Artifacts of the Presence Era: Using Information Visualization to Create an Evocative Souvenir

Artifacts of the Presence Era creates a visualization of video footage and audio data that was captured in a museum's gallery. The motivation for this visualization was not to analyze long hours of video, but to create a design that illustrates the passage of time inside the museum. I think it is interesting how the visualization isn’t about specific information, but about evolving patterns of people’s presence in a physical space.

The Institute of Contemporary Art (ICA) wanted to create a piece that would capture the aspects of the current ICA building, that could be displayed in the new building. Artifacts of Presence Era was used to help them create this piece. The current building contained a capture machine, a present machine, and a history machine. I like that there was a rotating knob controller on the History machine, which allows users to move vertically through the layers and highlight them. This definitely made the display more interactive for users. I thought it was interesting how the authors referred to the museum visitors as “archaeologists” who excavated the traces left by the visualization to find items of interest.

The authors mentioned that once visitors realized that images were being recorded in the museum, they would walk up to the camera and stand there until their image was captured so that it could be added to the collection of layers. I believe that this might have affected what the ICA employers had originally wanted. By standing in front of the camera until their images were captured, a natural flow of people in the museum was not recorded; people purposefully did things they wouldn’t have done otherwise. Some people even stood in front of the camera for up to five minutes, waving their arms in the hopes of being captured; something they most likely would not have done if they hadn’t known about the visualization. I like that people had the opportunity to interact with the visualization, but I wonder if the results would have been different if people had not known about the visualization; if Artifacts of Presence Era had just been running in the background.

I like how the authors discussed the results of some of their research, such as the fact that people misunderstood the audio wave that was formed at the bottom of the Present Display; they thought it had something to do with how many people were in the lobby area. I like how the authors discussed some potential weak points of the visualization, such as how some events became distorted as they faded into the past. I also like how the authors stated that they could have fixed this but then the visualization would have lost the sense of temporal perspective of the metaphor of accumulation of geological layers.
Painterly Rendering with Curved Brush Strokes of Multiple Sizes

This paper discusses visualizing a video through a watercolor or oil painting image. It introduces a technique for painting an image with multiple brush sizes to express various levels of detail in an image, and painting with long, curved brush strokes to express continuous color regions in an image. The algorithm starts with an approximation of the source image and progressively refines it with smaller and smaller brushes. It takes as input a source image and a list of brush sizes. Areas that have little detail are painted with large brush strokes while areas with a lot of detail are painted with several small brush strokes.

I like how the authors included a painting (Figure 1) that used different brush strokes, in order to illustrate their point that using different brush sizes and stroke styles helps draw attention to certain parts of the painting. I also like how the authors provided details on how their algorithm works, including part of the source code for it. As a Computer Scientist, this was very interesting to me.

The paper also focuses on painting long, continuous curved brush strokes. Solid strokes of constant thickness are used to approximate the coloration of the reference image, and represent contours of the image.

I really like Figures 2. I like how there are several images used to demonstrate how the algorithm works to improve the image. I also like how the authors specify the radius of the brush used in each of the image, instead of just saying “with a thicker brush.” These images also help see how more recent brush strokes still allow earlier brush strokes to be visible. I’m a little confused as to how the images in Figure 3 are different. The images look identical to me.

I like how the authors discussed the fact that there is no “right” algorithm for non-photorealistic rendering, just like there is no “right” approach to painting, and sometimes no “right” algorithm for solving a problem in Computer Science. The authors also talk about how “parameters” are used to provide a way to vary visual qualities in a painting. These parameters should exhibit intuitiveness, consistency, robustness, and independence.

I liked how the authors stated how paintings can be made more precise by changing a threshold parameter and how stroke curvature can be limited or exaggerated by changing the stroke direction, but I would’ve liked to see images that illustrate this concept.

Lastly, I really like how this paper talks a lot about painting in art, but at the same time it is very technical and can be very interesting to a Computer Science major like me.