renderstack

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Our Feature: Forum for 3D Artists

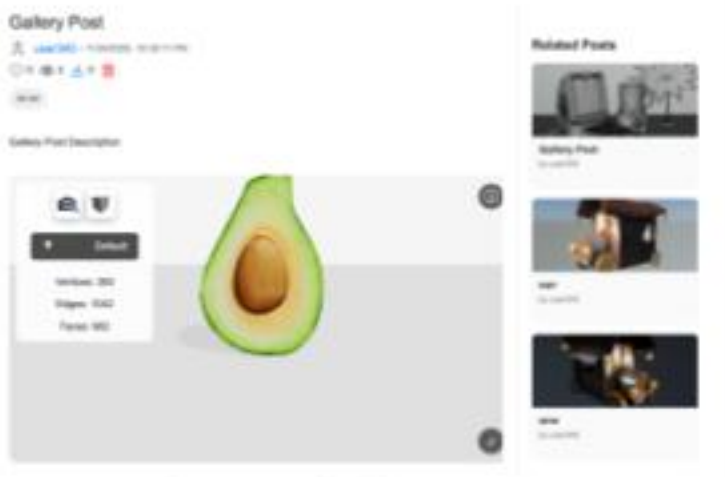
RenderStack brings modern media embedding to FakeStackOverflow, most notably through a native 3D model viewport that lets users upload, view, and interact with 3D assets directly in the browser. It also introduces a community-driven gallery for showcasing work, along with expanded profile customization that allows users to build dynamic, portfolio-style pages. Together, these features elevate the platform from a traditional Q&A site into a collaborative hub for creative problem-solving, inspiration, and professional expression in software development, graphics, and 3D art.cs, and 3D art.

Technology Stack & Design Decisions

We implemented five main areas of new functionality in this project. For **media schema**, each media is stored as a document with its file path and other media relevant fields. The **questions and comments schema** was expanded upon to support expanded media, including media files and media embeds, as well as other media relevant fields like "downloadable". We refactored the user login system to utilize **Auth0** to handle tasks such as user authentication and token verification. For **User Profiles**, we expanded the the functionality of users to include more customization, including testimonials, portfolios, and customizable profile themes.

Our technology stack for this project included React.js, Auth0, Three.js, library, React Hot Toast, and Multer. We used a continuous integration pipeline, which runs an automated test suite and then deploys the site using Render.

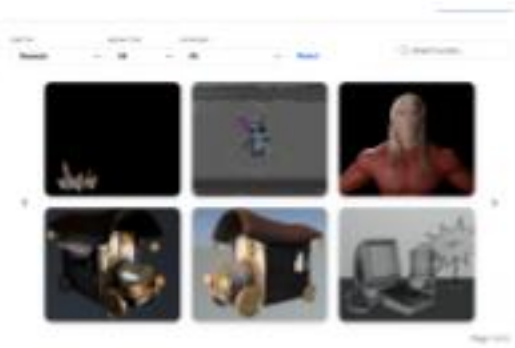
3D Viewport Implementation for Question Forum Page



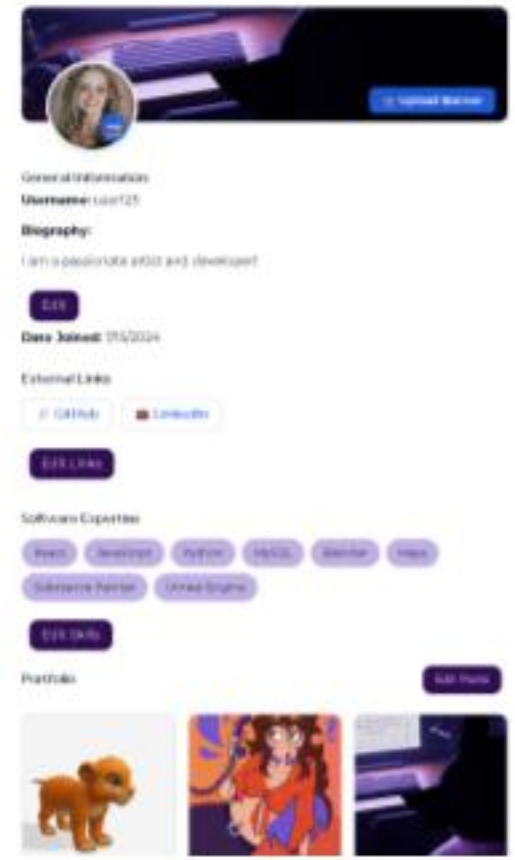
3D Viewport Implementation for Gallery Post Page

Future Work

For future work, we're interested in finishing the planned condition of satisfaction for unauthorized users to be asked to log in or sign up if they try to access another user's private collections. We also think it would be beneficial to expand the 3D viewport functionality to toggle different shaders and view wireframe mode on different models, allowing for more in-depth look at the style, fidelity, and usability of models.



Community Gallery



Customizable User Profile

https://cs4530-f25-201.onrender.com

https://github.com/neu-cs4530/fall25-project-group-201