

Confero

Your Image Sorting and Analysis Solution



2.2 User's Manual

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Introduction

Key Features

- Powerful sorting options include: QR codes, time stamps, and GPS coordinates
- Bulk OCR files
- Save hours of time by naming files in a batch process
- Perform advanced sorting and / or analysis by outputting all images' Exif data to a spreadsheet
- Automatically output compressed PDFs *and* backup original images in separate directories with the same name
- Preserve images by batch converting them into TIFFs

Confero Licensing

The [End User License Agreement](#) for Confero 2.2 grants a non-exclusive license to install Confero on up to 2 computers at a time.

System Requirements

- Windows 7, 8 and 10; OS X
- 4 GB RAM
- Internet access during installation

Installing Confero

Download Confero at waterlooinnovations.com/download/. Run the msi (Windows) or .mpkg (Mac) file and follow the prompts.

Mac Installation Problem Solving

If your computer runs OSX and you receive this error message, you need to adjust your computer's security settings before you can run Confero.

By default, OSX blocks third party applications that are not purchased on Apple's App Store.

To allow Confero to run, go to System Preferences → Security & Privacy → and under the "Allow Apps downloaded from:" section select "Anywhere."



Checking for Software Updates

Confero should automatically prompt users when it starts when new updates are available.

To manually check for updates, open a web browser and navigate to waterlooinnovations.com/download/.

Uninstalling Confero

Windows

Navigate to the Control Panel, click “Add / Remove Programs” and remove Confero.

Mac

Navigate to the Applications folder and delete the “Confero” directory.

Preparing for QR Code Organizing

Confero can use QR codes to separate images into useful sets. This section describes several different ways that users can obtain and use QR codes with Confero.

1. Use a QR code generator program on a mobile device. Most users prefer this option. Please consult our blog entry at <http://waterlooinnovations.com/finding-the-right-qr-code-generator-for-archival-research/> for recommended Android and iOS apps.
2. Utilize Confero's built-in QR code by:
 - a. Running Confero.
 - b. Clicking File → "Save QR code."
 - c. Select a directory, such as the Desktop, and save the file ConferoQRCode.jpg.
 - i. For a scanner, print ConferoQRCode.jpg and scan it after scanning each set of documents.
 - ii. For a camera, print ConferoQRCode.jpg or copy it to a smartphone and ensure that it displays correctly.

Regardless of the type of QR code that is used, users should only photograph it *after* finishing with their subject or file. Confero treats images containing QR codes as markers and discards them during its sorting process.

Consult "Import Images" on page 11 to learn how Confero can extract text from QR codes and use it to automatically label image sets.

Optimal QR Code Recognition:

For optimal QR code recognition, please ensure that your images of the codes comply with the following guidelines:

1. Always photograph QR codes at a perpendicular angle (see example below).



2. If using a cell phone to display the QR code, ensure that the camera does not capture glare from overhead lighting (see example below).



3. Position the QR code so that it is parallel to the image's borders. Confero sometimes fails to recognize rotated QR codes (see examples below).



4. When photographing a paper QR code, ensure that it has no folds. Folded paper can compromise Confero's QR code recognition (see example below).



5. When printing a QR code, ensure that the printer has plenty of ink. A partially faded QR code can compromise recognition (see example below).



Preparing for Other Import Organizing Techniques

Preparing to Sort Image Sets Via the Time Interval Feature

Confero can examine when images were captured and sort them according to time gaps. Producing research images that can be sorted using this function is easy.

1. Determine a minimum time interval between photographing or scanning documents or subject matter in advance.
2. Wait this period before proceeding the next set or subject.
3. Follow the instructions described in “grouping by GPS distance” described on page 12.

Preparing to Sort Sets Via the Geographic Distance Feature

If a user’s camera or cellphone can encode GPS coordinates into the images it captures, Confero can use this data to group images according to a user-inputted distance interval. To learn more about this function consult “grouping by GPS distance” on page 13.

By default, Confero calculates the distances in serial. For example, it will calculate the distance between image A and B, as well as the distance between images B and C, but it will not calculate the distance between images A and C. The latter sort can be accomplished by using the “Export to CSV” described on page 17.

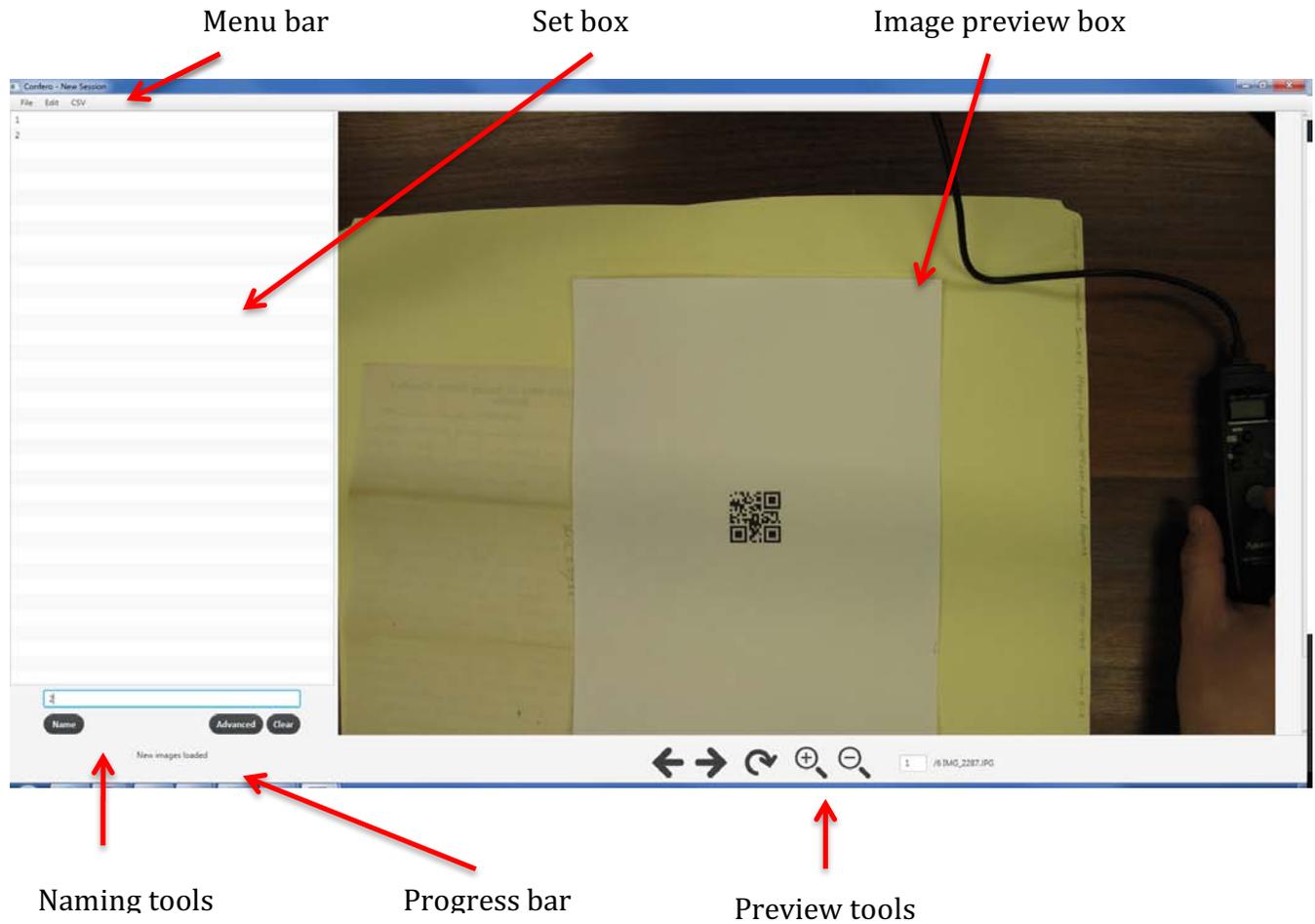
Preparing for Advanced Organizing via the CSV Feature

Confero can facilitate advanced sorting functions by extracting the Exif data from image sets and exporting this information to a CSV file that can then be opened in most major spreadsheet programs.

Exif data can include camera type, image resolute, time stamps, GPS coordinates, and a host of other variables. Users can read more about this function on page 17.

Using Confero

This section describes the main Confero window (shown below) and explains how to preview, name, and edit image sets.



Menu Bar: File

New Session

Clears the current session's data.

Save Session

Saves the data from the current session to a *.cfo file. Users can open this file at a later date by using the "Load Session" function (see below).

Load Session

This menu item allows users to resume a previous Confero session by selecting a saved *.cfo file (see above).

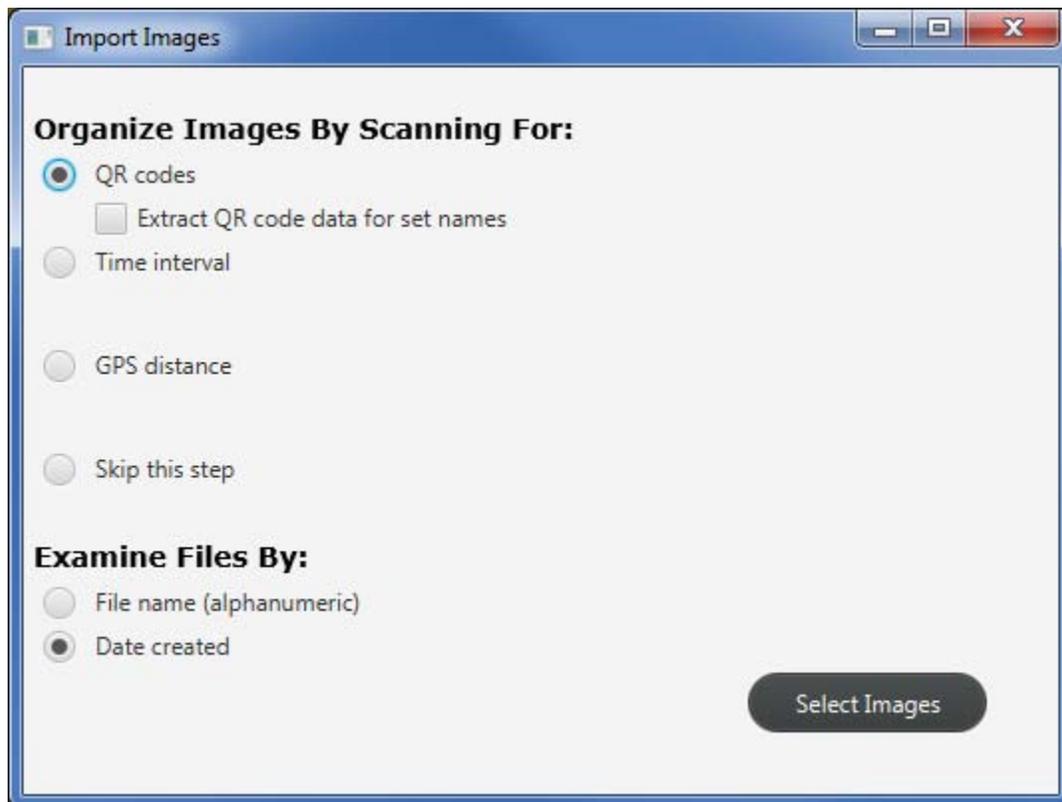
Import Images

Confero relies on stable directory structures. Do not move or rename image files or folders until the Confero session is completed.

To import images from a camera or scanner, click File → “Import Images.” The import window will appear and allow users to organize images by one of four criteria:

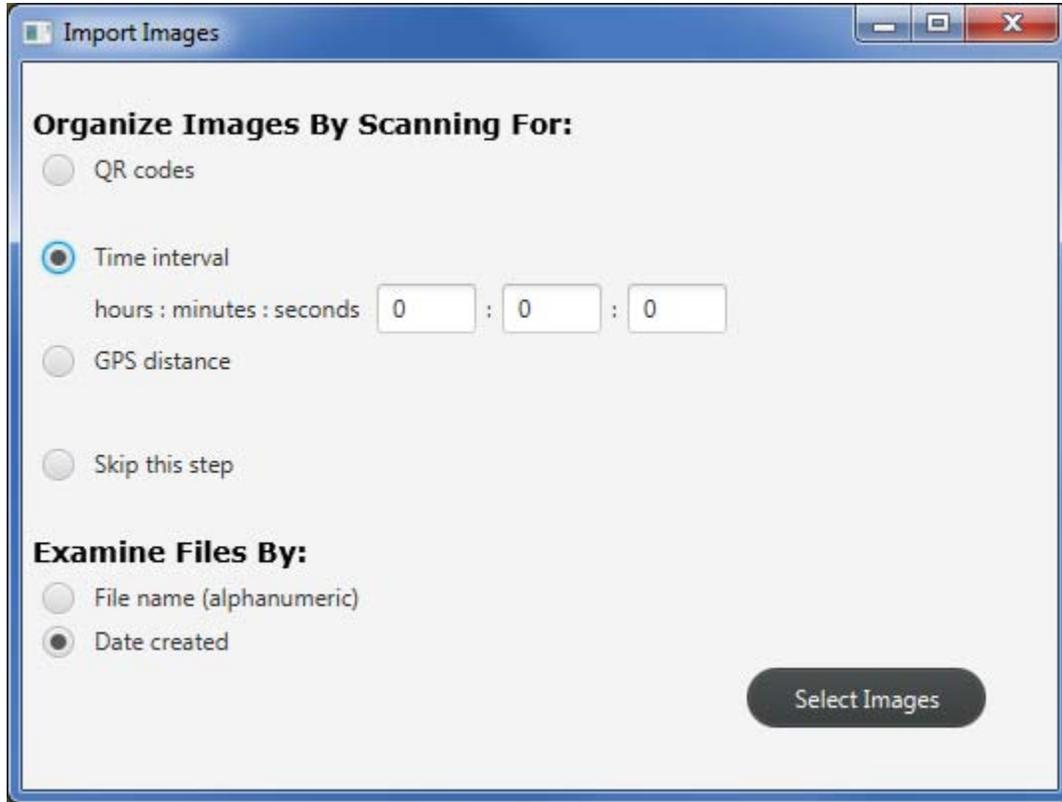
1. QR codes

This option (shown below) will scan every image in the session for a QR code and, when it finds one, begin aggregating a new image set. If the user checks “Extract QR code data for set names,” Confero will assign the text encoded within each QR code to its image set.



2. Time interval

By inputting a time value smaller than the shortest interval between two image sets (shown below), Confero will compare this value to the difference between the time-stamps of each file in the session. Every time Confero finds a time interval between the time-stamps of two files that is larger than the inputted value, it creates a new set and begins adding images to it.



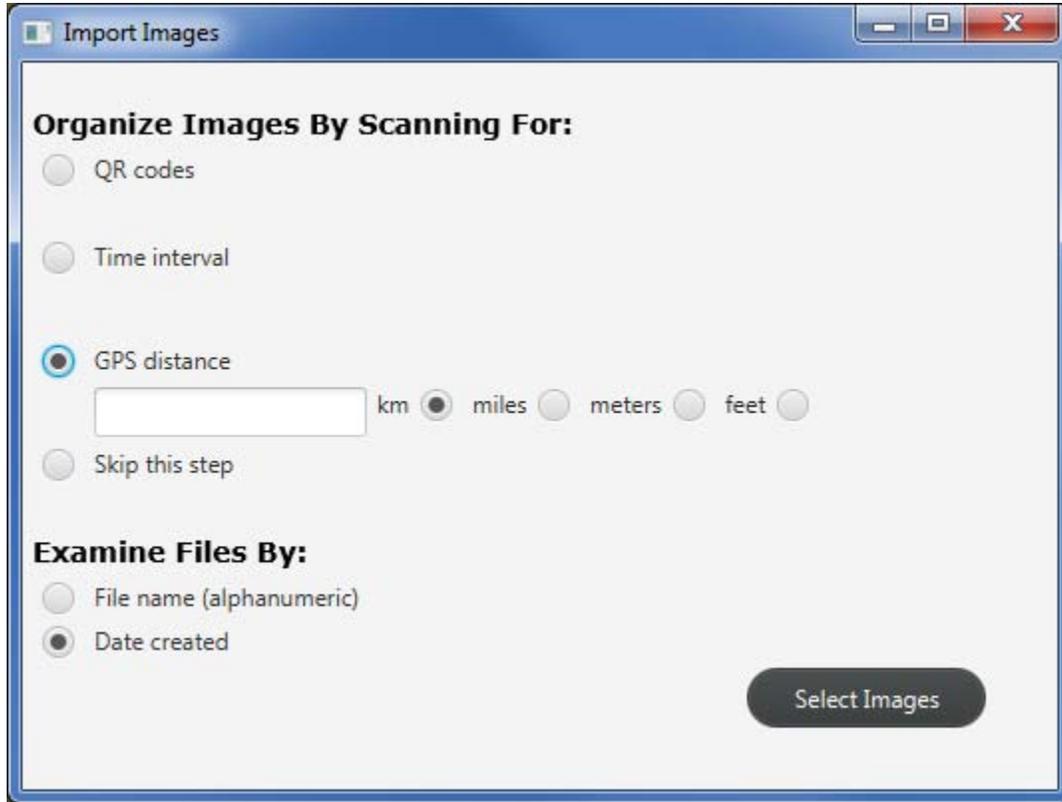
So, if the user is collecting images with a Critter Cam, Confero can automatically regroup images according to each sensor activation.

Example: if a user set their Critter Cam to take 10 images at 2 second intervals whenever its motion sensor activated, inputting 3 seconds into Confero's "Time interval" field would lead the software to automatically regroup all of the images into sets of 10 that begin with the first image from each sensor activation.

NOTE: If a camera or scanner does not add Exif data to the image files it produces, Confero uses each file's date-created time-stamp.

3. GPS distance

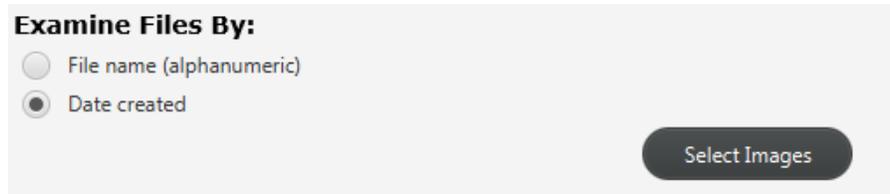
Some devices add GPS coordinates to the Exif data in their image files. To utilize this data to sort images, click “GPS distance,” select the correct unit of measurement and input a value. If the distance between two images is larger than the inputted value, Confero will create a new set. Before using this function, consult “Preparing to Sort Sets Via the Geographic Distance” on pg 8.



4. Skip this step:

This option imports all images from the session into a single set and displays it in the set box.

Examine Files By:



Examine Files By:

File name (alphanumeric)

Date created

Select Images

- *File name (alphanumeric)*: Confero will examine the session’s images in alphanumeric order. This function is useful if the user added files to the session or modified image file names before importing them into Confero.
- *Date created*: This function uses each images’ Exif data to sort the session’s files. If the images lack Exif data, Confero will use the image files’ date created metadata.

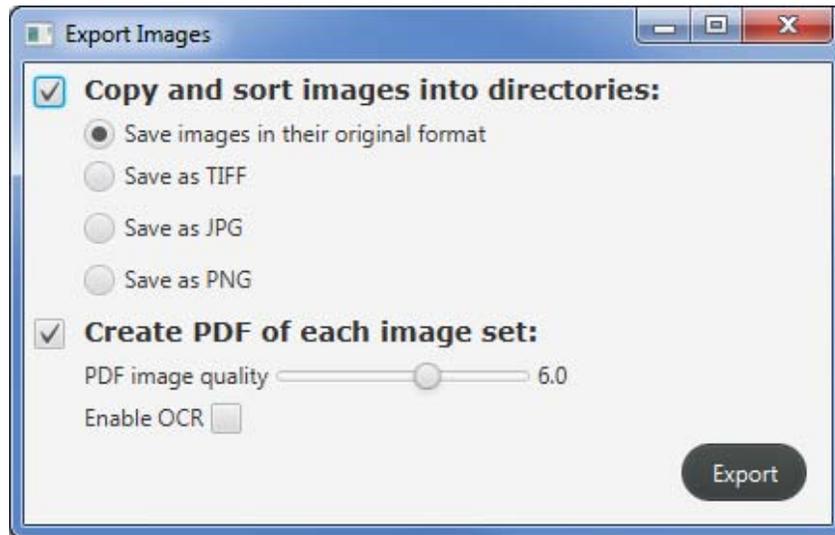
Select Images”

Once the import options are selected, click the “Select Images” button, navigate to directory where the session’s images are stored, highlight image files by clicking the first and last files while holding the “Shift” key, and then click “Open.”

A loading bar will appear at the bottom-left corner of the window to report Confero’s progress.

Export Images

The users finish manipulating and naming image sets, they can output their work by clicking on File → “Export Images.” The popup window (shown below) provides the following options:



Users can then choose from up to two output options:

1. *Copy image set(s) to new directories.* Use this option to:
 - i. Copy the session’s original files into new file directories using the names from each image set or,
 - ii. Convert the session’s original images into TIFF, JPG, or PNG file formats.
2. *Create a PDF of each image set.* Use this option to:
 - i. Export sets with one than one image as a multipage PDF.
 - ii. Determine the PDF’s image quality by moving the slider. Select 1 for low image quality and small file size. Select 10 for high image quality and large file size.
 - iii. Enable OCR (Optical Character Recognition) to bulk OCR all exported images.

After the user clicks “Export” and selects a directory where the new files will be stored, a loading bar will appear at the bottom left-hand corner of the window to report Confero’s export progress.

Menu Bar: Edit

The edit menu allows users to modify their session and / or sets using the following options:

Split Image Set

To split an image set, use the “Previous” and “Next” buttons or the page number box to navigate to the image that will begin the new set. Then click Edit → “Split Image Set.”

Merge Image Set(s)

To merge multiple image sets, click the applicable rows in the set box while holding the “Shift” or “Control” (OSX “Command”) key and then click Edit → “Merge Image Set(s).”

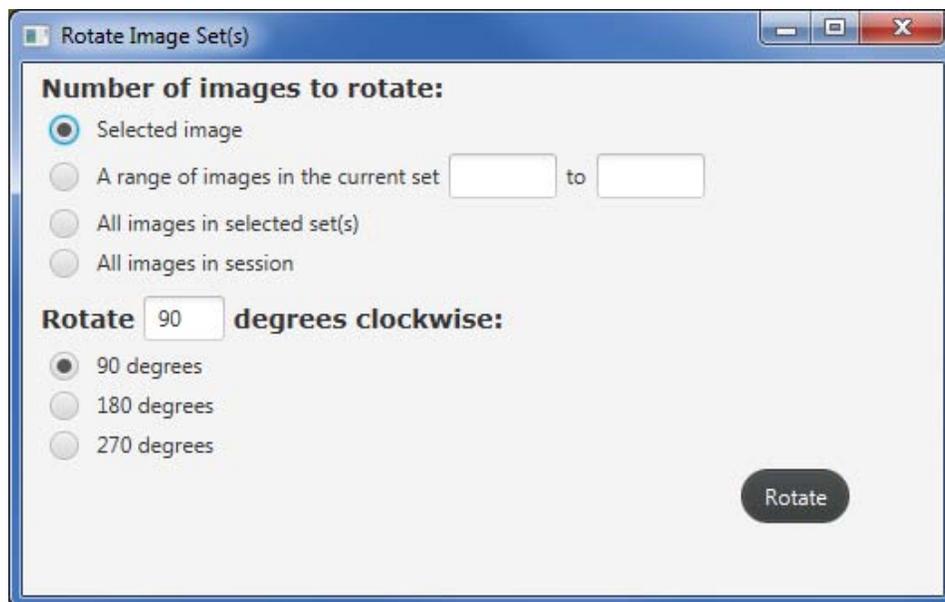
Delete Image Set(s)

To delete one or multiple image sets, click the applicable rows in the set box while holding the “Shift” or “Control” (OSX “Command”) key and then click Edit → “Delete Image Set(s).”

Rotate Image Set(s)

To rotate one, some, or all of the session’s images:

1. Choose the sets you want to modify by selecting them in the set box. To highlight multiple sets, hold the “Shift” or “control” / “command” (OSX) keys.
2. Click Edit → Rotate Image Set(s) or click the  button.
3. The Rotate Image Set(s) popup window will appear (shown below). Users can choose how many images from the set to rotate, or particular pages from the selected sets. Users can also enter the precise number of degrees to rotate clockwise, or choose one of the pre-listed value options. Click the “Rotate” button when done.



NOTE: Pressing “Return” or “Enter” in this window will rotate the images according to the inputted settings.

Menu Bar: CSV

Export to CSV

This function is useful for performing image analysis based on Exif data or recognizing images into novel sets using advanced sorting techniques.

Begin by clicking CSV → “Export to CSV.” After typing a file name and selecting the directory where the file will be stored, Confero will export the Exif data from every image in the session to a CSV file. A loading bar will appear at the bottom left-hand corner of the window to report Confero’s progress. The bar will be replaced with a message stating “CSV exported” when Confero finishes creating the CSV file.

The CSV file can now be edited using any spreadsheet program. When the user is finished sorting the rows in the CSV file, s/he should rename the cells in the “Set Name” column to reflect the new sets.

When this renaming process is complete, the user should save changes, return to a new session of Confero and perform the Import from CSV function (see below).

NOTE: Confero’s Import from CSV function (see “Import from CSV” below) only utilizes data in the “Set Name,” “File,” and “Path” columns. The number of additional columns in each CSV file will vary depending on the data that the user’s camera(s) or scanner(s) add to each image.

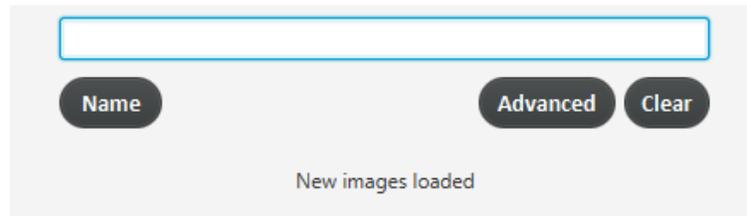
Import from CSV

After using the Export to CSV function (see above), users can import their modified CSV file back into Confero.

To do this, go to the Menu Bar and select CSV → Import from CSV. After navigating to the correct directory, click “open.” The sets will appear in the set box.

Naming Tools

When users first run Confero, a textbox appears with phrase “Your Text Here” (shown below). This is where users manually type all of their set names.

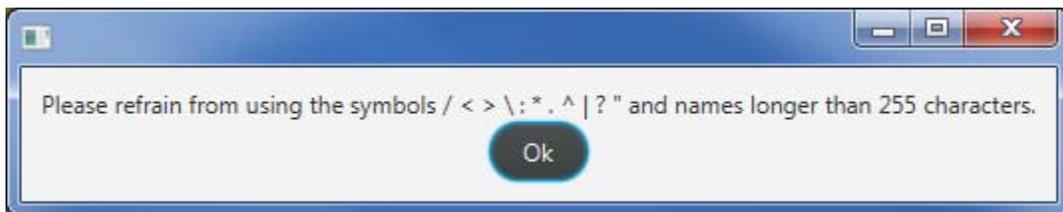


This portion of the interface has several important buttons.

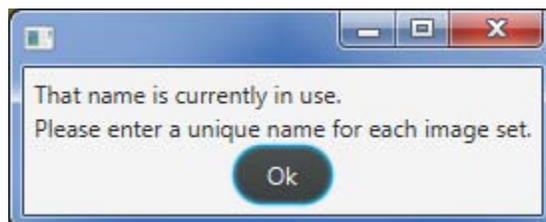
Name

When users finish typing a file name into the textbox, they can name the set by pressing the “Return” key or clicking the “Name” button. The inputted name will then display in the set box.

If the user-inputted name includes illegal characters or is too long for most computers’ file systems, a popup message will appear (shown below) describing correct file naming parameters.



If the user-inputted name is already assigned to another entry, a popup message will appear (shown below) explaining that the name is a duplicate.



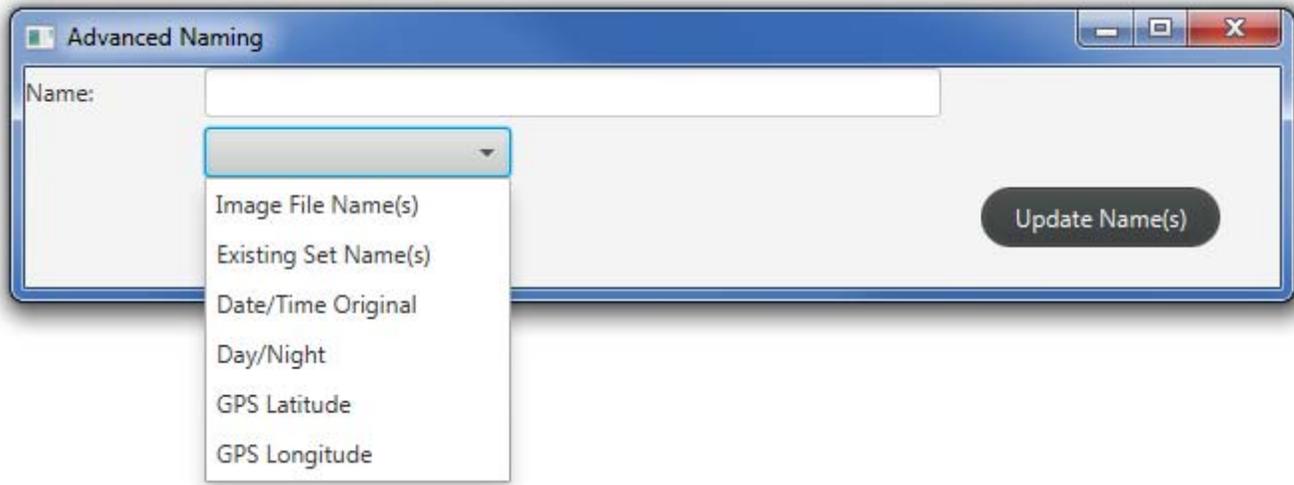
Clear

The clear button removes all text from the textbox.

Advanced

To name multiple sets simultaneously, or use Exif data to automatically name each of session's sets.

1. Highlight multiple sets from the set box.
2. Click the "Advanced" button.
3. A new window will appear (shown below).



4. Input custom text and/or use the dropdown menu to add Exif variables to set names. Users should note the following:
 - i. Variables displayed will vary depending on Exif data in session files.
 - ii. Users can resize the textbox by resizing the window.
5. Click the "Update Name(s)" button to update the set box display.

Preview Tools



Previous

Click this button to make the image preview box display the preceding image in the set.

Next

Click this button to make the image preview box display the next image in the set.

Rotate

Click this button to rotate some or all of the session's images. For more information, see "Rotate Image Set(s)" on page 16.

Zoom In

Click this button to make the image preview box zoom in.

Zoom Out

Click this button to make the image preview box zoom out.

Page Number Textbox

Enter a number into this field to skip to the corresponding image in the set.

Glossary

CFO: the file format Confero uses to store your session when users click File → “Save Session.”

CSV file: A comma-separated values file. Confero uses this file format to facilitate advanced sorting or analysis of images via most major spreadsheet programs.

Exif: Exchangeable image file format data is encoded in most image files. Confero can use this data for advanced naming or sorting functions.

JPG: (also JPEG), an acronym for Joint Photographic Experts Group compresses images to reduce their file size. This process impacts image quality, but most users will not notice the difference.

PDF: An acronym for Portable Document Format. This format is multipage, compressible, can be imported into Optical Character Recognition (OCR) software, and is also ideal for annotating or importing into reference managers (ex. Zotero).

PNG: Portable Network Graphics format. This format is not ideal for photos and is most often used by web designers.

QR Code: An acronym for “Quick Response” code. Confero uses them because they are easy for software to spot in photographs. QR codes store data that can be used to create file names.

Session: a series of sets produced using Confero. These are accessed in the Set Box on the left-side of the Confero window.

Set: a series of images that will be grouped into a directory or multipage PDF.

TIFF: An acronym for Tagged Image File Format. These images are better than JPGs at preserving an image’s data over time because they do not support significant compression. TIFF are consequently much larger files than JPGs of the equivalent resolution.