User Experience of Visualizing Empirically-Based Textures in Kintsugi 3D Builder

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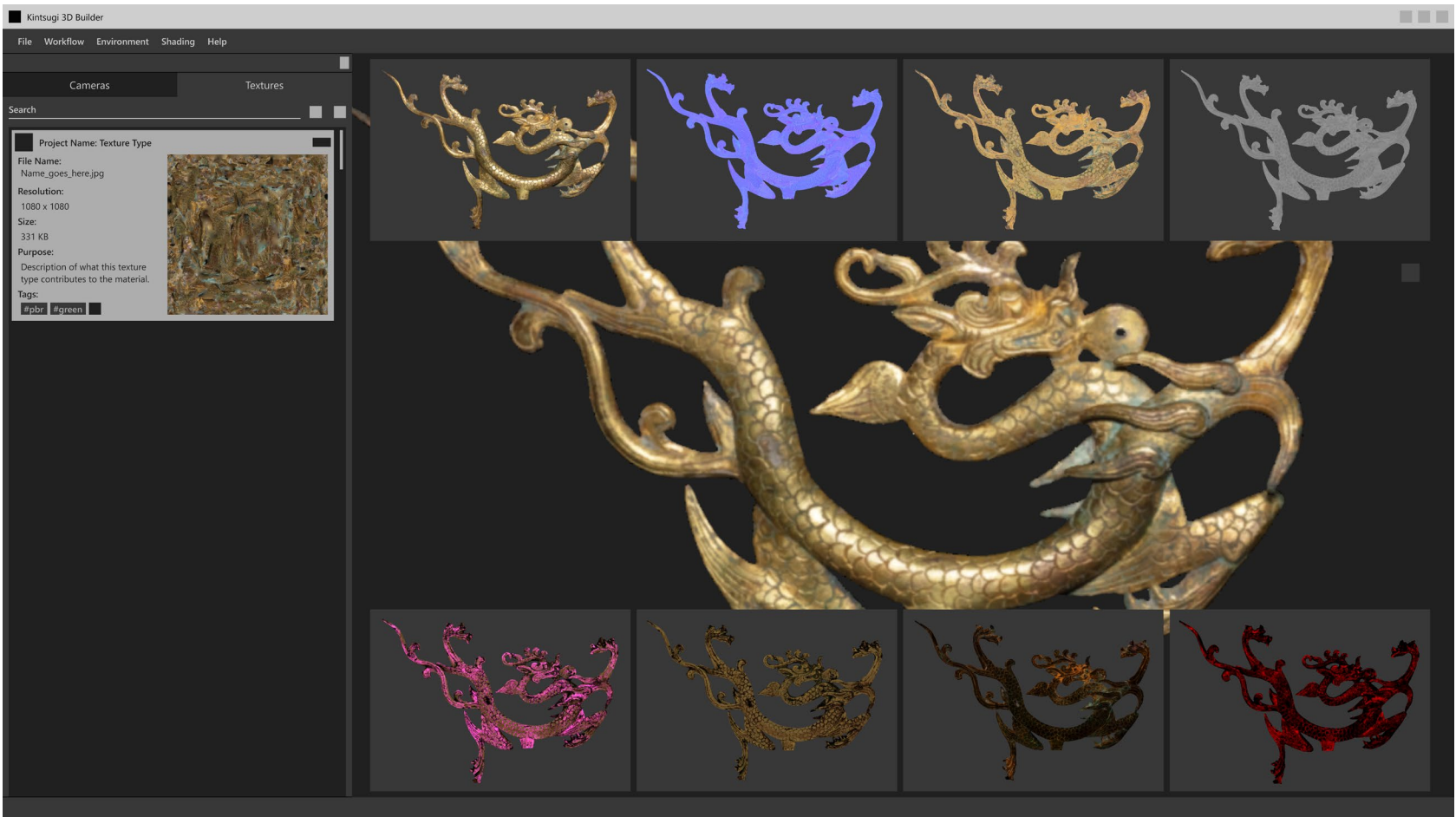
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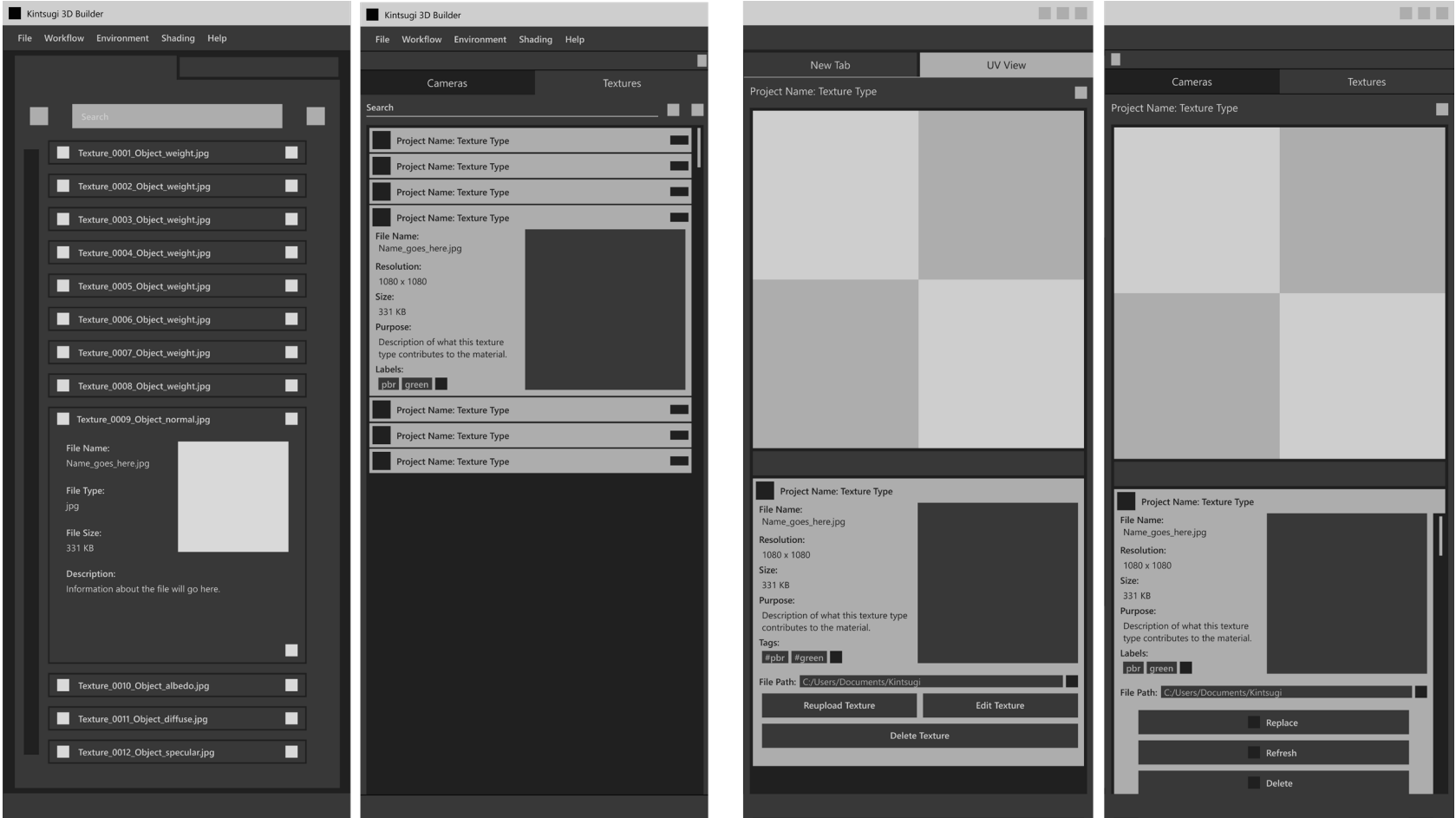
INTRODUCTION

Kintsugi 3D Builder is an app designed to archive and increase access to items of cultural historic significance. Kintsugi 3D Builder extends photogrammetry workflows by converting photographs of artworks into empirically based materials for digital 3D models, which can then be made available for viewing online.

Problem: Current users have expressed a desire to perform manual interventions to correct errors that sometimes occur in the software process.
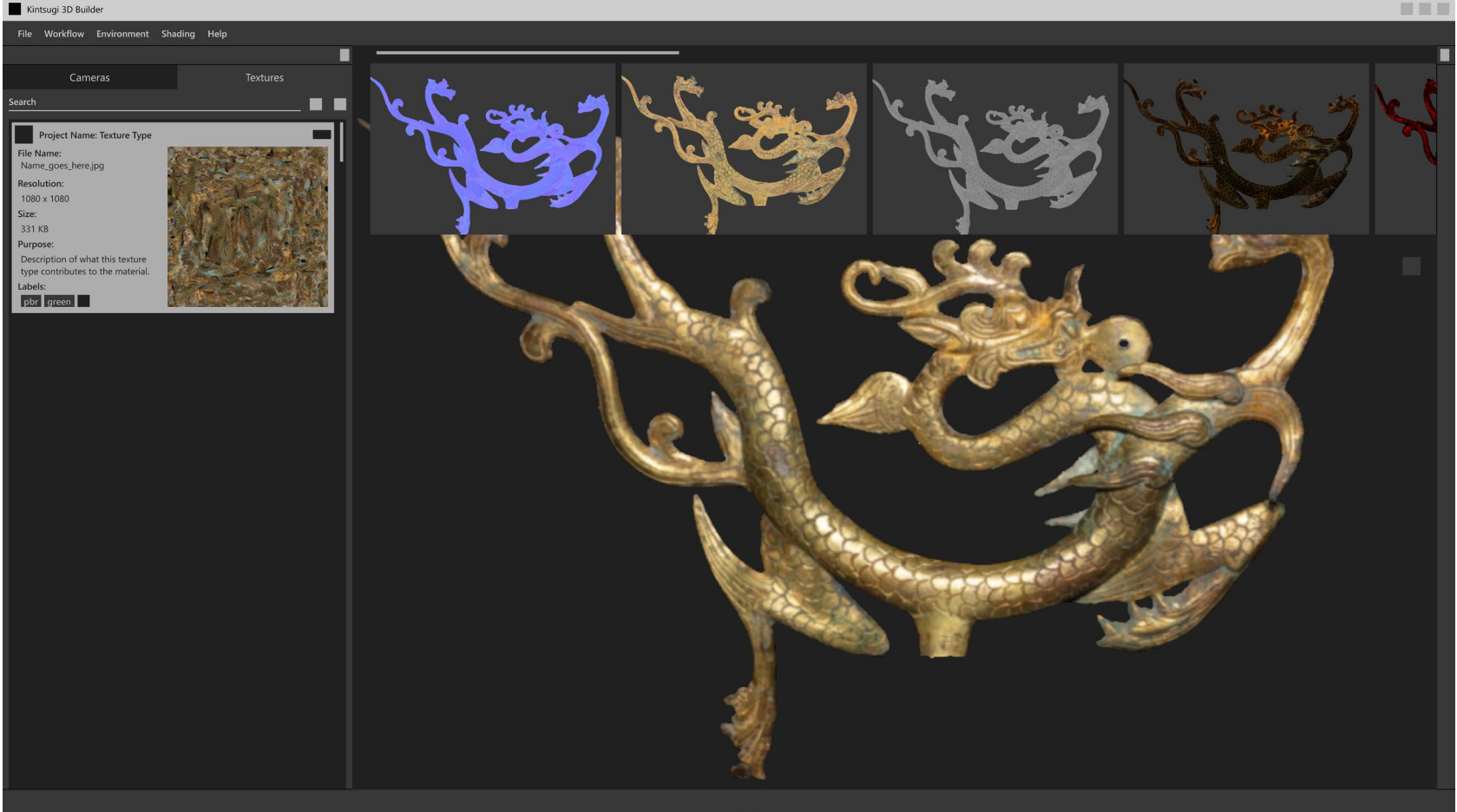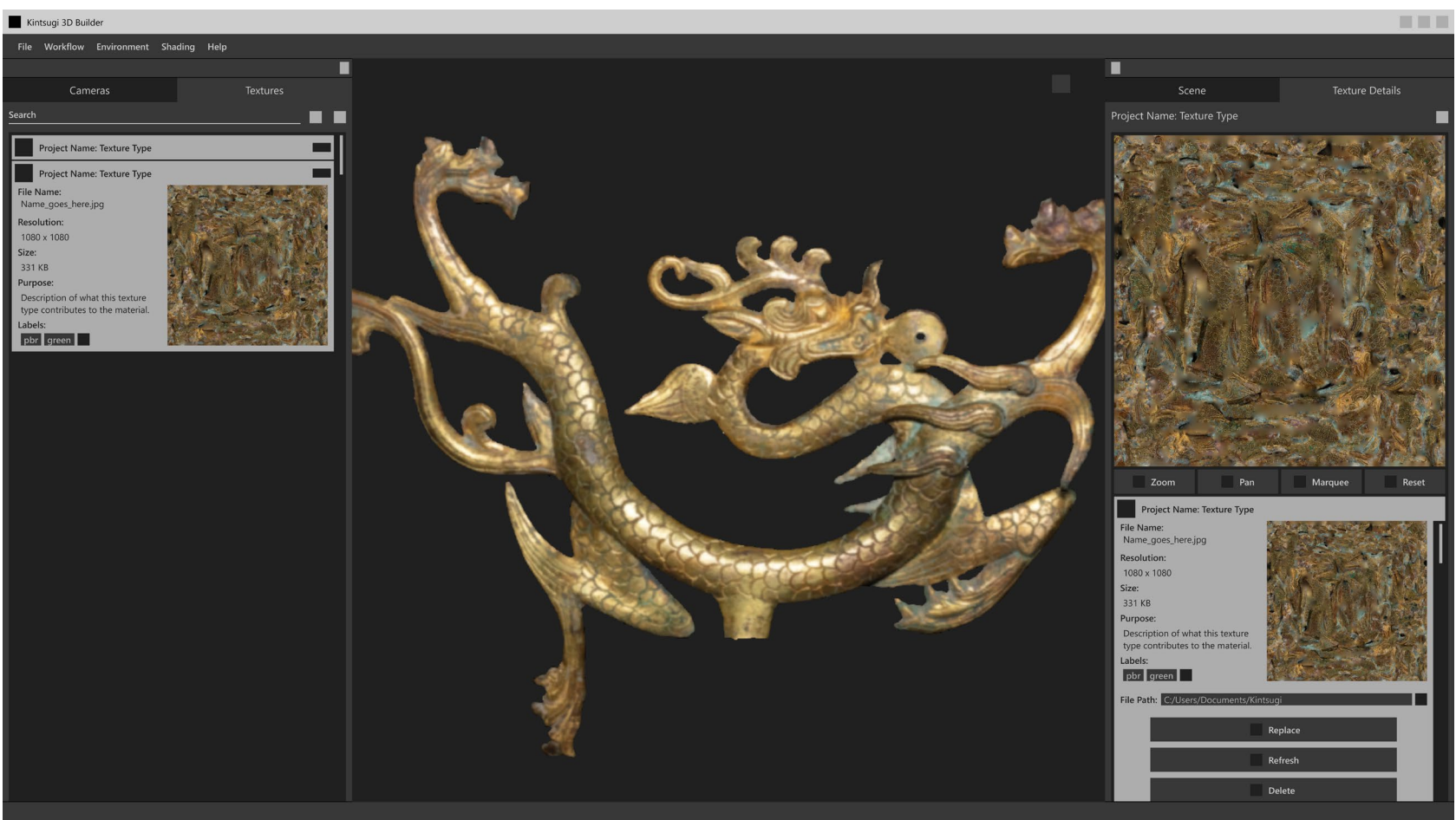
PROCESS

Initial Mockup of the 3D Texture Views

Initial and Final Iterations of Side Panels

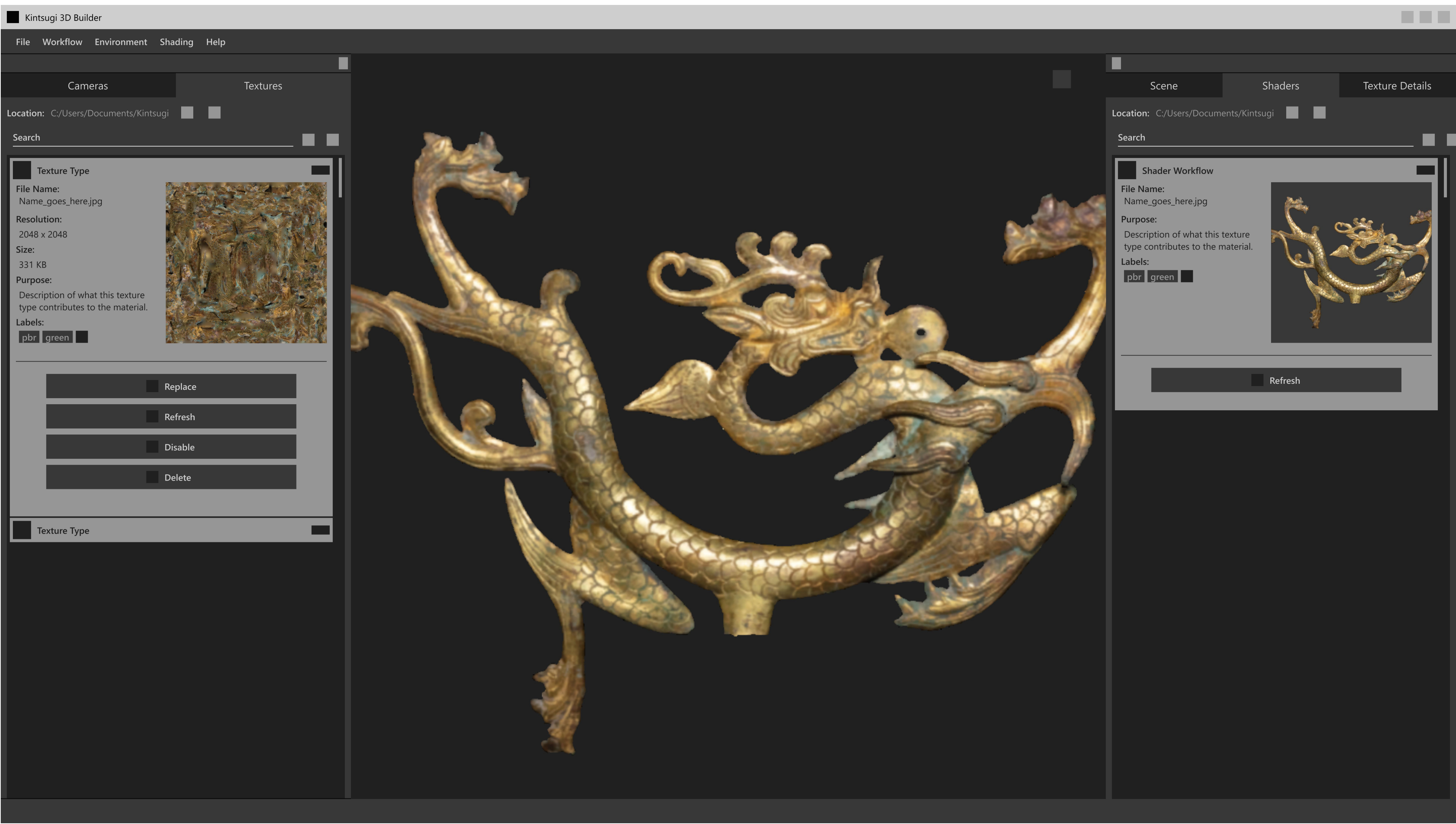*Fall 2024 Final Mockup of the 3D Texture View*

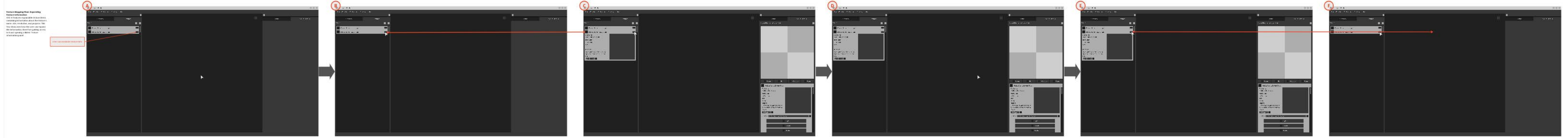*Fall 2024 Final Mockup of Texture and UV Tabs*

RESULTING WORK

Updated Carousel Selection for the 3D Texture Views

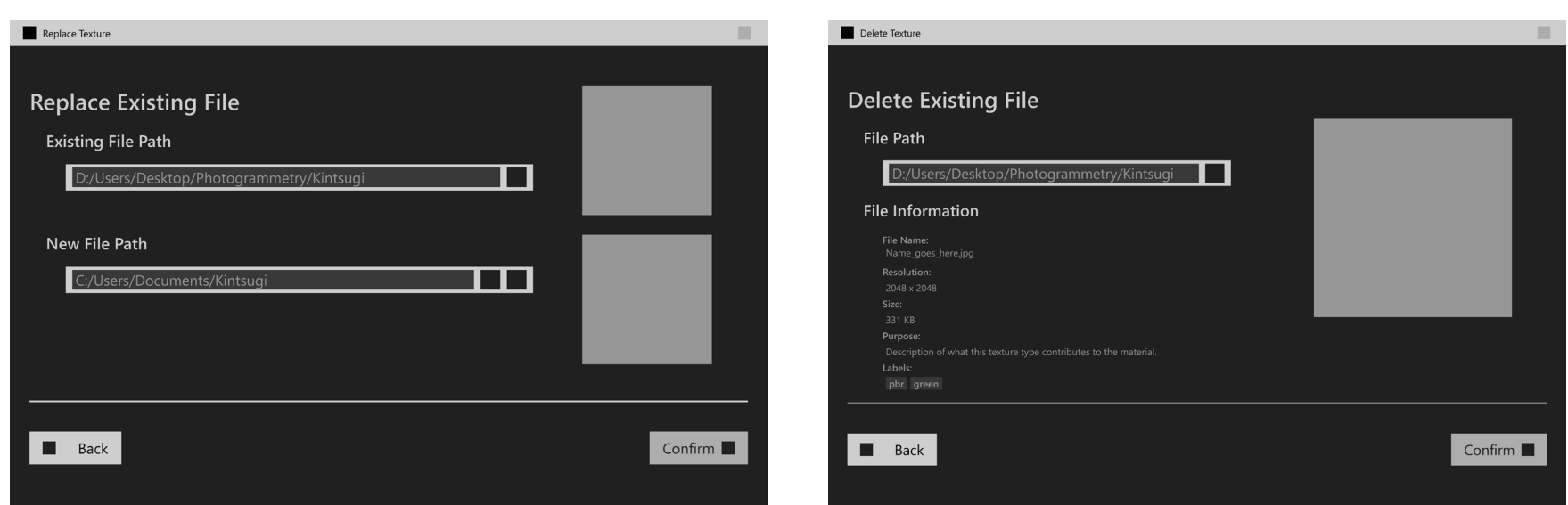*Updated Texture Panel (Left) and New Shader Menu (Right)*

Flows Created to Demonstrate How A User Might Interact with these Features

KINTSUGI 3D BUILDER

Scan this QR code to go to Kintsugi 3D's website, with Instructions and documentation on using Kintsugi 3D.

IN PROGRESS

Exploring Modals for New Feature Interaction

METHODS

Gathered User Research to identify what users of the software need and what additional features they may want.

Met with Stakeholders every two weeks to demonstrate prototypes and gain feedback on current designs.

Iterated on Designs made during the Fall 2024 semester and expanded design work to new systems to supplement existing designs.

CONCLUSION

Our research highlighted the need for a stronger foundation of texture visualization, leading us to prioritize this angle of development over the course of our grant. This led to the creation of more shaders to visualize textures and weight maps on models, and design wireframes that would establish foundations and lend to these visualizations.

Future Development: Alongside continued feedback and user testing, development after this project will include:

- Implementation of the wireframe designs created over the course of this project

- Communication between shader programs and back-end processes

- Continued development of UI/UX systems for user clarity and to establish foundations for future features

ACKNOWLEDGEMENTS