**Painterly Rendering for Video and Interaction**

As with his previous work, Hertzmann’s Painterly video application moves computer generated images away from the realistic and towards the abstract while remaining representative of the source video. Not having a video to watch (nothing in the paper or on YouTube that I could find) makes it difficult to judge the overall effect of this video transformation, but I would generally consider it, as well as Hertzmann’s other work, to be artistic in nature rather than informative or socially focused (socially focused only to the same extent that “pure” art is).

Based on the still images in the paper, the painterly quality of the individual frames is quite remarkable for a Pentium 2 system that renders images in real time (though at a low frame rate). The discussion of why the frame rate needed to be slowed down – to avoid being interpreted unintentionally as overly realistic by viewers was fascinating. The authors admit that they do not fully understand why the ideal rate seems to be about 10 frames per second, but the fact that the brain fills in the gaps between frames in general and the mechanism behind it is something I would personally love to learn more about. That is obviously outside the scope of this paper, but it seems odd how little we as a race know about our own inner workings and that we can learn about it from what seem like unrelated tests like adjusting the frame-rate on a video. In addition to the progression towards less photorealistic computer generated images, which I discussed with the previous Hertzmann work, the tendency of art to feed back into science and the understanding of humanity is incredibly compelling, and contributes weight to the argument that art helps advance society as a whole.

**NonPhotorealistic Rendering**

Kaplan, Gooch and Cohen’s irreverent image choices made reading their paper on the use of geograftals to generate nonrealistic images more bearable, but not having much background in CG art aside from some work in vector drawing programs made it a painful slog overall. The highlights – the furry Venus de Milo and the truffula trees came early – leaving the rest as sort of a boring flashback that leads back to the exciting opening scene of a mediocre movie; the reveal was satisfying, but makes you wonder whether it was worth the time investment to get there.
Discussions of methods aside, I am hopeful, based on the relatively low computational power demand of these methods, that similar new, interesting drawing methods or styles will grace animation and computer games soon. The current progression towards realistic or Pixar style animation demands so much time and capital that games and movies have become hugely expensive to produce and be competitive with the mainstream releases graphically. Applying techniques like this where dramatic changes can be made to relatively simple models and generate pleasing and unique visuals with lower cost in man-hours would allow game studios to create more ambitious games that experiment with gameplay elements, controls, and story without risking such huge losses. Animators with access to these techniques would also benefit from being able to render stylish images on relatively low powered machines – the authors said that (at the time of writing) low end workstations could generate video at between 2-60 frames per second, depending on complexity, more than adequate for pre-rendered video to be generated, reviewed and then improved iteratively.

**Telemurals: Linking Remote Spaces with Social Catalysts**

(The following borrows from my previous response to Telemurals)

Karahalios, in *Social Catalysts*, explores social spaces, connections and interfaces and the question of how to effectively encourage or enable communication and make spaces sociable using digital media. She claims that socialization is a basic human need, and while a life can continue without social interaction, the quality degrades, as seen in decreased communication ability, increased psychological disorders, etc. in castaways, prisoners kept in solitary confinement, and children raised by wolves.

One of the challenges of creating a sociable space is to convey the social cues that are present in face to face communication, or approximations or replacements for them. IRC, message boards, and IM's are task focused and attempt to map interactions too literally to face-to-face communication – as demonstrated by the frequent need for emotion tags or emoticons for disambiguation of typed messages.

*Telemurals*, which was set up in dorm hallways, was initially not very well received – with many potential participants avoiding the space which was being projected into the other location until the projected images became more abstract and included both the local and remote users. The abstraction – rendering the video cartoonishly – reduced the sense that the cameras were there for surveillance, which is the most common use of stationary cameras in public settings. This concern over whether one
is being surveilled seems present throughout the field of social visualization, and presents major challenges for designers who want their systems to gain wide acceptance. Abstraction provides one tool to combat the Big-Brother notion, as does the ability to shut off the cameras (though that can lead to the space becoming unsociable as conversations or passive sharing of remote spaces are shut down temporarily. Utilizing painterly renderings benefited Telemurals, encouraging people to use the system, and indicating that Hertzmann and the Kaplan team’s research could be put to use in many fields.