KINTSUGI 3D BUILDER: User Experience Design & Implementation

AUTHOR: LUKE DENNEY

ADVISORS: MICHAEL TETZLAFF AND DARCY MAGDA HANNEN

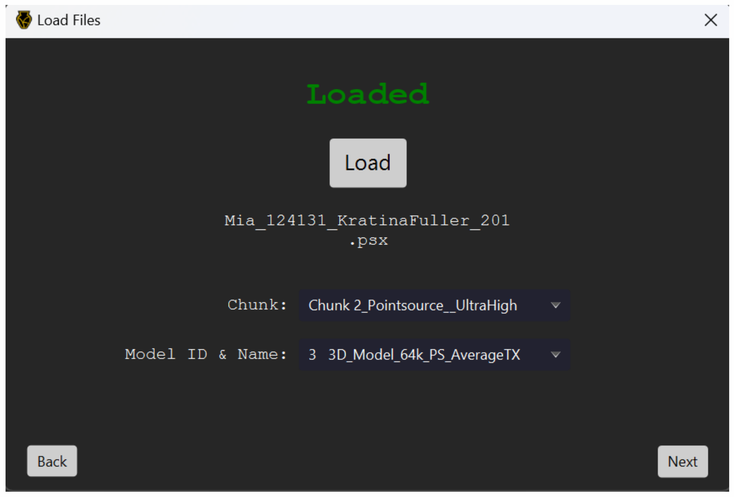
University of Wisconsin-Stout

Feature Developments

Improved Import from Agisoft Metashape

The original loader module required the user to export and upload three separate files.

The new module only requires a single Metashape project file, allowing the user to easily select their chunk and model from dropdown menus.

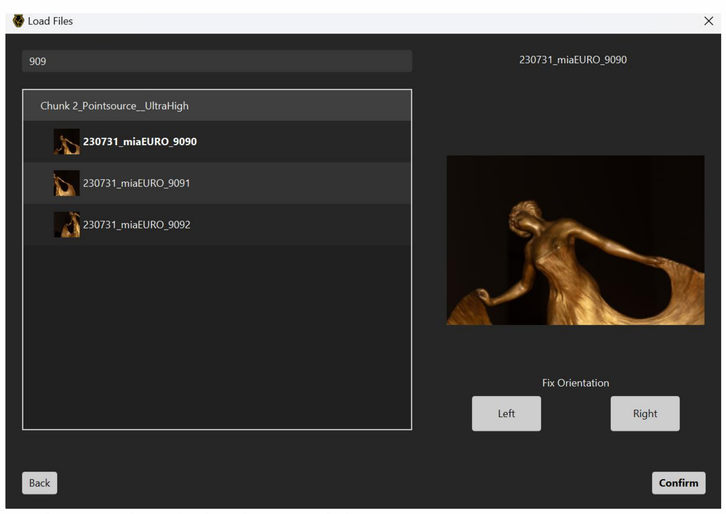


Metashape Import Modal

Primary View Selection

The original modal was simply a dropdown of image names.

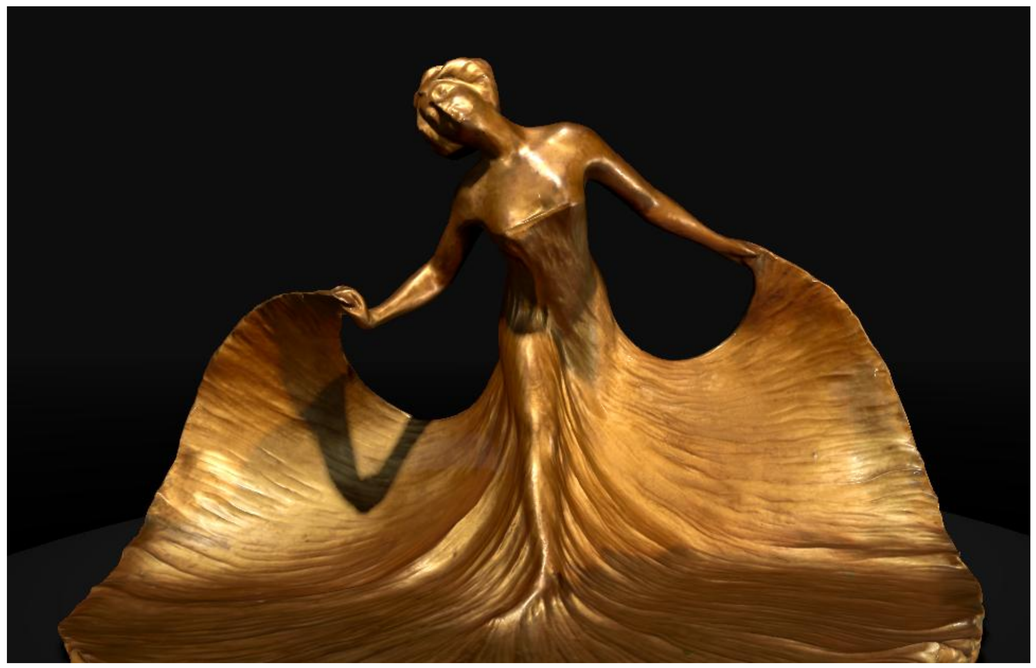
The new modal presents a searchable list of images to the user and lets them adjust the object's orientation in 90-degree increments.



Primary View Selection Modal

Abstract

Photogrammetry is the process of using 2D photographs to generate a 3D model of a real object. Developed by researchers at UW-Stout, Kintsugi 3D is a new software suite that allows users to import and process data from photogrammetry software to generate a more accurate digital representation of a 3D object. Using information derived from source photographs, Kintsugi 3D captures texture, color, material, and shininess more accurately than standard photogrammetry software. Being such complex software, Kintsugi 3D relies upon intuitive UI design and implementation to service both new and existing users. Notable UI contributions include direct import from photogrammetry software, a detailed progress bar, and a modal to select an image from a list of cameras.



"Loie Fuller" by Joseph Kratina, from the Minneapolis Institute of Art (2016.33.14), processed and rendered by the Kintsugi suite

Acknowledgements

This project was supported by a grant from the National Endowment for the Humanities (NEH PR-290101-23), a Minority Student Research grant from the National Science Foundation through the Wisconsin Louis Stokes Alliance for Minority Participation (WiscAMP) program, and a UW-Stout ORSP student research grant funded by the Stout University Foundation.

Student Research Supported By

UW-Stout Foundation & Alumni Association

Minneapolis Institute of Art

NSF

chi

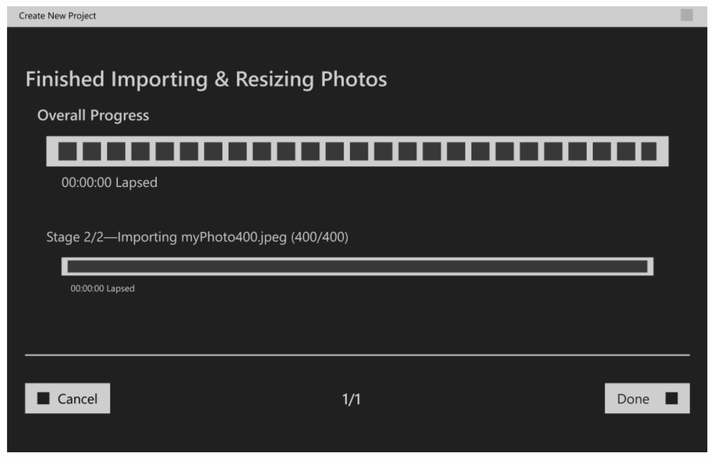
Scan Me!

Detailed Progress Bar

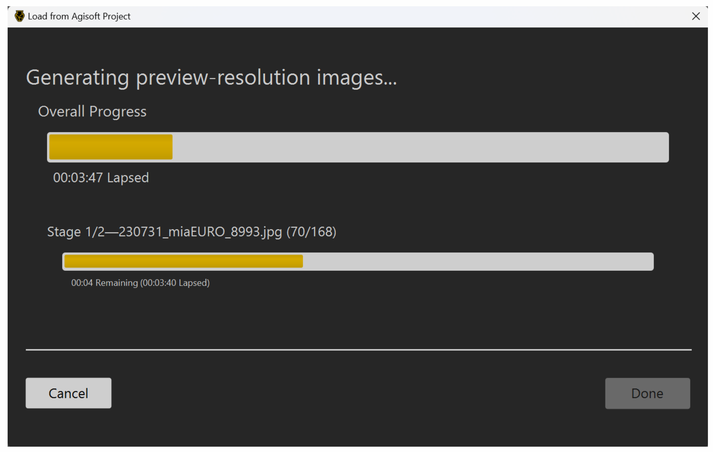
The original progress bar was a pain point for our users, often filling several times for a single task and providing little information.

The new progress modal provides loading time estimates, overall time elapsed, and options to cancel or minimize the modal.

Original Progress Bar



Progress Modal Wireframe, created in Figma by Hannen



Current Progress Modal

Current Progress Modal, minimized