MEET RICHARD EDLUND

Four time academy award winner for **"Star Wars"**, **"Empire Strikes Back"**, **"Return of the Jedi"**, and **"Raiders of the Lost Ark"**. Not to mention his six other nominations for **"2010"**, **"Ghostbusters"**, **"Poltergeist"**, **"Poltergeist 2"**, **"Die Hard",** and **"Alien 3"**. I'm proud to introduce Richard Edlund, founder and president of Boss Film Studios, and pioneer in the industry of special effects.

Always fascinated with cameras when he was a kid, Richard Edlund gained his first experience with motion picture cameras when he was with the Navy stationed in Japan. After the military he enrolled in the cinema school at the University of Southern California, served some time with Robert Abel and then in 1975 got a call from George Lucas.

Feature films were Richard Edlund's destiny, and George Lucas was his ticket. Edlund joined the Star Wars team at the newly formed Industrial Light & Magic, and went on to produce the effects for those three historic films we've come to know as the "Star Wars" Trilogy.

Upon completion of Return of the Jedi, Edlund returned to Hollywood to find himself presented with two opportunities, Ghostbusters & 2010. Put on the spot to come up with a name at the last minute for a new studio, Edlund decided upon Boss....and Boss Film Studios was born in 1983.

How did you progress from the traditional special effects realm towards the digital realm?

First of all it was effects for movies, that lead me into it. For many years I did effects using photo chemical or analog technology, and Star Wars was a project which was my first big opportunity. I was the architect, so to speak, of the photographic system ..... and also the Sumo wrestler of analog photo chemical technology for twenty years or so. I met Gary Demos when he was a student at Cal-tech walking around with a camera in his arm looking for a CRT to point it at. Gary was one of the patron saints of the business, a super egg-head involved with scanning and recording.

Star Wars was a big step forward in the history of effects because it enabled us to utilize solid state memory and achieve a truly repeatable and dependable motion control system and [concurrently] involved the resurrection of the blue screen process. Using high speed photography and relatively small models we were able to achieve an incredible amount of work in a fairly short period of time. Then when I started on Empire Strikes Back in late 78', I started talking with John Whitney Jr. and Gary Demos about building a digital film printer with the idea of utilizing it in special effects photography, at least we were thinking about that. So we put together a milestone schedule of what scanning and recording meant. And of course that's the key to it, being able to scan into the digital realm and then record it back transparently.

Was this the first digital scanner and recorder?

Yeah, this is the DFP that ultimately wound up at Digital Productions.

But it was originally at ILM?

No, it wasn't at ILM it was at Triple I (Information International), which was a company that built electronic paste up techniques for magazines. And I remember going over there one night and they were working on a couple of frames for Futureworld, and they had filled every bit of computer space at Triple I to hold one frame of movie film. You had to load the entire system up to hold one frame. That gives you a new respect for this amazing storage capability we have now.

So back to "Empire Strikes Back", it wasn't successful, they were not able to scan and record the frames digitally, in time for Empire, but they did produce a shot that had about five x-wings in it. They built an x-wing in the computer that did barrel rolls through the frame, and it looked pretty good, but it didn't apply to the movie and was too expensive. I had to be a devil's advocate, and listen to the producer who only wants too pay X amount of dollars for a shot. Computer graphics were extremely expensive, very slow and the resolution was always a problem. Until...jumping past the Star Wars trilogy into 1983 when I formed Boss Films, one of the first projects we did was 2010, and I decided to utilize digital technology to generate Jupiter using the DFP we started on Star Wars and a Cray XMP.

So, in 2010, we had the planet Jupiter and it had to look as though it was alive. As a forest looks when the leaves rustle in the wind. And at the end it had to cave in. Digital was the only way.

How long did it take to do the Jupiter shots?

It went on for a long period of time, I don't even remember now. All I remember is every time we pushed the button it was 35,000 bucks, and we would have 36,000 dollars to produce the shot.

[laughter]

So, the problem was it was one of those fields where the Cray was a big nut and it was a constant situation, but it was high resolution.

And you had to go to film to see what it was you were doing.

Oh yeah, I would ask for a test, and John would say "how about thirty frames". [Edlund makes a face] You really had to look at the test quickly.

[laughter]

At that point did you lose faith in CG?

No, I never lost faith. It was just a matter of being patient for changes to occur. Basically, we started our CG department here, at Boss Films, with Jim Rygiel about 3-4 years ago. We bought a couple of PI's (SGI's Personal Iris) and created all of the shadows of the alien creature for "Alien 3". In fact "Alien 3" was our last film using the photo-chemical process - optical composites. We put one digital composite in - our first.

Are optical printers dead?

Well, I've given a wake for the optical printer at the last showbiz expo. We all bowed our heads and gave it a few moments of silence.

From your vantage point what tools would you like to see developed in computer graphics?

Well, I think character animation is real hot right now. To be able to create realistic creatures and people. We're actually doing a science fiction kind of movie about a new creature designed by Giger. That creature will be human-esque, but will be translucent and transparent in some of the spots, requiring us to generate her entirely with CG. And that leads into another hot item, which is motion capture.

The things that were traditional problems in terms of taking what was basically an unwilling and bulky process of photo-chemistry, were you had to go through elaborate photo-chemical means to extract mattes. It was very unforgiving, you spent a lot of your time squeezing blood out of a turnip in order to get shots done. That has virtually disappeared with the bright people who are writing new tools for us now. Now we can spend more time on what we really want to see rather than what we can barely squeak through.

I've talked to a number of people, regarding motion capture and they all agree it is one of the hot new technologies in computer animation. However, a lot of them don't see beyond putting dots on a person and capturing the motion. Does Boss, because of it's years of experience in special effects, integrate some of the more traditional aspects of pupetteering and creature work into this new technology of motion capture?

Yeah, see I think that keyframe animation, just like stop motion animation along the lines of cell animation, is inherently stiff, and it sometimes lacks the crucial element which is serendipity. You know you don't have somebody stumble when they jump on a curve, because the animator never thinks of doing that. It's probably best described as signing your name with your left hand. You do it very carefully and slowly but the result lacks flourish. So, what we are looking for is a directable, experimentable, form of motion capture that enables you to get quirks and realism into whatever action it is.

I think that the history and knowledge of image making and juxtaposition of images that Boss Film has developed over it's close to 11 year history, can apply to this new technology and give it substance. You see, this is another very important point, and I think that one of the main things that we understand as a company and we are trying to impart to the new breed which is, like, decades younger. There is this whole new sense of enthusiasm which I last felt in Star Wars, and I'm very excited about it.

But, essentially what we do in effects for features is the old trick photography. You're coming up with ways of fooling people into what you want them to believe they're seeing, however you may generate it. Whether you shoot it with a high speed camera, shoot it in reverse, use computer graphics, miniatures, with keyframe animation or motion capture, you basically generate a well rounded approach to feature film projects which cannot be done with any one technique. A computer graphics house that has only computer graphics available to it will only be able to seek out the tools that they have at their disposal at this point in history. Now, some years from now, perhaps the old way will be obviated. But we're still using matte paintings, although we are doing them with painters who are schooled in the old way of painting but they are now painting on the computer and using cut and paste techniques. And you always have to realize that matte painting is a temporal medium. You only give your audience a few seconds to look at any particular shot. The art of spending money is as important to us as the art of making shots. Because if you use up all of your money on a few shots there are other things that you cannot do.

It all comes back to the fact that we're still producing images for an audience that is viewing them on nineteenth century technology, with sprocket holes and the greasy geneva drive mechanisms in theaters. And the audience is very tuned into the artifacts of 24 fps cinematography. 24fps represents reality in a less than adequate way. We are basically in the business of mimicking 24fps cinematography. The understanding of how to inject these artifacts into a shot that may otherwise be completely computer generated in order to make it look real, gets you away from that kind of hard sugar candy look of the "Last Starfighter", although that was a very significant movie in the history of computer graphics, everything is new and shinny and over uses the technology.

Do you see the industry specializing more. Today one animator or technical director can handle most of the shot, but do you see it becoming streamlined where some people do textures, others do roto, etc...or do you see it becoming more generalized.

Well I'm not so sure. I mean...I think what I would like to see is a more general approach to it. I wouldn't say that somebody is better at just doing roto. Generally, someone who is working on a shot tends to do their own roto. On the other hand, in the not to distant future somebody might specialize in just doing facial animation. And, someday someone will be able to exact a Anthony Hopkins performance, in close up on a monitor...someday. But, if you want the Mona Lisa you have to have Leonardo at the keyboard. So, it's all dependent on the talent of the person doing the shot, and the support staff that provides the tools that they might need in order to focus that talent.

This is a nice segue into our other question, regarding the increasing demand for computer animators in the industry. Is Boss on the lookout for new talent, and what kind of talent are you looking for?

Well last year was a feeding frenzy at Siggraph. Every year you go out there and court the best. We are looking for the best people. People who will fit into the chemistry of the company which is non-political, let's get the job done, and do you want to do this shot, kind of attitude. And Boss, hopefully, will continue to be a place where people can do their best and be supported by a great software and engineering staff.

Boss also does theme park rides. What other types of markets are you working in?

Boss is basically a four pronged business. Feature film effects are kind of the mainstay and basis of the company. Television commercials are also a strong source of creative projects and help us maintain an interested creative staff, as well as accounted for 50% of our revenues last year. The other projects are thrill rides and simulations.

What about video games?

[Edlund's eyes light up as he nods, yes]

And video games. That's the part that were just now getting into, and we have opened up Boss Game Studios in Seattle, Washington. My new partner is John E. McCaw Jr. of McCaw Cellular.

The fact is were heading full on into the digital realm with uplifted heads and strong backing.

No fear?

Well there's always fear. If it wasn't for fear it would get boring.

Our Thanks to Richard Edlund for his time and insight.

Rob & Shahril

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