

Technical Guidance Sheet

ACCORD: Archaeology Community Co-design and Co-production of Research Data

You may or may not have experience of working with 3D modelling technologies- but do not fear! The software and applications used in ACCORD are easily accessible and generally can be done using consumer level equipment, cameras, smartphones, and tablets.

There are some helpful guides on photogrammetry and RTI (Reflectance Transformation Imaging) available here; <http://culturalheritageimaging.org/Technologies/RTI/> & <http://www.123dapp.com/howto/catch>
The 3D printer we have is the <http://store.makerbot.com/replicator2>

1. When choosing a monument or site for 3D recording, consider the following;

- Objects or monuments with soft undefined edges are not suitable for 3D recording techniques.
- Try to avoid objects or monuments with features obscured by vegetation growth (unless this is unavoidable or not going to affect the details of interest for recording).
- Bear in mind access issues- it is best to choose objects which you can see all of, or which you can walk around/ into. In some circumstances there may be gaps/ obscured areas, which we can either fill or leave partial, using modelling software.
- Highly reflective surfaces (glass or water for example) are challenging for 3D recording techniques.

2. Have a go at 3D recording yourself! Do share what you create on the blog

(<http://accordproject.wordpress.com/>), facebook group

(<https://www.facebook.com/accordprojectcommunity?ref=hl>) and twitter @ACCORD_project

Below are links to some photogrammetry and 3D modelling applications and software downloads which are freely accessible. Photogrammetry only requires a camera, and tripod if you have one, access to a PC/laptop/smartphone/tablet with model viewer and you're off! Have a go and see for yourself what does and does not work well.

Photogrammetry (also known as Structure from Motion, or SFM for short);

Photosynth; <http://photosynth.net/> be wary of this one as Microsoft keeps a copy of everything you create)

Agisoft photoscan; <http://www.agisoft.ru/products/photoscan/> (free license on its way!)

123D Catch <http://www.123dapp.com/catch>

Photogrammetry 3D Model Viewers;

Stl Viewer <http://sourceforge.net/projects/stlviewer/>

Meshlab <http://meshlab.sourceforge.net/>

Sketchfab <https://sketchfab.com/faq> (Sketchfab uploads your models to an online forum so that they are accessible to anybody online).

Reflectance Transformation Imaging (RTI for short!):

RTI builder and RTI viewer; http://culturalheritageimaging.org/What_We_Offer/Downloads/ (2 separate downloads).

For the above to work you will need the latest Java installed; <http://www.java.com/en/>

And a PTM (Polynomial Texture Mapping, blurgh!) fitter plugin;

<http://www.hpl.hp.com/research/ptm/downloads/download.html> (more info here

<http://www.hpl.hp.com/research/ptm/>)

3. Any more questions?

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