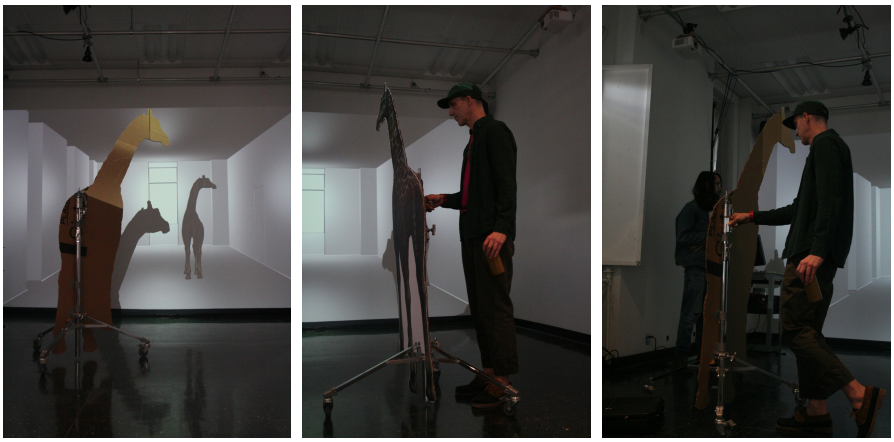
PHANTOMS IN CYBERSPACE: GIRAFFE

Arthur McLeod

(Fig. 1 A moveable cut out of the “real giraffe” in the performance space and its phantom mirrored in the projected digital space.)

My aim with the *Phantoms in Cyberspace* series is to evoke the distance of an action experienced through its recording as a permanent moment in time, even as it applies to ourselves. In the age of social media, after these moments pass, we are constantly left with phantasms that evoke moments in time. They do not themselves live, yet they affirm things that once were with great fidelity. I draw partial inspiration from Roland Barthes “Camera Lucida”, though I think the extent of the digital space and the footprints that record people are much more overwhelming than the photo.This phantom phenomena prompted me to create this series where a physical object imprints a record in the virtual facsimile.

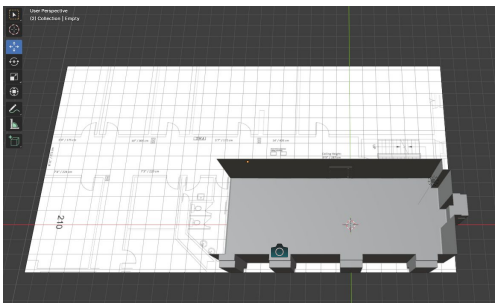
Audience Interaction



(Fig. 2 Interaction of the participant with the “real giraffe” and its digital phantom in the performance space.)

The object, in this case a giraffe cutout, is able to be moved around via its wheels on the space in front of the camera and this moves its digital counter part to a mirrored section of the virtual space. The viewer is able to experience the disconnection between the real experience and the falsified as the phantasmal giraffe, with greater fidelity, moves. Both the cutout and the phantom are static objects until the participant animates them through motion based stabilization.

Original Installation Diagram

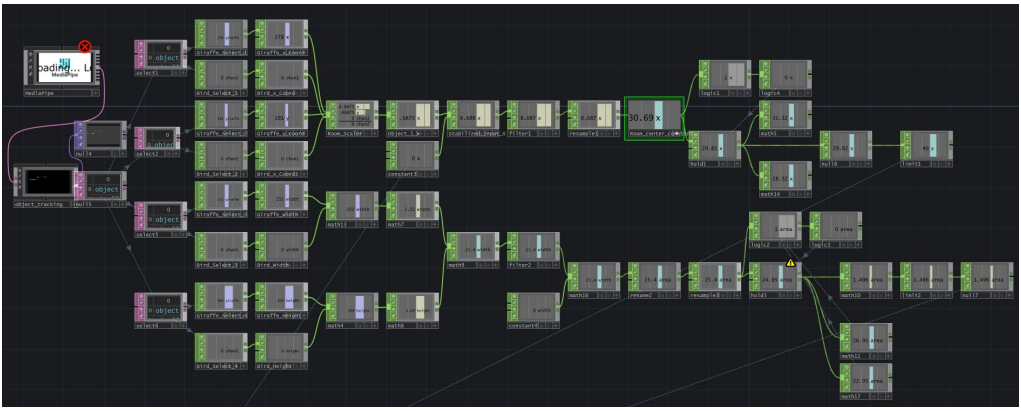


(Fig. 3 Demonstration of the model made in Blender for its original installation, based on architecture schematics and measurements taken, with the input camera marked)

(Fig. 4 to 5 Demonstration of Model using reference material of the far wall of the installation space)

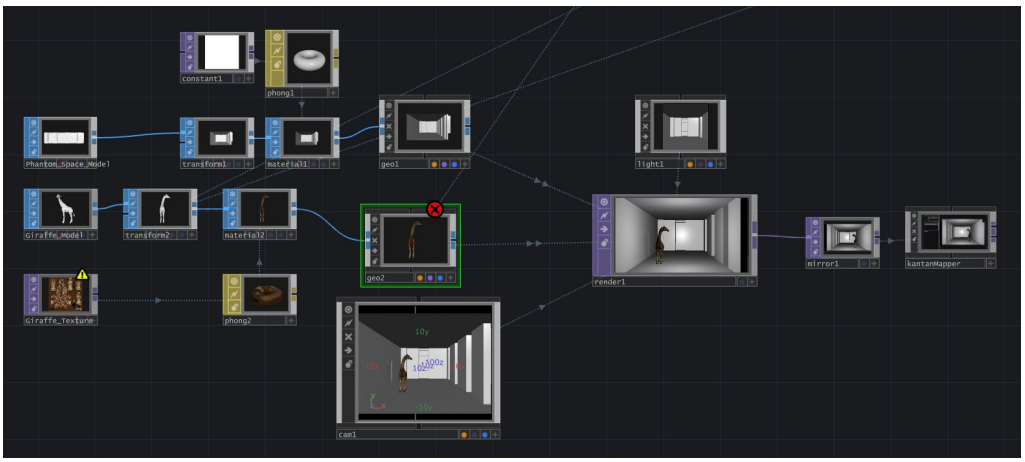
This artwork requires minimal installation equipment and is not restrictive in its space requirements. Its materials are trackable props which I have already created, a webcam, a ceiling mounted projector, and a computer. The camera does require a clear view of the scene so it is best to position it higher and to the side of the projection, similar to the window marked in figure 3.

Software Diagrams and Setup Information



(Fig. 6 TouchDesigner Tracking Using Media Pipe System Diagram)

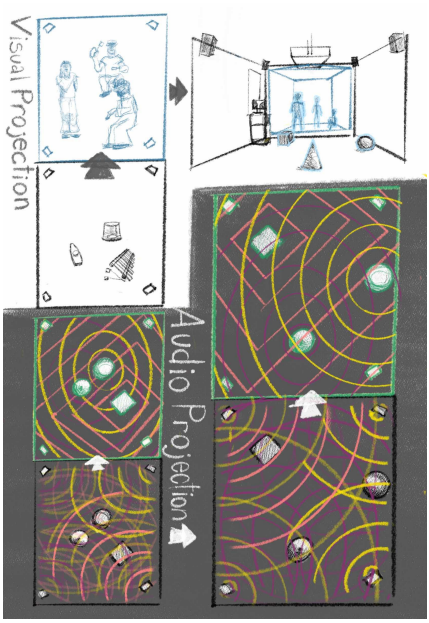
The tracking system for the “giraffe” entry in this installation series is controlled through inputs provided by the Media Pipe plugin’s object recognition. These positions, captured via a stationary camera, are processed to reflect the specific installation space using math chops. In the case of the distance from the camera, it is calculated using the varying area of width times height within the adjusted range. For the position forward or backward, the x value is used on the identified object.



(Fig. 7 TouchDesigner Rendering and Live Response Using Projection System Diagram)

The X and Z coordinates, determined by the tracking system, apply to the object and follow the tracked prop in a mirrored space, modeled on the installation area, through the projector output. Since the objects are too large for viewers to comfortably or safely lift there is no tracked y value.

Ongoing Development and Future Installation



(Fig. 8 Diagram of ongoing Sound Developments for *Phantoms in Cyberspace*)

(Fig. 9 Giraffe model by SDPM Esare as rendered in blender and printed on a white background for the cutout)

I would like to thank to SDPM Esare on Sketchfab for their creative commons license to the Giraffe model used in this project.

Currently the installation lacks sound, however I have been conducting experiments with quadraphonic speaker panning in TouchDesigner to concentrate sound on a moving point. Through this I hope to have future subjects in this series create sound, or perhaps even create an ambient form of music based on their position. I recently gained access to a set of Valve Index Base Stations and Controllers which I believe will provide more flexibility and reliability whilst removing the need for a camera. This will increase the range of objects that can be tracked via their attachment to the controllers or other compatible tracking devices, as they are not dependent on fickle object recognition data sets. This fickleness was notable with the fluctuation between identifying the cut out as ‘giraffe’ or ‘bird’, as well as when the viewer disrupted the view of the singular camera. This solution will solve both issues, and make installation easier.

(Fig. 10 Valve Index Controllers and Base Stations)