Getting the Best Photos

Objects as Curriculum Workshop

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Ideal Objects

The ideal object for photogrammetry capture has a matte surface and lots of detail. Anything too shiny or uniform will not work well in the photogrammetry application.

Before you start

Most photogrammetry applications process JPEG files. Be sure to set your camera to capture JPEG or be familiar with the workflow to convert RAW files to JPEG.

Capture Process

High Angle

1. Starting from your first position shoot downwards at a 30 degree angle framing the whole object.
2. Moving in a circle, work your way around the object is 10-15 degree steps getting 60% overlap between images. This will result in 24-36 photos.
3. Do not change your distance to the object or your angle.

Low Angle

4. Starting from your first position shoot upwards at a 30 degree angle framing the whole object.
5. Moving in a circle, work your way around the object is 10-15 degree steps getting 60% overlap between images. This will result in 24-36 photos.
6. Do not change your distance to the object or your angle.

Extra Detail

If you have an object with a lot of surface detail, make additional passes around the object capturing just the details. For example if you are capturing a statue, you may want to get additional photographs of the face and head.

Tips

- **Shoot on manual focus.** This helps you maintain your distance to the object. If it is out of focus, step forward or back until it is back in focus. This will also prevent getting photos that are blurred on different parts of your object.

- **Smartphones** - many smartphone apps have manual settings or can lock the exposure. The last thing you want is the photo becoming too bright or dark because the app changed the exposure for you. Explore your favourite camera app to find these settings.

- **Flat light.** The best light to capture your object in will be an overcast sky if you are outside, light from a North window if you are inside on a bright day, or diffused light using umbrellas or softboxes if you are using flashes or studio lights. Soft indirect light creates an even surface with no highlights or dark shadows.

Next Steps

1. If you are using a stand alone camera (DSLR, Mirrorless, Point and Shoot), transfer your images from the memory card to your computer. Save them in a folder labelled Photogrammetry/Model_Name
2. If you are using a smartphone, transfer the photos to your computer using a USB cable or an online service like Google Photos or Apple Photos. Save them in a folder labelled Photogrammetry/Model_Name

Success!

You now have your photos ready to process. Refer to the work-sheet for your preferred photogrammetry application.

Agisoft Metashape https://www.agisoft.com/downloads/installer/

3DF Zephyr Free https://www.3dflow.net/3df-zephyr-free/

Meshroom https://alicevision.github.io/