FSEQ™ USER MANUAL

Version 2

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Versions history

Number	Date	Modifications
1	October 26, 2020	Release
2	June 30, 2021	Revision: creation of desktop shortcut

Contents

1 Installation, registration, and license

Run the fSeq_setup.exe program, which will install fSeq in your computer in a folder of your choice (the 'installation' folder).

After the installation, the installation folder will contain two sub-folders: software and docs. One of the files in the software sub-folder will be fSeq.exe. This program is used to launch fSeq. However, it is not portable; it must be launched only from within its folder. Optionally, the setup program will create a shortcut to fSeq.exe on your desktop to avoid navigation to the software folder whenever fSeq is to be launched. *Note: if the desktop folder path is not the Windows default, the shortcut will be saved in the installation folder. You can then move it to your desktop.*

The installation folder (with all its contents) can be moved to another location.

The docs sub-folder will contain this manual, the software license agreement, and a stereo portrait, which can be used to test fSeq.

In the first time that fSeq is launched you will be asked to register the software. You may register it as ‘trial’ and use it free of charge for 30 days. After that, you will need to purchase a license key to continue using the software.

Registration of the software is regarded as consent to the license agreement terms.

2 Introduction

2.1 General

3D lenticular print requires a sequence of images, typically 10, whereas a stereo image has only two images. The primary function of fSeq is to compute the lenticular sequence.

The program runs on Windows 64 bits machines and was tested on Windows 10.

2.2 Features

- Supports transparency
- Automatic background insertion
- Simple user interface
- MPO file format accepted
- Option for parallax balancing
- Outputs parallax data for lenticular picture

2.3 Quickstart

fSeq comes with two examples of stereo photographs: one with a background and another without. A background for testing the ‘Add background’ feature is also included. These graphics files are in the ‘fSeq documents’ folder in the installation folder.

3 fSeq output

fSeq primary output is the lenticular sequence. The success of this computation is not guaranteed. The computed sequences may contain various defects, which are caused by obscurations and other factors. In many cases, these defects may be acceptable, but they may also render the sequence unusable. The user is referred to the corresponding Pop3DArt blog post for more information.

The program creates two sequences, called "forward" and "backward." In the forward sequence, the first image is identical to the first image of the stereo pair (to be more precise, the left image in the submitted job window). In the backward sequence, the last image is identical to the second image of the stereo pair (the right image in the submitted job window).

If the computation is successful, both sequences will look remarkably similar. However, closer inspection will usually reveal small visual defects in both. The user may choose the sequence which is the cleaner one of the two.

fSeq also gives the extremal relative parallax values of the stereo image. The maximal value corresponds to the parallax of the extreme front object point if the left and the right images in the submitted job are the left and the right views correspondingly. Likewise, under the same conditions, the minimal relative parallax value corresponds to the extreme back object point.

These values can be used to estimate the maximal size of the lenticular picture which can be made from the stereo photograph, as explained in the Pop3DArt blog post.

4 fSeq execution

At first, fSeq prompts the user to open the stereo pair. Multiple images may be chosen in the first open file dialog. If more than two images are opened, fSeq will choose two and ignore the rest. If only one image is opened, fSeq will prompt the user to open the second image.

Once the stereo pair is opened, the job window will appear.

4.1 The stereo pair

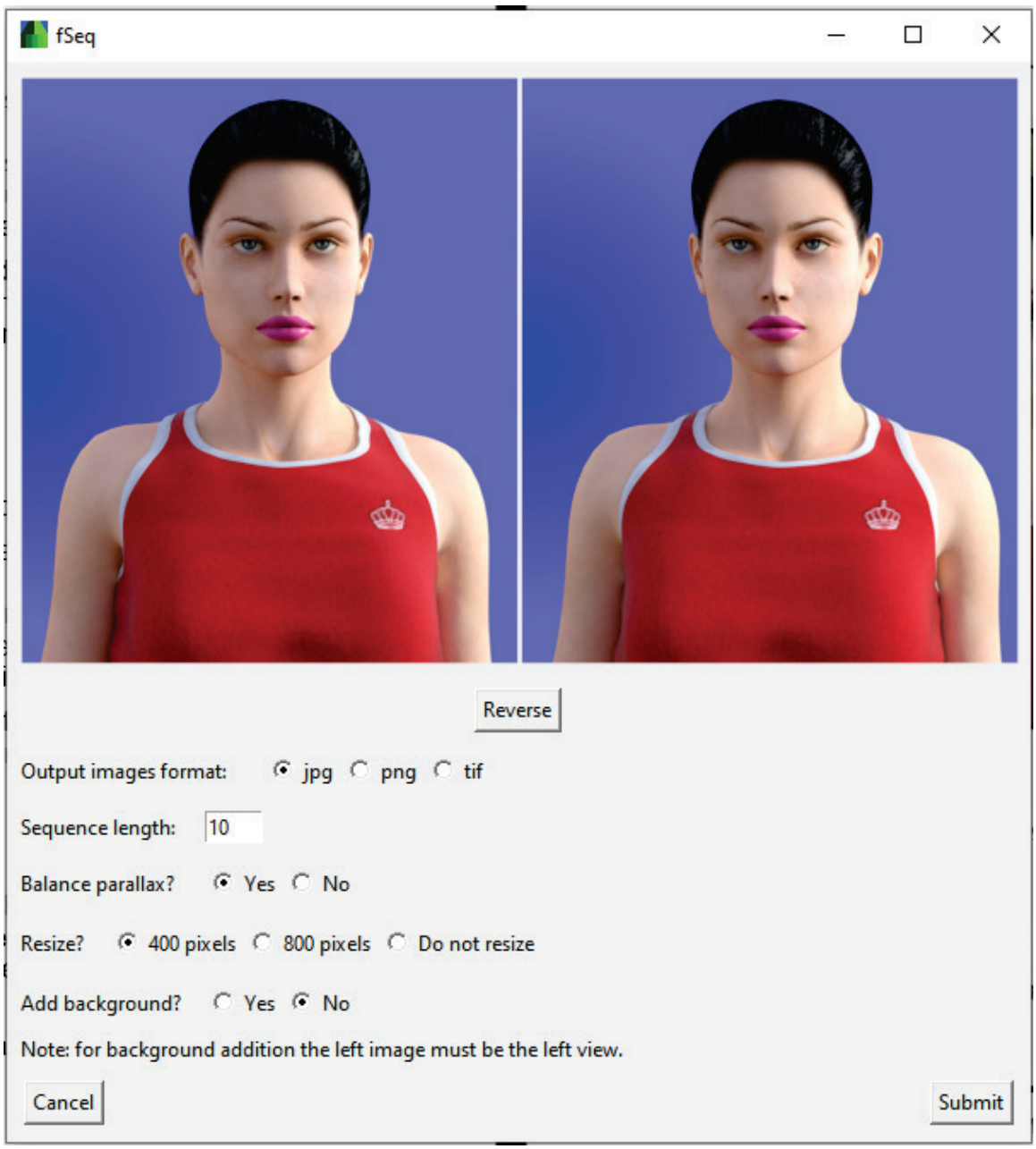


Figure 1: The fSeq job window for the example photograph

The chosen pair of images is presented in the top part of the window. The button just below the images allows the user to reverse the two images. If the user opts to add a background, the left and the right images must contain the left and the right views respectively (as shown in Figure 1). This can be adjusted using the reverse button.

4.2 Output images format choice

In this row, the user can choose the format of the sequence images (jpg, png, or tif). The default is jpg.

If the input images have a transparent background, you must choose either ‘tiff’ or ‘png’ as the output format to get the sequence with a transparent background too. If you opt to add a background, you can use any format for output.

4.3 Sequence length

Here the user can enter the desired number of images to be computed for the sequence. The considerations for choosing this number are explained in the Pop3DArt blog post.

The lower limit on this number is 2, and the maximal number is limited by the computer memory. The default is 10.

4.4 Parallax balance

The user can ask fSeq to adjust the computed sequence parallax so that the magnitudes of the front and the back parallaxes will become equal. Balancing brings two benefits:

1. Reduction of the probability of the appearance of visual defects in the sequence,

2. Increasing the lenticular picture size limit.

Balancing will cause a small amount of horizontal cropping. Note: the balancing reduces the difference between the front and the back relative parallax magnitudes but does not nullify it absolutely due to algorithmic limitations.

It is generally recommended to allow fSeq to balance the sequences unless the user has reasons against that.

4.5 Resize

The pixel sizes of stereo images are usually much larger than needed for a lenticular picture. The minimal number of horizontal pixels in the image is the number of lenticules in the picture. Twice that number is more than enough.

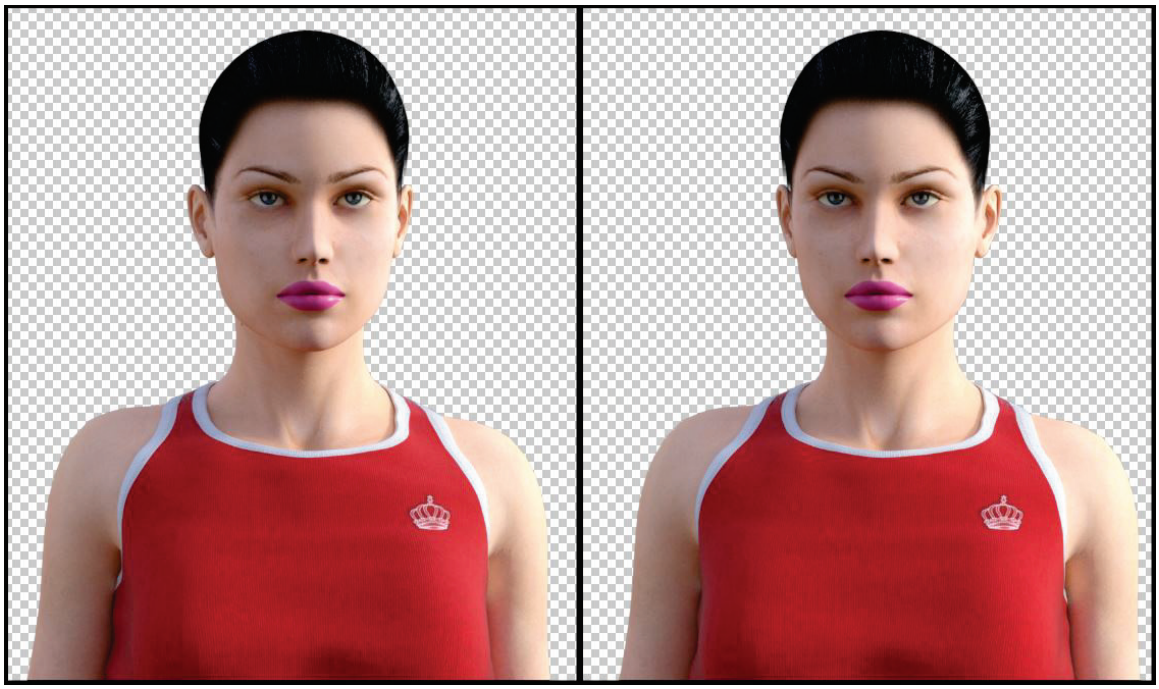
fSeq processing time is proportional to the number of pixels in the stereo images. Therefore, to save time, the pixel sizes of the images should be reduced to what is needed before submission to fSeq analysis.

fSeq offers an option to resize the stereo images before processing (this will not modify the original stereo images on your PC). Two standard sizes are available: 400 and 800 pixels (in the horizontal direction). The first size may be used as a test to see whether the computation of the sequence succeeds. The 800 pixels size is sufficient for most lenticular pictures.

4.6 Add background

This option allows the addition of a background. Any image can be used as a background. However, its aspect ratio (width/height) must be slightly larger than the photograph image. Otherwise, black bars at the sequence images edges may appear.

A background can be added only to a stereo pair with transparency. A stereo pair with a transparent background is included in the fSeq documents folder. It is shown in the image below. There is also a background image which you can use in combination with this pair for testing.



4.7 Execution

The processing starts as soon as the job is submitted. fSeq will show its progress through special messages. When processing ends, the user will be prompted to choose a directory for saving the results. The two sequences will be saved in separate subfolders. In addition, a text file 'parallax_data.txt' will be saved too. It will contain the maximal and the minimal relative parallaxes of the stereo pair used for the computation (which may be different from the original stereo pair if balancing is done).

5 Links

fSeq product page: https://www.pop3dart.com/fseq-software

Picture order page: https://www.pop3dart.com/fseq-picture-order

Customer support: info@pop3dart.com