

ULR Renderer v1.0 (alpha)

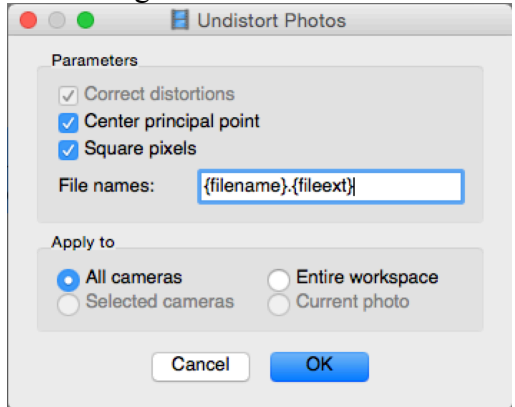
Java Runtime

You must have version 1.8 of the java runtime (JRE) installed to run the renderer.

It can be obtained from <http://java.com>

Quick Start Guide

Follow these instructions to load a model that has already been processed by PhotoScan

- Export the data from PhotoScan
 - Exporting the Model:
 - Select “File→Export Model...” from the menus
 - You can save it anywhere you like but make sure the type is “Wavefront OBJ”
 - The default export parameters are sufficient
 - Exporting undistorted images:
 - Select “Tools→Export→Undistort Photos...”
 - The settings should look like this:
 - Click OK and point it to a directory to place the images
 - Note: you can replace {fileext} with a specific image type (such as png) and it will convert the exported files to that type however, if this is different from the type of the original images you may experience issues.
 - Exporting Camera Positions:
 - Select “Tools→Export→Cameras...”
 - Make sure the type is set to PhotoScan XML
 - You can name it anything you like
- Run the ULF Renderer and click the ‘Load Single’ button
 - Point it to the XML file you exported
 - Then point it to the OBJ file and the folder with the undistorted images
 - Please wait while the images are loaded (this may take some time especially for high-resolution images)

Loading the Zip file examples

A few prepared examples have been included as Zip files that are a bit easier to load:

- Start the ULR Renderer and click the ‘load single’ button
- Change the type to Zip Archive
- Select the example you want to load

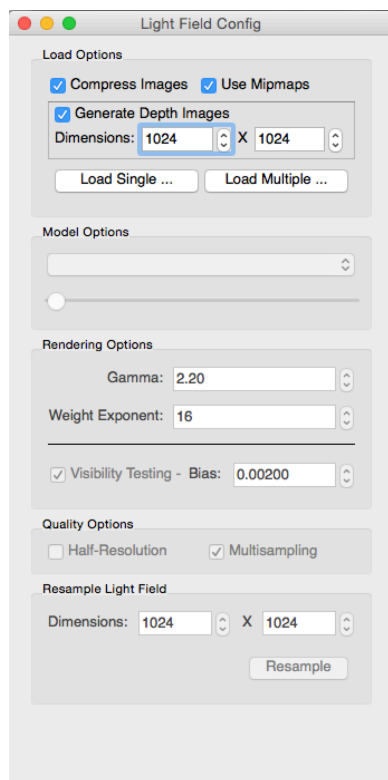
Note: this will only work with the prepared zip examples. We will include some instructions at a later time for creating your own zip archives.

Controls

You can interact with the loaded object as you would with most objects in other 3d programs. This is often referred to as a ‘trackball’ controller:

- Click and drag to rotate around the object’s center
- Use the mouse scroll wheel to zoom in and out

Settings Window



The settings window at the left of the main object helps control the renderer. The default options should be a good starting point but some changes will help improve performance:

- Weight Exponent
 - Adjust lower to avoid black areas where no good views were available.
 - Adjust higher to get a sharper image.
- Half-Resolution
 - Render at half the native resolution (faster but will appear pixelated)
 - This is recommended when on a Retina display
- Compress Images, Use Mipmaps & Generate Depth Images
 - Controls use of GPU memory.
 - Disabling ‘compress images’ will slightly improve rendering quality but use *more* memory.
 - Disabling use Mipmaps or Generate Depth Images will use *less* memory but may result in rendering artifacts.

Bug Reporting

If the program crashes, ULF Renderer will automatically gather information about your system and where the crash occurred and offer to send it back to the developers for analysis. All information sent is anonymous info about your computer hardware used for the purposes of analyzing the error. No identifiable information is sent.

You can also manually trigger a bug report with the ‘report bug’ button at the bottom of the settings window. This gathers the same information that would be gathered in the event of a crash and offers to send it back to the developers. Note that it is VERY important to include a detailed description of the bug you are experiencing when sending this kind of report as very little can be determined from the crash report alone.

Troubleshooting

Here are some known problems and tips for fixing them:

- The model is very slow to respond and rotate.

This usually means your system is not powerful enough to render the model. You can improve performance by checking the ‘half resolution’ checkbox. This will decrease resolution but dramatically improve performance. You can also try unchecking the ‘multisampling’ checkbox however this options is still experimental and may not have any noticeable effect.

- The program crashes while loading a model.

There are several possible causes of this issue and examination of the crash report can help. Contact the developer for feedback to help troubleshoot. Some common problems to check:

- View image files are corrupted or not supported.
- Too much memory was requested from the video card.
 - In this case, try enabling compression or disabling depth images prior to loading the model.

- Progress of loading a model is not shown.

This is a known issue that will be fixed in a new version. For now, you must wait for the model to load. Most models should load within 60 seconds. However, models with more views or high-resolution images or loaded from slower storage medium may take much longer.

- Some views have a strange color tint (especially the default, straight on view).

This problem has been observed on older Mac hardware (non retina display MacBook Pros). If you are experiencing this please submit a manual bug report so we can associate it with your particular hardware as well.