Artifacts of the Presence Era
This article mainly discusses the piece Artifact of the Presence Era, a visualization of video that was used as a quasi time capsule by the Institute of Contemporary Art in Boston. The visualization had two main components: one video component and one audio component. In order to acquire the data for the video component, the creators placed a small, unobtrusive camera near the entrance of the institute. This camera would record museum-goers as they entered the building and would then send the recorded video files to a display elsewhere in the institute. The audio data was acquired in a similar manner, although in place of a video recorded an audio receiver was used. The video recorder and audio receiver were located near one another so that the recorded video would match the recorded sound. With this data, the creators created a visualization of present and past events that utilized the geological metaphor of different layers of rock representing different moments in history. Each layer of this pictorial rock bed represented five minutes of time. The shape of a given layer was defined by the sound wave representing the volume of noise recorded by the audio receiver for that five minute period. The shape of the layers below a given layer also affected the shape of that layer. Also, the color of the layer was defined by a randomly selected video frame from five minutes of video corresponding to that layer. The shape of the layer was placed on top of the selected image and the portion of the image that was within the outline of the layer was the portion of the image shown in the layer. More recent layers were placed on top of less recent layers. Also, as time progressed, lower layers would compress and combine, putting emphasis on the more recently placed layers. The piece also had a knob that allowed a museum-goer to select a specific layer. When this was done, the whole picture that was partially shown in the layer would be displayed.

I found this visualization to be quite interesting. I very much like the use of the geological metaphor and believed that, for the most part, it was very effectively used. Additionally, while I was initially concerned that much of the history would be lost due to the fact that only a very small portion of a selected image would be displayed in a given layer, my concerns vanished after reading about the interactive knob that allows the pictures to be seen in whole form. While this know was good, I believe that it would be useful go allow the viewer to separate out the different images in a ‘ghost’ image so that he may more carefully observe them. The one thing that I (and apparently also the authors) believe did not work well was the use of the audio wave as a means of creating the shape of a layer. The influence of the layer below a given layer was too great for one to easily see the original form of the audio wave. Additionally, using
sound in this way puts time on both a vertical and a horizontal axis. This may for some viewers be quite confusing.

**Painterly Rendering**
This article discusses the aspects and qualities of a program that takes an image and transforms that image into something that looks much like what an artist or painter would have created had he created the image. The primary motivation for creating the program seems to be that, while before the age of the personal computer it was exclusively the artist who was able to create beautiful paintings, the program allows non-painters to create painting-like images (and indeed allows anyone – including artists – to create such images very quickly). The authors also claim that their program produces more natural-looking images that other existing picture-to-painting applications because it uses multiple brush sizes and also allows for curved brush strokes.

To create a painting from a picture, the application first blurs (based on some blurring parameter) the image; after the image has been blurred, the application scans the now-distorted images for areas where the canvas differs significantly from the blurred image. When such an area is found, the area is painted with the brush. Once all present ‘significantly different’ – based on the current brush size – areas have been painted, the images is un-blurred slightly and the brush size is decreased slightly. The program then resumes the scanning process with the more focused image and smaller brush size. In this way, the image is painted with larger brush size to smaller brush size, which in turn will cause the more intricate (and presumably important) things to be painted with a smaller brush. Curved brush strokes are made possible by using cubic splines where the control points are found by following the gradient of the colors in the blurred image.

While I did find the application interesting and also appreciate the great lengths that the authors seem to have gone to in order to create an image that is both computer-generated and natural-looking, I believe that, even with the power and pervasiveness of the personal computer, artists and their associated art cannot be replaced. The ‘paintings’ created by the application, while fairly good-looking, still looked a bit too perfect and well-formed to have been created by a human. While blaming the program itself perhaps is not quite appropriate since it is the perfect perspective and proportions of the input images that causes the resulting painting to look a bit unnatural, that does not detract from the fact that the output images look a bit too perfect. Even so, the application’s ability to create many painting-like images in a short amount of time is quite useful, for it allows one to create animations (from actual film) that have the look of a ‘moving painting’.