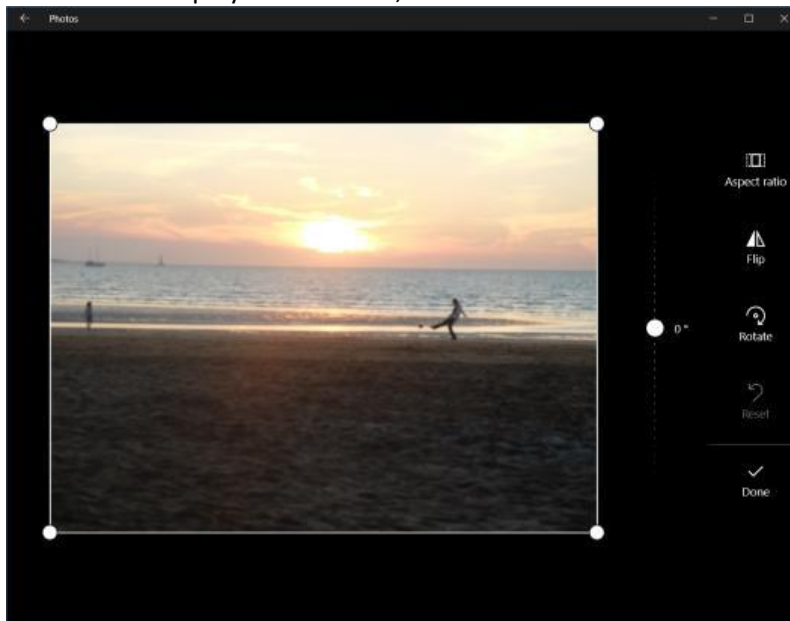


Figure 44 Example of image editing (cropping) using the Photos editor

After the editing has been completed, the editing program should be closed and the edited file saved with same file path as the original image. The edited image will then be redisplayed in Caption Pro. If Photos is already running to display another image before editing, it should be closed. A message box offering this option will be displayed in this case.

If Windows Photo Viewer is the default JPEG viewing application, as is the case for Windows 7, only rotation may be performed on images, and any existing instances of the application must be closed before performing the editing. As for Photos on Windows 10, a message box offering this option will be shown.

If no image editing software for JPEG files is installed on the operating system used, or if the installed software is unsuitable, many free image viewers and editors such as [IrfanView](#) are available for installation. These should be set as the default applications for opening JPEG files.

To set the default viewing application for JPEG files on Windows 10, right-click on the file and select Open With > Choose another app. Options to select another application and make it the default are then shown. On Windows 7 and 8, right-click on the file and select Open With -> Choose default program...

Viewing File Metadata

Metadata for the currently viewed file can be shown by clicking the Metadata top-level menu item. Metadata from the Windows filesystem is shown first, then image-specific metadata. There may be hundreds of fields present. ICC Profile entries for red, green and blue are not shown as they are very long.

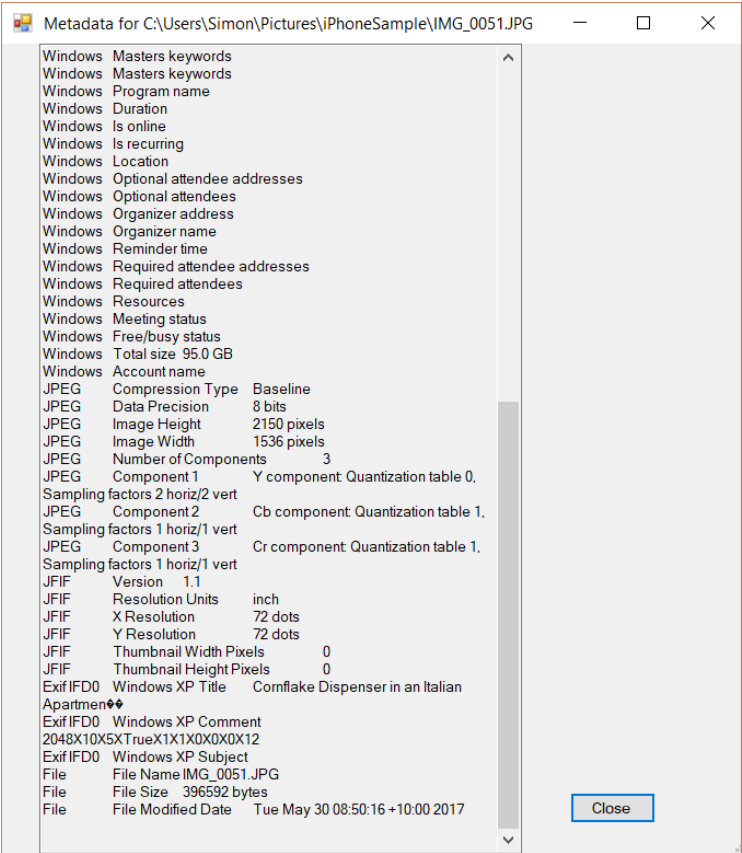


Figure 45 Example of part of file metadata

Copying Files and Editing File Selections

Copying

Caption Pro can be used for selection and copying of items on the basis of whether or not they have been captioned. The menu item Edit->Copy/Move Captioned allows the user to specify a folder into which captioned files are copied or moved. Files can either overwrite existing files in the selected folder with the same name or if they have the same name as an existing file, they can be stored with a new file name with a bracketed number appended to the file name just before the file extension. A sequence number can be optionally inserted before the file name, allowing items to be displayed in an arbitrary order.









Name	Date	Type
 0001_IMG_1762.JPG	2/08/2017 6:00 PM	JPG File
 0002_IMG_1767(1).JPG	4/08/2017 4:35 PM	JPG File
 0003_IMG_1812[!TS!,Cork].JPG	16/08/2017 3:45 PM	JPG File
 0004_IMG_1764.JPG	13/09/2018 9:43 AM	JPG File
 0005_Ethel(1).jpg	2/08/2017 6:01 PM	JPG File
 0006_IMG_1760.JPG	2/08/2017 5:59 PM	JPG File
 0007_IMG_1761.JPG	2/08/2017 5:59 PM	JPG File
 0008_Albert.jpg	2/08/2017 6:00 PM	JPG File

Figure 46 Example of Copied Captioned Files with Sequence Numbers

This capability allows selection and captioning to be done at the same time.

Files can also be copied in the same way irrespective of whether they have been captioned or not via the Edit-> Copy.. menu item. This allows creation of an arbitrary ordering which can be accessed by sorting the files by file name if a sequence number is inserted.

Editing File Selections

Files can be re-ordered via the Edit->Reorder/Append menu item. This shows Drop/Paste screen, only with the loaded files obtained from those currently displayed. This selection can be added to via the Drag/Drop and Paste functionality, and re-ordered by checking Edit Order and graphically moving images as shown below. Files can be deleted from the selection by selecting them and clicking Delete Selected

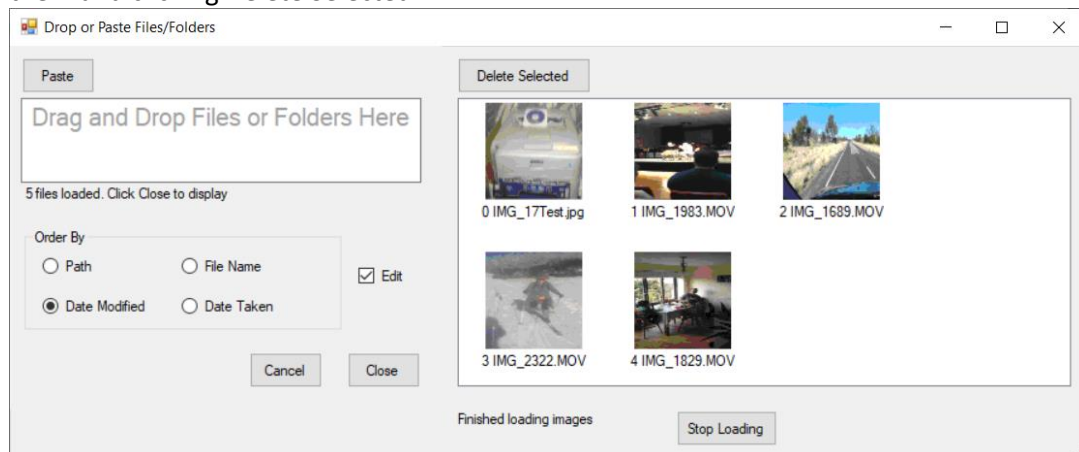


Figure 47 Drop/Paste screen showing thumbnails from loaded selection

Search

Caption Pro can search within the loaded images for words or phrases appearing in the caption or sub-caption. This functionality is accessed via the File-> Search menu item, which shows the following screen:

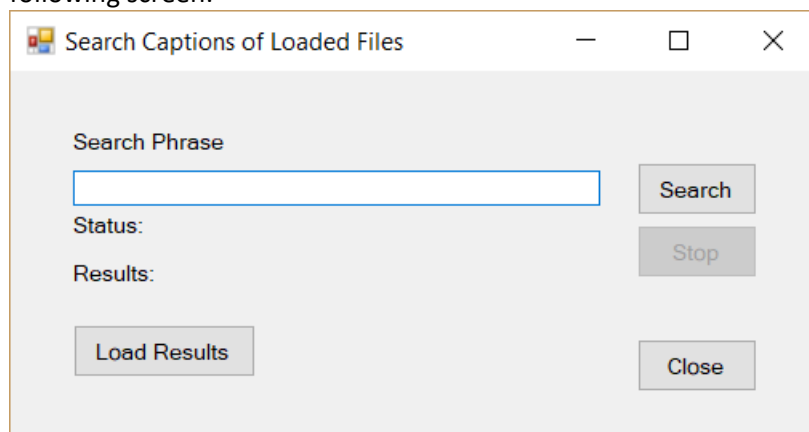


Figure 48 Search Screen

Entering a search string and clicking Search or Enter in the Search Phrase box searches applied captions for the phrase. Clicking Load Results replaces the currently loaded files with those whose captions meet the search criterion. The progress of the search is shown in the Status label, and the search can be stopped by clicking the Stop button.

Options Screen

The Captions tab is used for general settings for Caption Pro operation, and Fonts and Colours is used to define Font properties for the caption

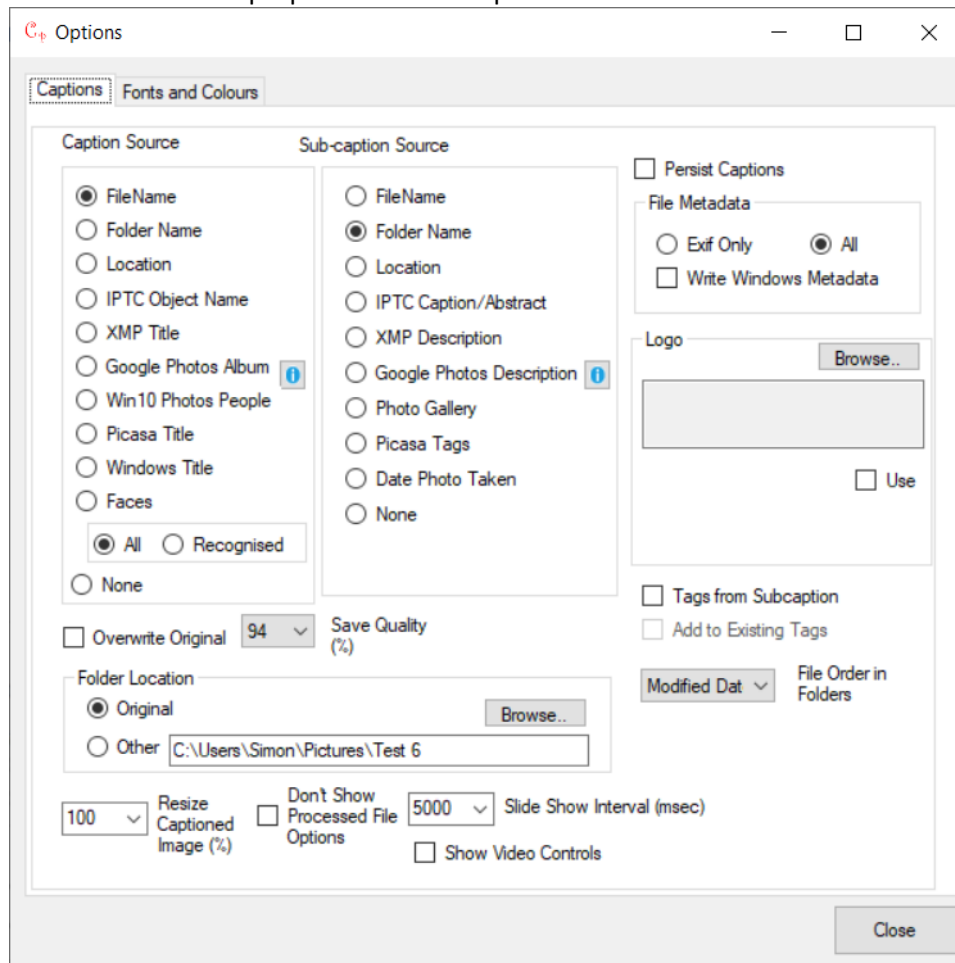


Figure 49 Options Screen – Captions Tab

Caption and Sub-Caption Sources

Setting the Caption Source options to anything other than None allows captions and sub-captions to be automatically created from any of the specified sources. If Faces is selected, the names of people detected by face recognition are added as a comma-separated list. If Recognised is selected, only recognised faces names are added. If All is selected, unrecognised faces are added to the list as Person1, Person2 etc.

If no metadata is found for the any retrieved metadata selectedions, a blank value is set. No value is set if the file contains no location data. Location data is only found in photos taken with mobile phones in places with mobile phone coverage.

A range of sources can be used for the sub-caption as indicated in Figure 49. Using Date Photo Taken as a source takes the date value stored in Date Taken (which is always present in Windows) and displays it as text if it is not null or empty. This date can be set for individual files via the Set Modified button.

Examples of results from different source combinations of these are shown below:



Figure 50 Captioned image using different metadata sources

The left image sets the caption from the folder and the sub-caption from the file. The centre image sets the caption from the file, and the right-hand image sets the caption from the folder name and the sub-caption from the location. The caption is set to 10% of image height and the sub-caption to 5%.

Using Metadata Created by Other Applications

Metadata created by Windows Photo Gallery, Google Picasa and Google Photos can be used to automatically set Caption and Sub-caption values. For Photo Gallery and Picasa, the metadata displayed is already contained in image file metadata. In the case of Google Photos, data has to be downloaded as part of Google takeout, through which all data stored by Google applications can be downloaded. After unpacking the downloaded Zip file, folders will be created for all manually created albums and for all days corresponding to the dates on which the photos were taken. Inside each folder are the image files and JSON format files containing the metadata for each file, including any caption or description values entered. Within Google Photos, the captions are visible in the info tab and at the bottom left of the image for a limited period as shown below. Multiple line captions are concatenated. No captions are shown in slideshow mode.

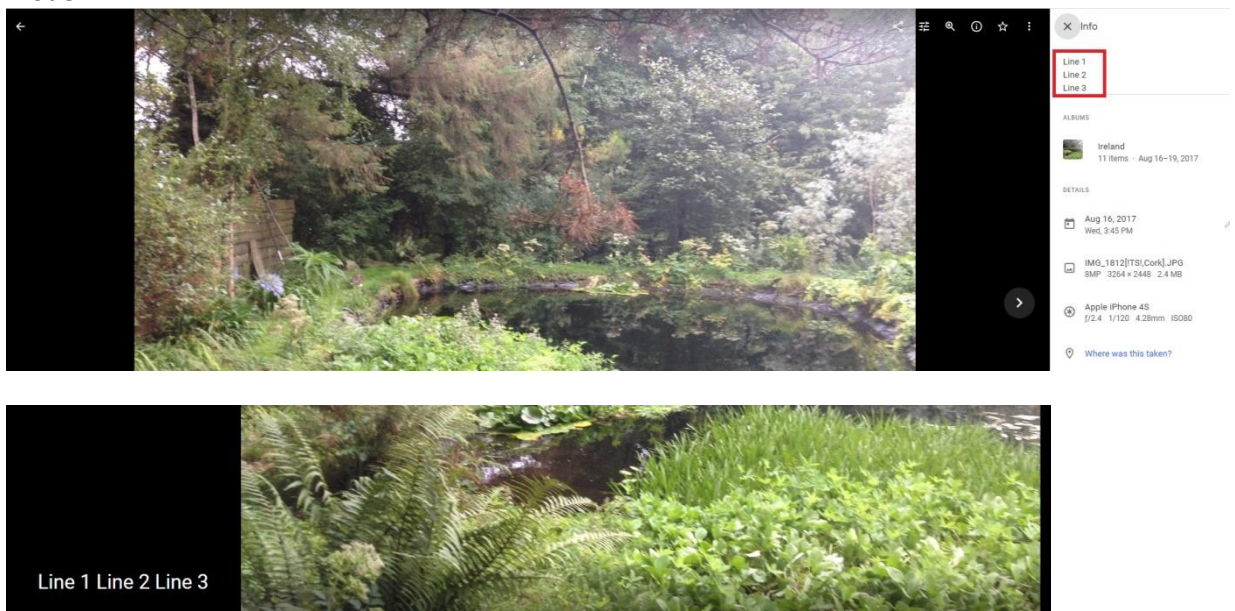


Figure 51 Google Photos Caption in Info pane (top) and beside image (bottom)

After embedding the caption data in the image, the album name and caption data is readily visible in the image as Caption and Sub-caption respectively as shown below:

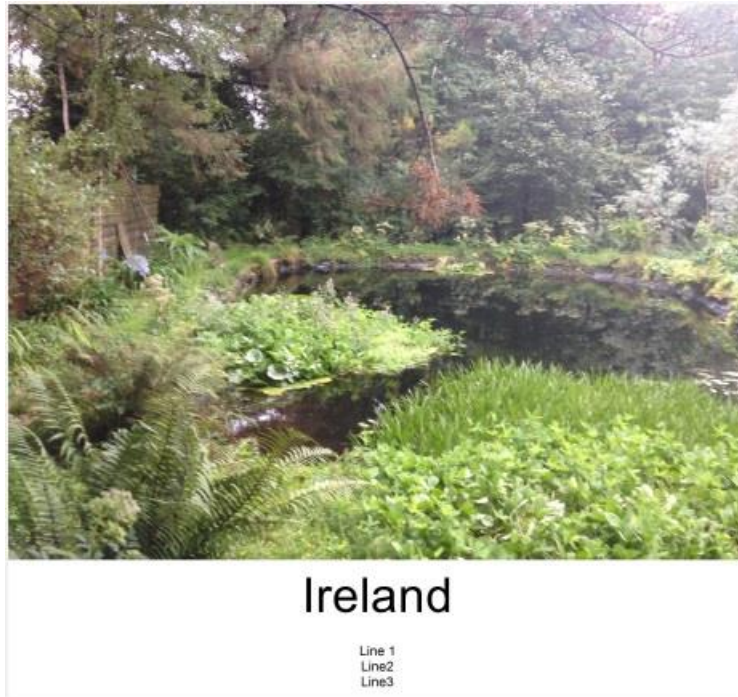


Figure 52 Image after creating Caption and Sub-Caption from Google Photos data

After the album name and caption data have been embedded in images as shown above, they can be uploaded as a new Google Photos album, with text always visible, even in slideshow mode.

File MetaData

The File Metadata radio buttons control whether only the EXIF data is copied to the captioned file (Exif Only) or whether all metadata (including EXIF, IPTC and XMP) is copied. If only EXIF data is copied, the Caption field is written to the Windows Title field and the Sub-caption to the Subject field. File Explorer search can then be used to identify files containing a particular string using the syntax Title:searchstring or Subject:searchstring as required. The result of this setting is displayed in the Processed File Options screen shown in Figure 34 on page 38.

Persist Captions

The “Persist Captions” checkbox allows the content of caption and multi-line sub-caption boxes to be retained when moving to another file when multiple files are loaded.

Overwrite Original

If checked, the Overwrite Original File checkbox replaces the opened file by the one to which a caption has been added. If it is not checked, the captioned file is saved as a new file with a sequence number in brackets added at the end of the file name. If this file is edited, a second sequence number is added.

Folder Location

The Folder Location box allows captioned files to be stored in a folder other than the original folder in which the file was located. If Other Folders is selected, all captioned files are stored in there. A sequence number is added if the same file name appears in more than one folder.

Save Quality

The Save Quality combo box is used to specify the compression quality of the processed JPEG file. The default value of 75% gives acceptable results for screen viewing. The 94% value gives better quality but a larger output file size.

Resize Captioned Images

The Resize Captioned image checkbox allows captioned images to be resampled to a size specified by the drop-down (100%, 75%, 50% and 25%).

Don't Show Processed File Options

The "Don't Show Processed File Options" checkbox is ticked if the option has been selected on the Processed File Option screen shown in Figure 34 on page 38.

Slide Show Interval

The Slide Show Interval shows the time for which each image is shown in a slideshow, in milliseconds.

Show Video Controls

The Show Video Controls checkbox shows the video controls if checked and hides them if unchecked.

Logo

A logo image can be added to the sub-caption by selecting an image file as described on page 50. The Use checkbox should be used to apply the caption

File Order in Folders

The File Order in Folders combo box allows selection of the order in which multiple files in folders are displayed. Options are by ascending Modified date, file name and Created date.

Tags from Sub-caption

If selected, Windows tags are generated from sub-caption data. One tag is generated per line used in the sub-caption. If Add to existing tags is unchecked, existing tags are replaced. If it is checked, generated tags are added after existing ones. If no visible caption is required, the sub-caption height should be set to zero.

Setting Fonts and Colours

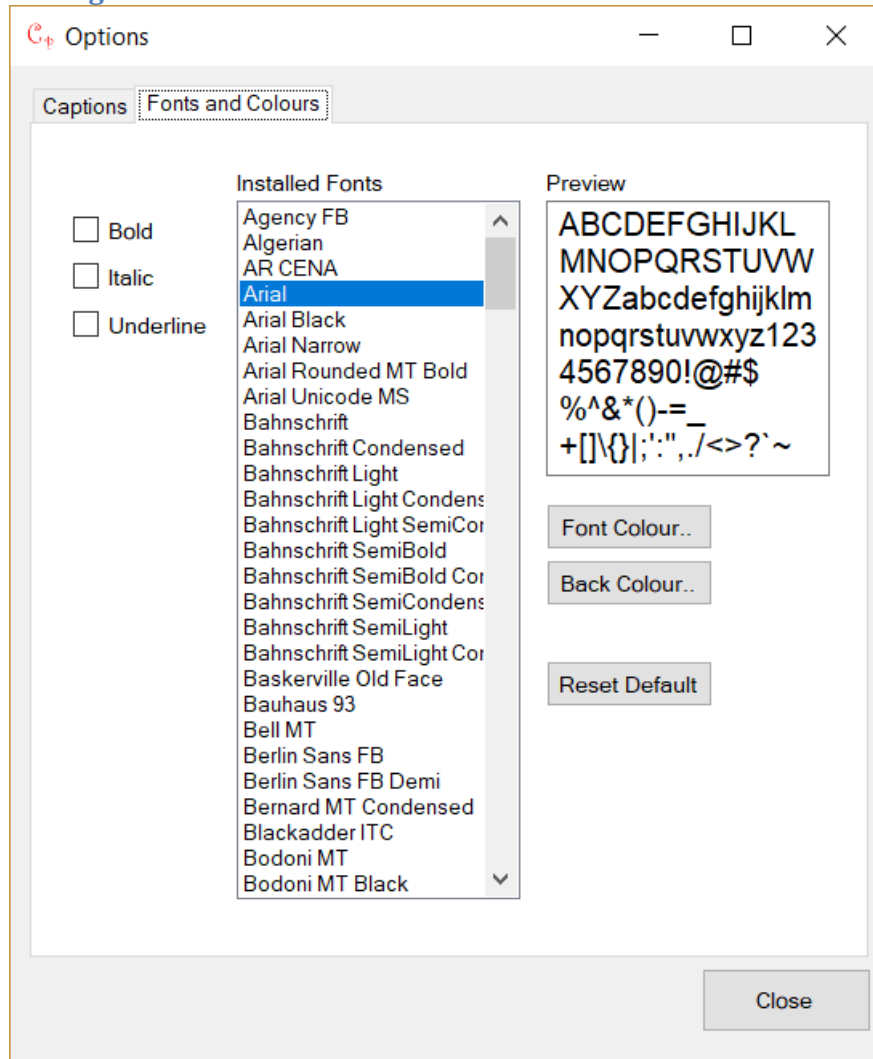


Figure 53 Fonts and Colours Screen

This tab of the Options Screen allows setting of font colours and styles. All installed fonts are displayed in the Font list box. The default font/colour combination is Arial in black on a white background. The appearance of the text in the caption and sub-caption boxes on the main screen can be previewed after selection. Note that some fonts do not distinguish very much between upper and lower case.

Font colour and style and background colour are stored in image metadata and different combinations may be used for different images, but the details specified in this screen on the last occasion it was changed are saved by Caption Pro and used as the default.

Printing

Caption Pro supports printing of any displayed image (but not videos) via the File->Print.. option:

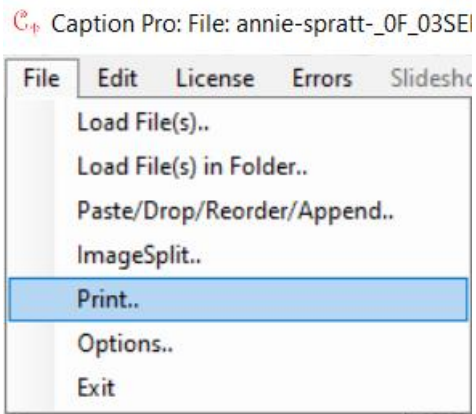


Figure 54 Selecting Print Option

Clicking this shows the Print Dialog screen, which allows selection of any accessible printer or output option:

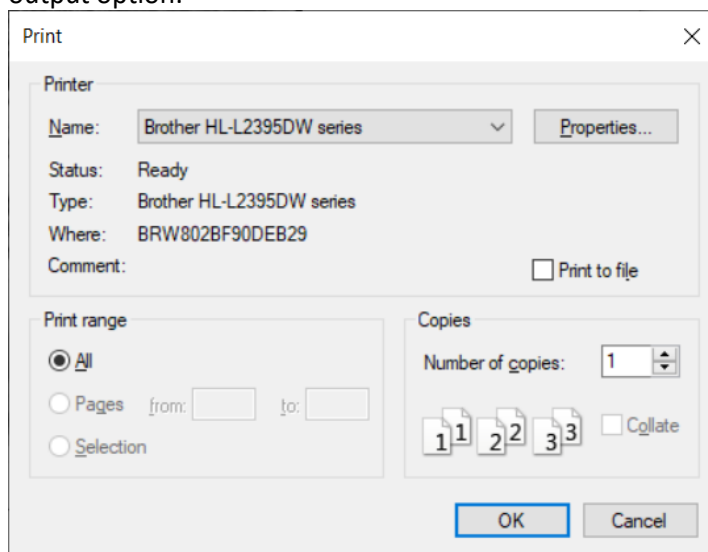
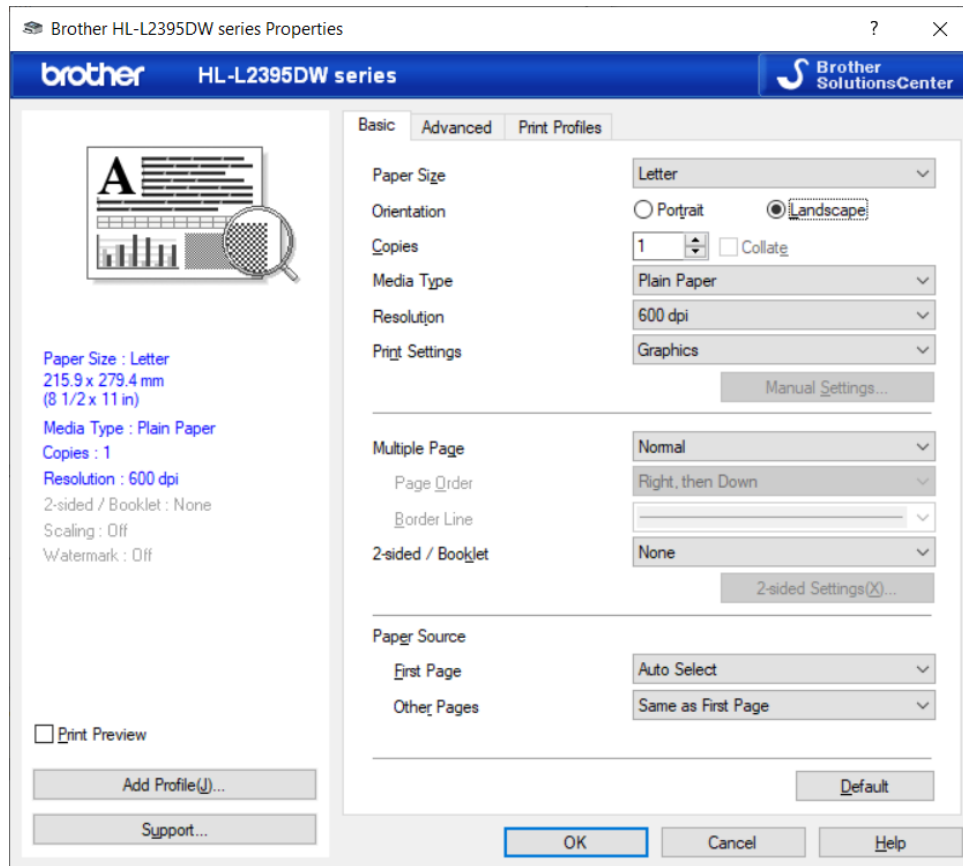


Figure 55 Print Dialog Screen

The Printer properties allow a preview of printed output via the Print Preview checkbox at the lower left:



Checking this option and clicking OK and then OK on the Print Dialog Screen shows a preview similar to that shown below:

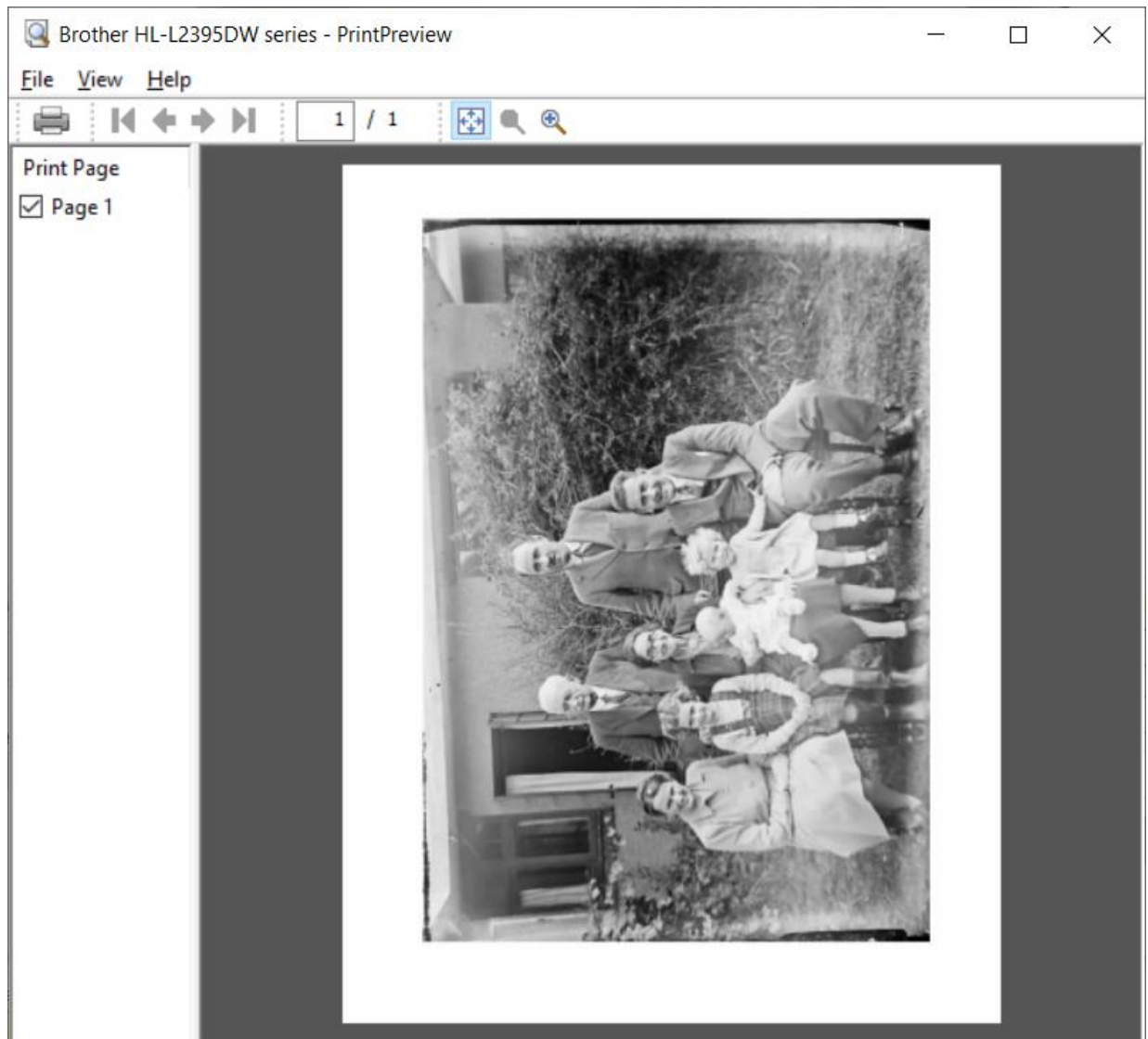


Figure 56 Print Preview Screen

The image is centred in the paper size and can be printed by selecting Print from the Preview screen.

Help

The help options shown below are available:

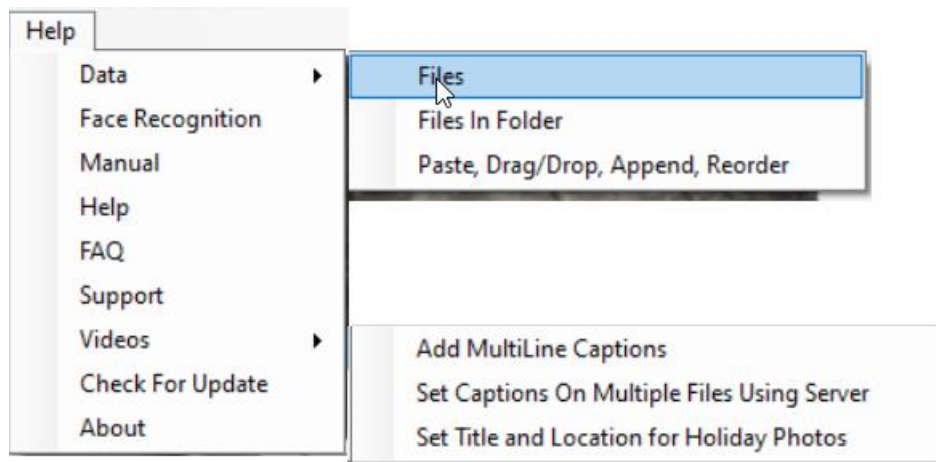


Figure 57 Help Options

Data sub-menu items give information on loading from one or more files, files in a folder, or via paste or drag and drop. Appending and re-ordering of files is covered by the last option.

Face Recognition gives information on face recognition process.

Manual opens a PDF version of this manual

Help shows this document as a Compiled Help version of this manual with easy access to sections.

Support is used for capturing data used for support purposes as shown below:

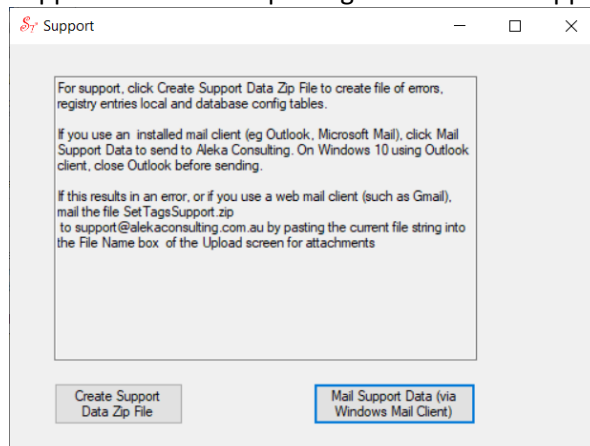


Figure 58 Support screen.

Videos provides links to various “How To” videos on YouTube.

Check For Update compares the version number of the current application with the latest release and offers to download it from the Aleka Consulting web site, and then install it.

About provides information about the application:



Errors

Errors generated by any Caption Pro operation can be viewed by clicking the top-level Errors menu item as shown below:

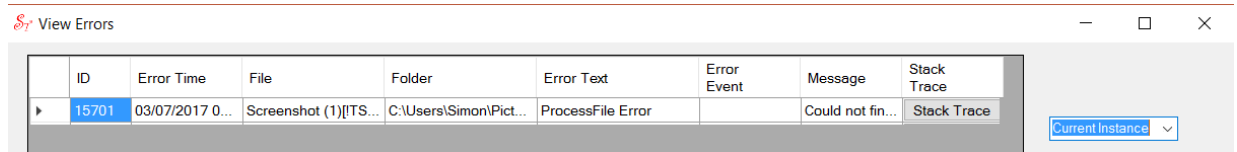


Figure 59 Errors from Current Instance

The default option is to show only errors which have occurred during the current Caption Pro run, (Current Instance in the combo box to the right of the error display but All errors can also be displayed:

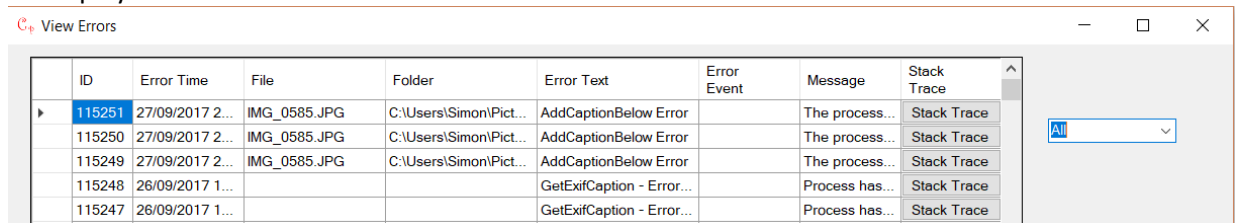


Figure 60 Display of All Errors

Appendices

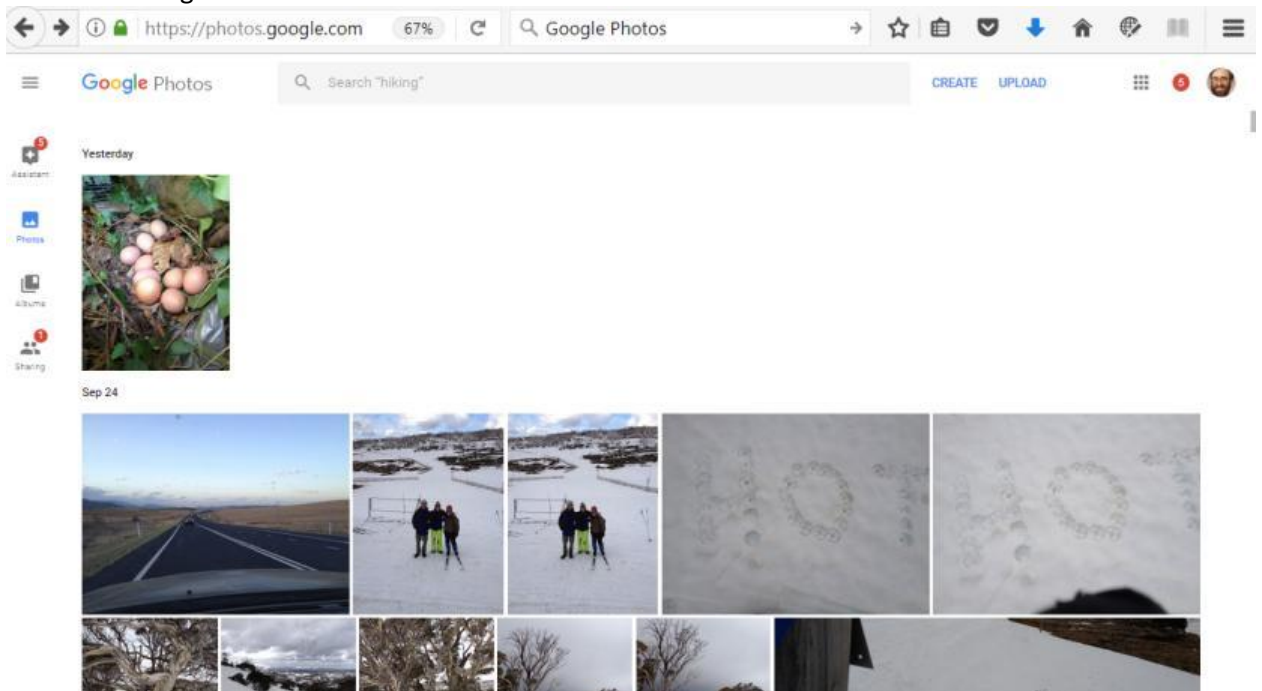
1. Adding Captions to Images Shown in Google Photos

Google Photos provides automatic cloud storage, backup and sharing for images recorded on mobile devices. It can also provide these services for images stored on a PC or Mac as Desktop application. As well as automatic image analysis and sorting, it allows the creation of user Albums, which are ordered collections of selected images which can be displayed as a slideshow or shared with remote users. The Google Photos mobile application does not support download of all the images in an album, but the Desktop version does. On mobile phones, individual photos can be downloaded to the Camera Roll if it is not already there, but the cropping of images to a square format when zooming the screen view out may mean that the caption bar is not visible until the screen view is zoomed in or the full image is viewed if the image is portrait rather than landscape mode. Images from an album can be downloaded as a Zip file, which has the name of the album, and contains all the album images (and videos if included). Caption Pro can be used to add captions to album images, which can then be uploaded back to Google photos to provide an individually captioned album. Captions already added in Google Photos can also be used to automatically populate the Caption and Sub-caption fields as described on page 57, if all Google Photos images are downloaded as a takeout.

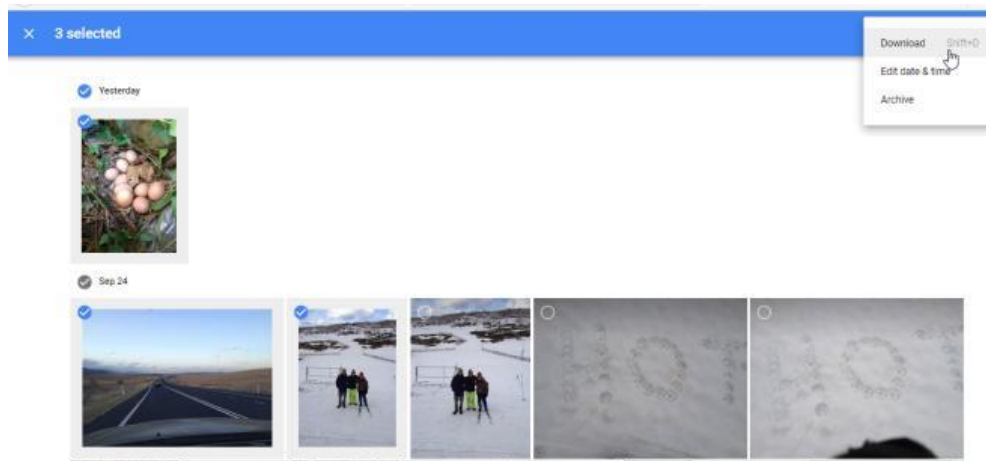
The option to set the Modified date to the date of recording should be checked to ensure that the recorded date is available when the captioned album images are uploaded to Google Photos.

Google Photos may be accessed from Caption Pro via the File->Google Photos menu item. You will need to supply your Google credentials in order to access your photos.

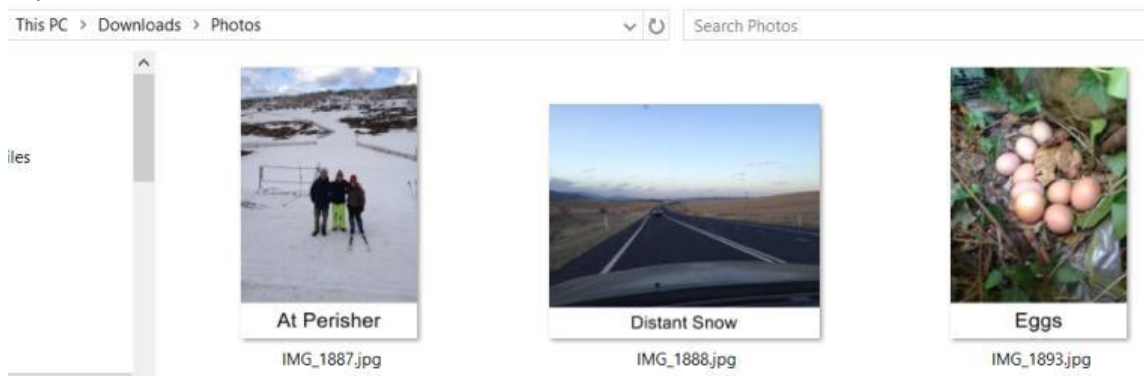
The main Google Photos screen is as shown below:



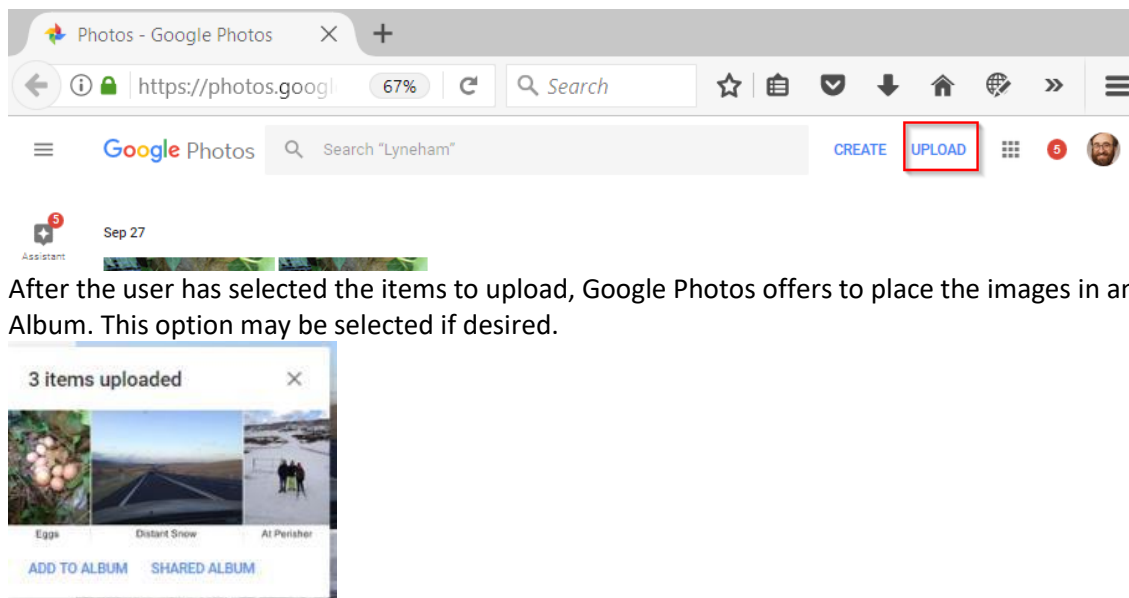
Photos can then be selected and the download option selected:



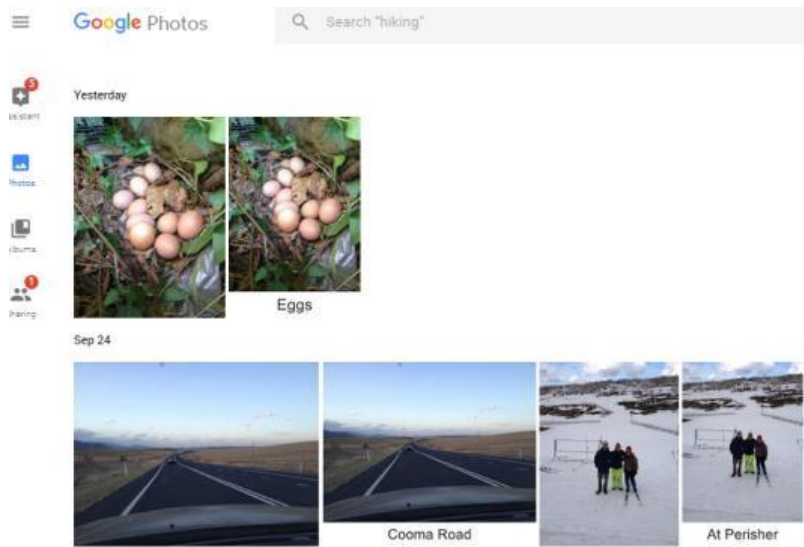
Selecting Download creates a Zip file of the selected photos called Photos.zip. This archive should then be extracted into a folder. The folder can then be opened using Caption Pro and captions added:



These images can then be uploaded to Google Photos via the Upload button:



After upload, the captioned images appear beside the originals, which can be deleted if desired.

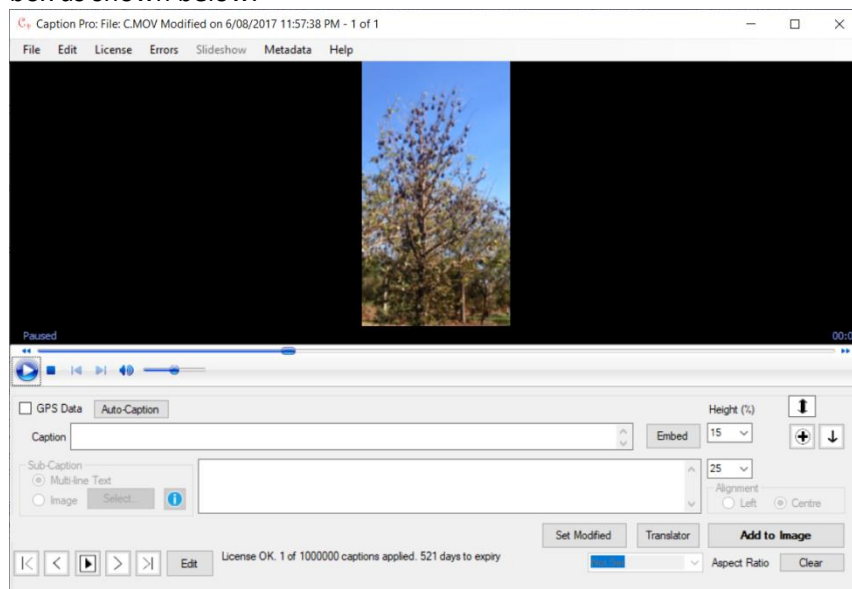


If the Google Photos images have already been added to an album, this can be downloaded as a Zip file and the images processed and uploaded again in the same fashion. Images will be ordered by file Modified date in an album.

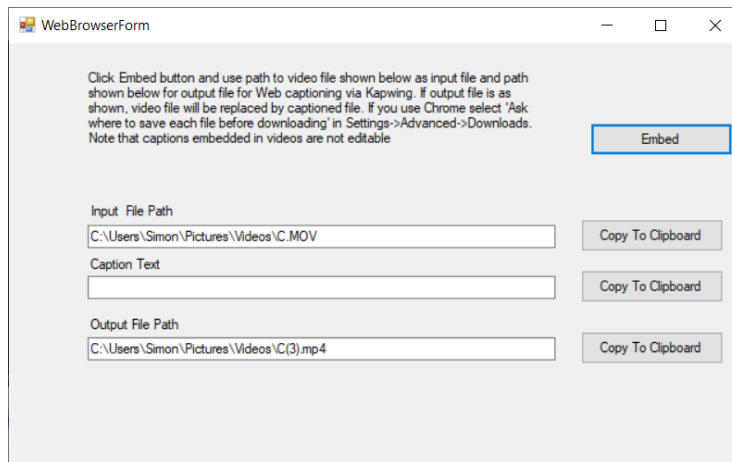
2. Video Embedding

Caption Pro does support embedding of caption text into videos using Kapwing, a 3rd-party web site. However, the embedded caption is written on top of the video rather than below it, and the caption cannot be edited after application. The Kapwing watermark can be removed by supplying an email address.

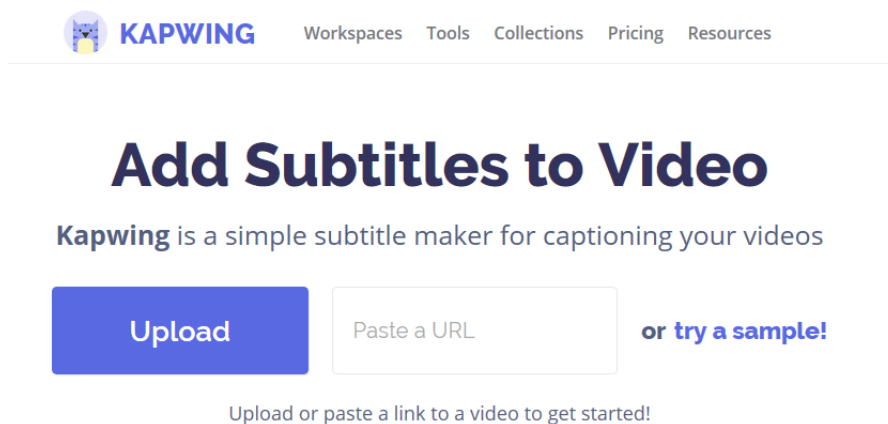
When a captionable video file is loaded, an Embed button appears to the right of the Caption box as shown below:



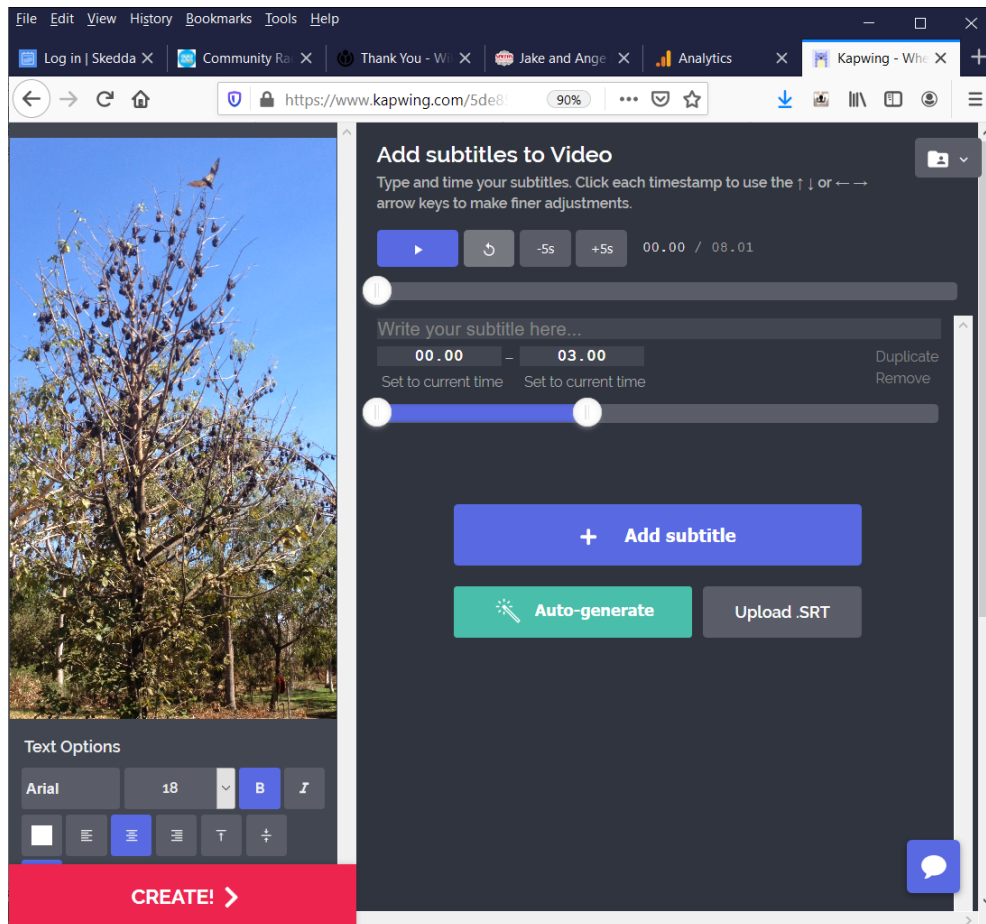
Clicking this shows the screen below:



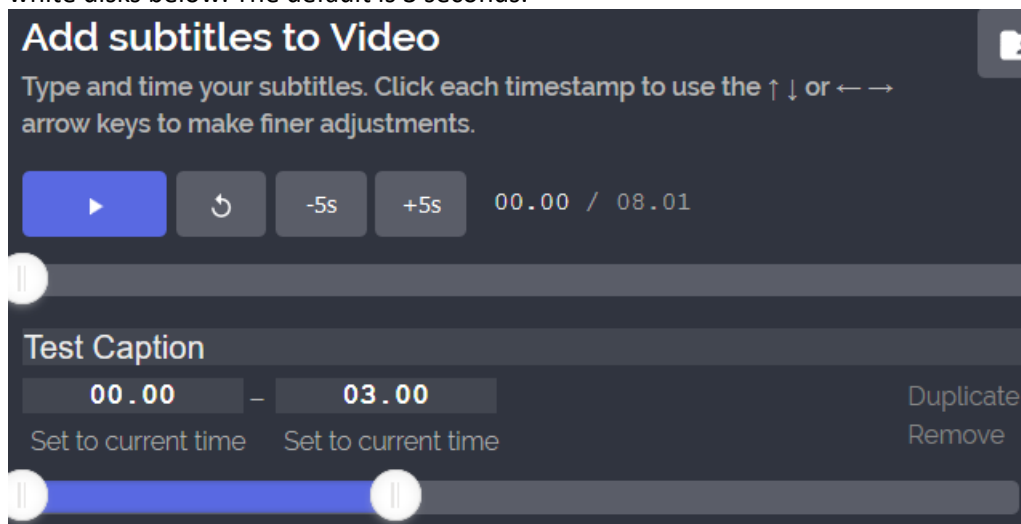
The Caption Text is filled from the Caption box on the main screen, or text can be added directly. Clicking the Embed button shows the following screen:



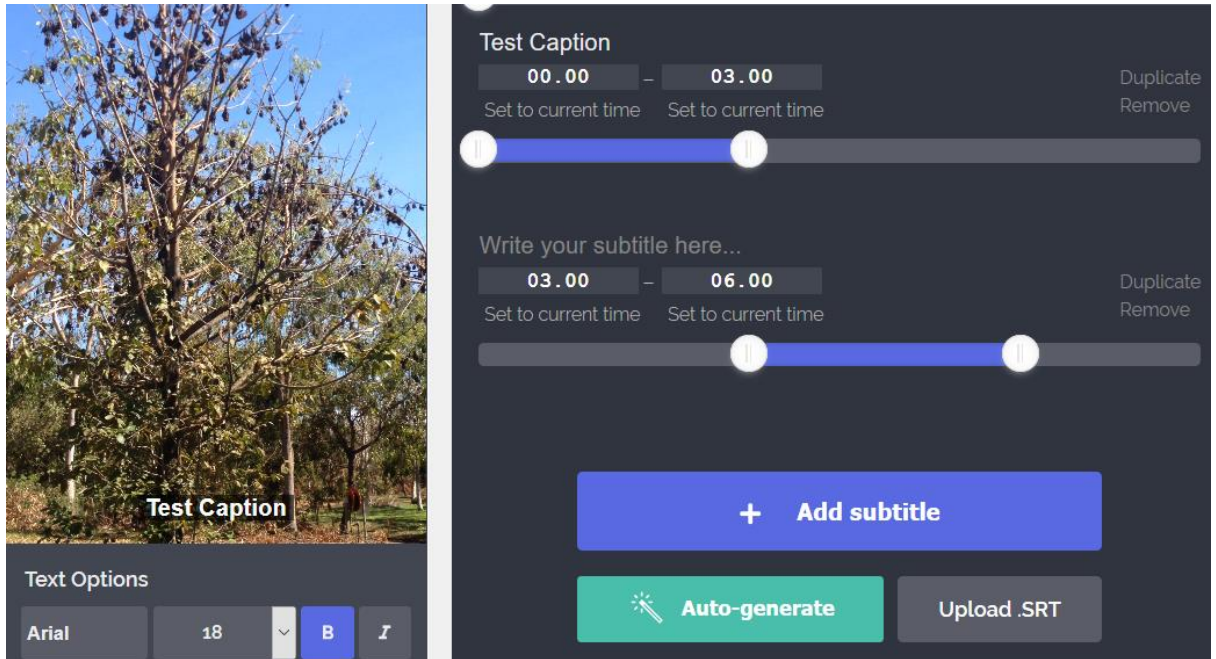
After clicking upload, the Input File Path from the Web Browser screen should be pasted in. The following screen then appears:



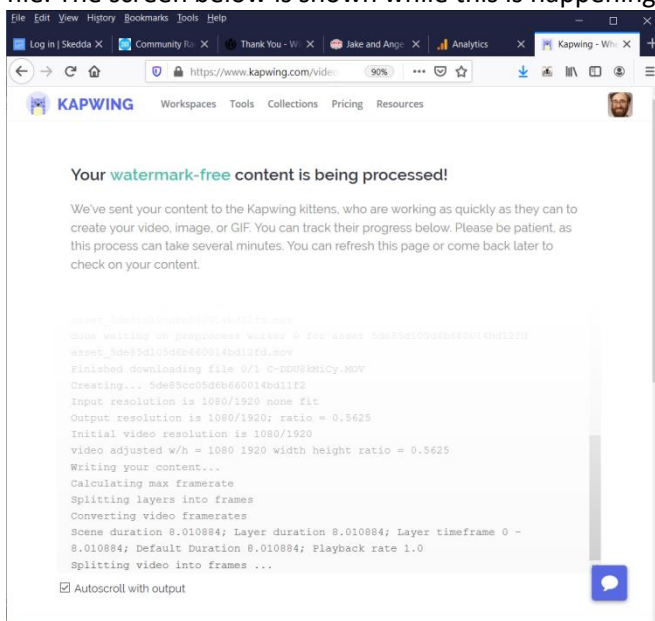
The caption text should then be copied and pasted into the area labelled “Write your subtitle here..” and the time interval for which the caption is to be shown is set by dragging the two white disks below. The default is 3 seconds.



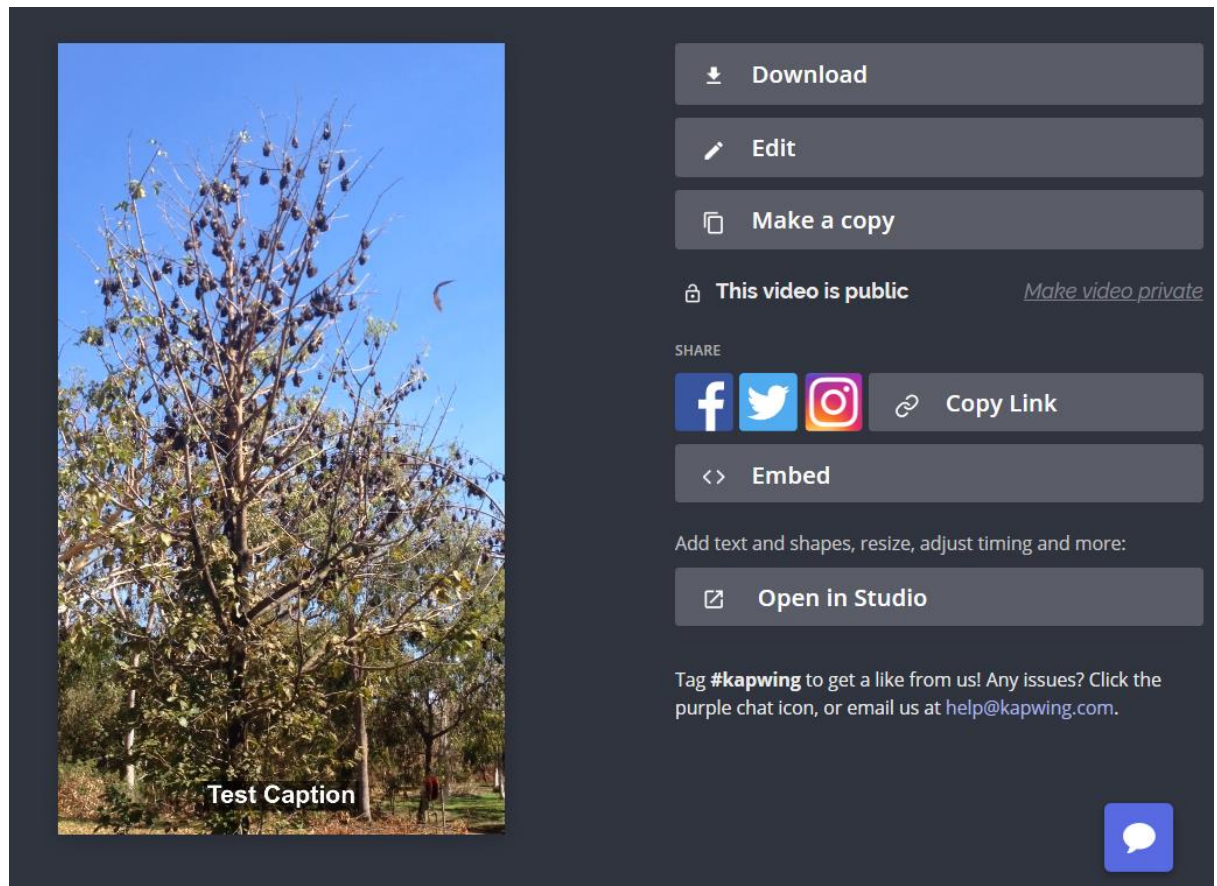
Clicking the + Add Subtitle button then draws the caption on the preview screen:



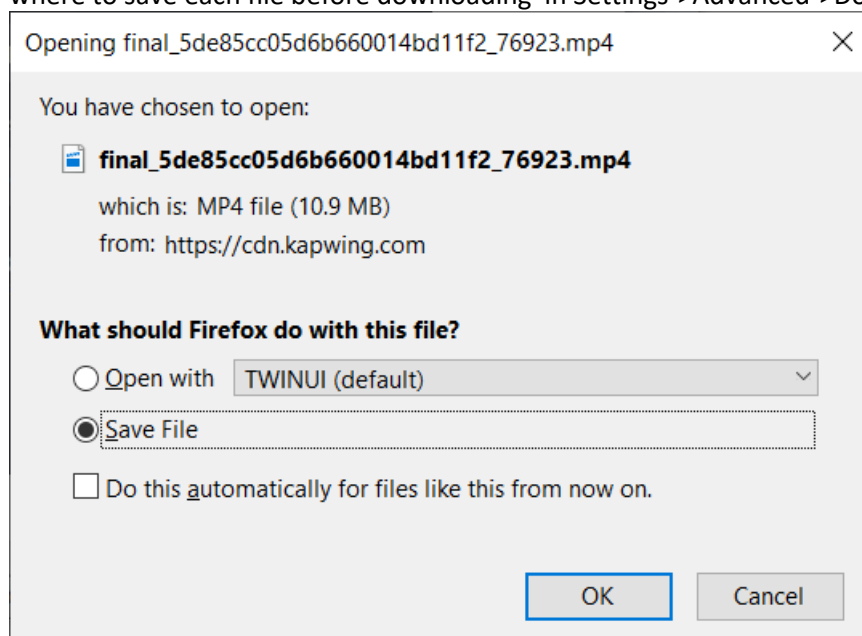
Clicking the red Create! > button then rebuilds the video with the caption embedded as a .mp4 file. The screen below is shown while this is happening.



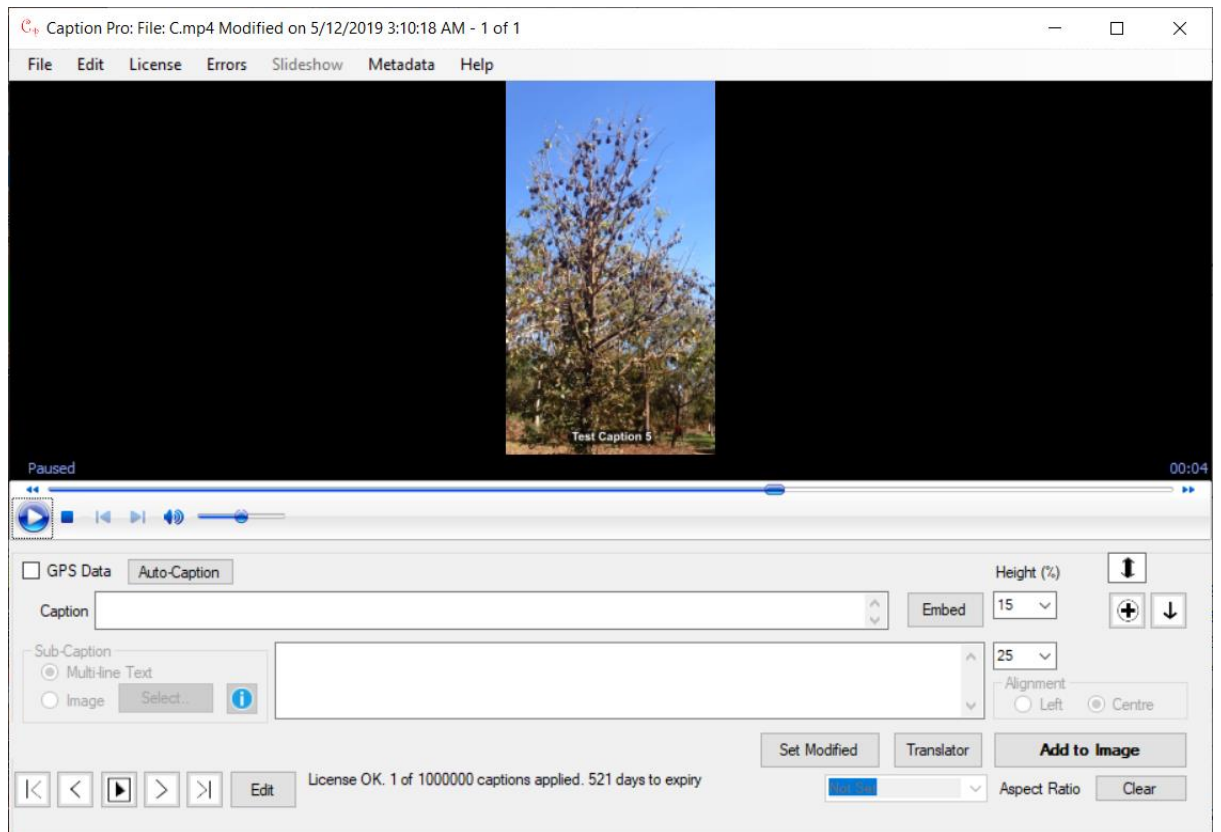
After the rebuilding is complete (which may take some time) the captioned video can be downloaded.



The download path should be copied and pasted from the Output File Path box on the Web Browser Form, as shown below for Firefox. Chrome users will have to select the option 'Ask where to save each file before downloading' in Settings->Advanced->Downloads.



After this, Caption Pro should redisplay the captioned video as shown below:



If it does not display, the captioned file should be reloaded.