Agisoft Metashape

Objects as Curriculum Workshop

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Before you start

Metashape will accept JPEG or TIFF files for processing. If you have shot in RAW, you must convert the files using an image processing application such as Adobe Lightroom.

To get the best results you should keep each angle or pass around the object as a separate camera group. Organize your files in a way that you know the starting file name and ending file name of each pass.
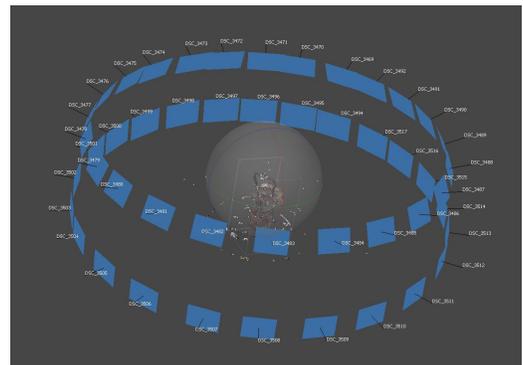
Workflow

Import Images

Drag your sets of images to Chunk 1 or Right click on Chunk 1 and choose Add → Add Photos and select your images from the appropriate folder.

Arrange your images in camera groups

1. Expand the Cameras folder by clicking the small triangle to the left of the name.
2. Right click on Cameras and select Add Camera Group for each pass or angle.
3. Select your images for each pass and drag them to the group. For example select image DSC_0001 and shift+click DSC_0024 to select that range then drag them to Group 1.
4. Repeat until you have each pass in a separate group.

Align Cameras

1. From the top menu select Workflow → Align Cameras
2. Set Accuracy to High and click OK
3. Metashape will now calculate the camera positions of each image and create a sparse point cloud
4. The ideal dataset will show rings of camera positions around the object for each group

Build Dense Point Cloud

1. From the top menu select Workflow → Build Dense Point Cloud
2. Set Quality to High and click OK
3. Metashape uses the distance from each camera to the object to generate a cloud of points that outline the object's shape

Build Mesh

1. From the top menu select Workflow → Build Mesh
2. Set Quality and Face Count to Medium and click OK
3. Metashape will use the Depth map to generate a mesh between the points
4.

Build Texture

1. From the top menu select Workflow → Build Texture
2. Leave the settings at default and click OK
3. Metashape will use the RGB data from each image to create a texture file for the model

Export Model

1. From the top menu select File → Export → Export Model
2. Select the destination folder for your model and name it then click Save
3. Check Export texture and select JPEG and click OK

Tips

- **Realign cameras** - if some of your camera positions are incorrect you can try to realign the camera by right clicking the image and selecting Reset Camera Alignment for each one that is out of place. The repeat the Workflow → Align Photos and set the Accuracy to Highest. If this is unsuccessful you can try to process the object using the remaining camera positions or you may have to take additional photographs.

- **Camera Groups** - make sure that each angle or pass is in a separate camera group

- **Out of Focus Images** - You can preview the images in your sets by double clicking the image name. If you have any that are out of focus or are duplicates, remove

them from the set by right clicking and selecting Remove Cameras. You can close the image preview with the small X at the top of the image tab

- **Large polycount** - Meshes can be very large. You can reduce the number of Faces in the model by going to Tools → Mesh → Decimate a setting a lower target number. You cannot undo this step and will have to rerun the Build Mesh process if you do not get the results you wanted

- **Keep the texture file and model file together** - When moving the files around on your computer or copying them to external drives, always keep the texture file and obj files together

Next Steps

1. You can reduce the number of polygons or faces of the mesh using Metashape.
2. You can open the exported .objj file in Blender or another 3D modelling application to clean up the mesh by removing stray points or extra geometry. This is an important step before loading in Sketchfab or outputting the file for

Success!

You now have a textured 3D model that can be uploaded to Sketchfab.com or processed further for use in a game engine or website