The OU Library 3D Scanning Lab Quick Guide

Who can use the 3D Scan Lab?

The 3D Scan Lab is available to all OU students, faculty, and staff. Before using the lab, you must take a one-time training course that will introduce you to the equipment and policies of the lab. Additionally, we are happy to collaborate on projects outside of OU that will benefit institutions and agencies within Oklahoma. Please get in touch if you are interested in collaborating!

Where is the Lab?

The Lab is part of the Emerging Technology Librarian Offices 149D. The office is located on the main floor of Bizzell in the NE corner. Look for a sign above the door that says Library Instruction Room.

When is the Lab open?

The Lab is currently open by appointment only. Please reserve a time on the 3D Scanning Lab website

How much does it cost to use the Lab?

The Lab and its resources are free to use by any collaborator.

What Can Be Scanned

What can I scan?

We recommend objects that do not have hair/fur, moving parts, or highly reflective or transparent surfaces. Additionally, very small objects can be difficult to capture with the technique. The scanning technician can work with you during the consultation meeting to determine if the object can be scanned.

Can I scan anything?

The library reserves the right to refuse any 3D scanning request. Lab use is dependent on the schedule of scanning technicians and the quantity of projects. Additionally, no one will be permitted to use the lab to create material:

a. Prohibited by local, state, or federal law.
b. Unsafe, harmful, dangerous, or poses an imminent threat to the well-being of others.

c. That violates another party's intellectual property rights (i.e. by scanning objects subject to copyright, patent, or trademark protection).

How big does the object have to be?

We are currently able to accommodate 3D scanning of small portable objects (about the size of a coffee mug) up to large scenes (i.e. rooms, buildings, etc.). Additionally, several ETL librarians have their drone pilot license and the Lab has the ability to assist in making drone image sets realized/visualized as 3D objects.

The object I want to scan cannot be moved. What do I do?

When objects are too large or too fragile to be moved, or have other lending restrictions, scanning technicians are capable of transporting the 3D capture setup and capturing the object(s) on site. We cannot currently lend out equipment to researchers.

The Scanning Process

How do you scan the object?

The Lab uses a process called photogrammetry which extracts 3D data from multiple photos in order to render a 3D object. The process allows the capture of not only the object's 3-dimensional shape, but also the color/patterns it exhibits.

How do I know it's accurate?

Accuracy of the model depends upon the project's goals—a model for research analysis will require a very high quality while models for visualization may benefit from lower quality versions to make them more easily viewed in a software program. All models created by the Scanning Lab have calibrated markers that allow
What equipment is available?

How long does this take?

3D scanning is a multi-step process. Before scanning can take place, the project must be submitted and approved by the 3D Scanning Lab (1-2 weeks). Actual data capture will depend on the size, location, and number of objects and can range from several hours to multiple days. Finally, processing the data is dependent on the number of items in the queue and the size/complexity of the object. You should budget at least 5 weeks for each model requested.
Can I get help scanning an object?

I want to publish the model I created in collaboration with the 3D Scanning Lab. What is the proper attribution?

When publishing a model created by Library Scanning Technicians we ask that you provide creation attribution to the Scanning Technician(s) and OU Libraries, i.e. Model and texture scanned/created by TechName and OU Library 3D Scanning Lab.

If you yourself made the model using any 3D Scanning Lab equipment you do not need to include an attribution. However, you may choose to include OU Library 3D Scan Lab in any acknowledgements.

OU Library 3D Scanning Lab Policy

The 3D Scanning Lab began at the University of Oklahoma libraries to address the needs of researchers on campus and the growth of 3D modelling in research studies. The service provides researchers with equipment, software, and consultation throughout the entire 3D modelling process, from project development through data capture, publication, and archiving. Our mission is the ease the financial and intellectual load for researchers that 3D modelling requires, while fostering innovative, replicable research of the highest quality. This document describes the research opportunities the 3D Scanning Lab provides as well as the terms of use.

Table of Contents

Roles and Responsibilities

3D scanning in the Bizzell Memorial Library is under the direction of the Emerging Technology Librarians.

Head of ETL: Authorizes scanning projects and equipment/supply requests; along with the head of scanning services, defines, reviews, and updates 3D scanning policies/rules

Head of 3D Scanning Lab: consults with researchers on project design; ensures quality control of 3D models; ensures timely delivery of model; orders equipment/supplies for scanning services; trains scanning technician(s); creates/maintains schedule of technician(s) availability; designs/leads workshops on campus; maintains records for all projects; uploads projects to archive; delivers projects to researcher with appropriate attribution/copyright information; along with the head of ETL, defines, reviews, and updates 3D scanning policies/rules

Scanning Technician(s): create and process 3D models; maintain schedule of work space use; checks equipment before and after scanning projects; provides training on proper equipment/space usage to User(s); troubleshoots model creation and processing with researchers; supervises/is available during use of space by researchers; assists in workshops; collects appropriate forms/materials; reports issues with equipment to head of scanning services and any repair action taken; liaise with user(s) concerning their projects

User(s): create and process 3D models after training; submit all appropriate forms/materials for project; ensure scanned materials do not violate policy stipulations; use equipment provided appropriately and for 3D scanning purposes only; reports any issues with equipment immediately to a scanning technician; returns all equipment in the condition it was received; follows all rules/policies outlined by 3D scanning; assumes responsibilities for model quality of self-generated models

Scanning Scope

The 3D Scanning Lab has the ability to scan objects ranging Scanning services are provided for the following:

1. Projects from OU researchers (students, faculty, and staff) that are for non-commercial research, long-term educational, or preservation purposes.
2. Projects that will have long-term, non-commercial benefits to at least 1 community of peoples from institutions and agencies within Oklahoma

The library reserves the right to refuse any 3D scanning request. Additionally, the 3D Scanning Lab may only be used for lawful purposes. No one will be permitted to use the lab to create material:

d. Prohibited by local, state, or federal law.
e. Unsafe, harmful, dangerous, or poses an imminent threat to the well-being of others.
f. That violates another party's intellectual property rights (i.e. by scanning objects subject to copyright, patent, or trademark protection).

By using the lab, the user is acknowledging that scanning violates no laws or otherwise infringes on the intellectual or cultural or moral rights of any third parties. The Library shall not be held responsible if User(s) violate these terms of agreement.

To request use of the 3D Scanning Lab, User(s) must submit a 3D Scanning Project Proposal Form. User(s) will receive an email within 2 weeks of submission to schedule a meeting to discuss the project. All projects must be discussed with a Scanning Technician and approved by the Head of ETL before scanning can take place.

Scanning Services

The 3D Scanning Lab in the library provides several 3D scanning options to User(s). These are:

- 3D Scanning and Model Processing
- Equipment Use
- Consultations/Workshops

3D Scanning

3D Scanning can be conducted by trained library staff in collaboration with the User(s). After submission of the Project Proposal Form, User(s) will meet with a Scanning Technician to discuss the scope and timeline of the project and identify any challenges it may present. The Scanning Technician will coordinate with the User(s) to schedule a time for scanning to occur. Scanning will occur in the library if the object(s) to be scanned is/are portable. The User(s) is responsible for transporting the object(s) and for communicating to the Scanning Technician(s) any restrictions on object handling (i.e., use of gloves, lights, flash photography, mounting putty, etc.). Once the object has been scanned, Scanning Technicians will process the scans and produce a 3D model as well as a record of the appropriate technical metadata. User(s) should expect a minimum turnaround of at least 3 weeks for each 3D model requested, although in cases where there is a large volume of projects, turnaround may be longer. 3D models will come in 1 of 3 packages, depending on the User(s) needs. These are:

1. Research Package: This package includes a high-resolution model, the data used to create the model, and the technical metadata.

2. Display Package: This package includes a medium-resolution model suited to faster performance in digital applications and for publication. The package also includes the data used to create the model, and the technical metadata.

3. Research + Illustration Package: This package would include all of the files from the Research Package as well as an additional decimated 3D models for illustration, and documentation of the process used to decimate the models.

Please note that the 3D Scanning Lab will only take on long-term projects in unique circumstances. When User(s) have a large volume of objects to scan, it is recommended that the first few objects be scanned by a Scanning Technician in conjunction with the User(s) and that the remaining objects be scanned by the User(s) taking advantage of the Equipment Loan and Use policy below.

When publishing a model created by Library Scanning Technicians we ask that you provide creation attribution to the Scanning Technician(s) and OU Libraries.

Equipment Use

User(s) may scan objects themselves using the Library's equipment. Equipment includes all the scanning equipment, the space, and a workstation with the processing software loaded on it. User(s) who would like to use the Library's equipment must first complete a training course that covers the proper use and care for all equipment in the space. (Note: this training course will NOT cover how to best capture a 3D scan. User(s) interested in learning more about the capture process and workflow should take advantage of the Consultation/Workshop Services listed below.)

When publishing a model using equipment from the 3D Scanning Lab, we ask that you acknowledge OU Library 3D Scanning Lab.

Consultations/Workshops
User(s) who need assistance capturing or processing their models may email the 3D Scanning Lab to schedule a meeting with a Scanning Technician. User(s) should describe any problems they are having and include screen shots if possible.

For those User(s) who are interested in learning more about the capture process and/or scanning workflow, they should check the DiSH calendar or 3D Scanning Lab website for information about upcoming introductory workshops. OU User(s) may also want to work with the 3D Scanning Lab to design a workshop geared toward a class, department, or interest group. For those interested in hosting a workshop in their class or on campus, please contact Scanning Services at least 3 months prior to the target workshop date.

Policy Review
This policy will be reviewed and updated by the Head of ETL and the Head of the 3D Scanning Lab at the end of every three years or when a new service is added to the 3D Scanning Lab. OU Libraries senior management team will review this policy before release.