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Final Project Proposal

The final project I wish to pursue is Poisson image editing. The objective of this project is to mimic some functions in Photoshop such as the clone stamp or the healing brush. For cloning, we want to be able to seamlessly take portions of source images and import them into destination images. With former technologies, in order to combine parts of images, one would copy and paste regions and then feather the borders, which would result in a decent image that still had visible seams. Using the Poisson partial differential equation, this process can be vastly improved to perform seamless cloning, selective and local changes. Other functions that can be applied by Poisson image editing include healing parts of the image and changing only colors or textures.

I'm really interested in doing the above project because I do photography as a side hobby and often have to perform these kind of edits in Photoshop. I think it would be really cool to implement these kinds of tools and understand what is happening underneath the surface.