

FROM: Stephanie Mardesich  
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Corrections to:

L.A. SIGGRAPH NEWS. Aug. 1984.  
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After review of the article "Last Starfighter And Beyond", by the corporate Communications staff at Digital Productions, certain changes requested by D.P., have been made. These changes were requested after press time. To accomodate Digital Productions, I have deleted certain lines of copy in the newsletter and enclosed this supplement, with their preferred wording. RANDY RANDALL.

Members who attended the July meeting enjoyed a trip beyond our usual L.A.-Orange County sphere. We traveled from the Century City Plitt Theater to the farthest reaches of outer space! Our vehicle was the marvelous film "The Last Starfighter." We thank Debby Winsberg, our guide, who made arrangements for our voyage. The film features over 21 min. of Digital Scene Simulation ("SM") produced on the Cray X-MP by Digital Productions.

From my perspective, shooting film effects the traditional way, the significance of D.P.'s work on "Starfighter" is the achievement of FILM QUALITY realism with solid objects, and manageable production logistics. "Tron," by comparison, had a video "look" and required the resources of many companies, always a producer's nightmare. Depiction of real looking objects opens the door for use of this technique with more mundane subjects, and will encourage the use of CGI for a greater variety of scripts. This is the goal D.P. is working toward. In addition to substituting computer graphics for miniatures, producers will also find that scripts previously considered too expensive for screen treatment will now become practical properties. Matte paintings, which are static, can remain on screen for only a few seconds before the audience will detect a "fake." The ability to move through a digitized scene allows a longer process shot to be used, telling the story in a new way.

The steps required to bring this level of CGI realism to the screen are complex and can be expensive. Every budget however is individually determined based on a storyboard and the complexity of objects and movement. Matte with miniatures, however, often cost over \$20,000 for a few seconds of screen time. Another consideration is the time required to set-up and test for special effects or exotic locations. On "Close Encounters," I shot tests for many weeks before the director would choose the shape of a space craft, or the diffusion and lighting for a scene. With Digital Productions' Digital Scene Simulation, this type of evaluation can be made in less time and with fewer production people on payroll. This reduces the OVERALL production budget.

Vector Production, a division of D.P. will also work with others who wish to buy time on the Cray for their own work.

Let's see how the magicians at Digital Productions work....

STEP ONE: ARTISTIC DESIGN - STORY BOARD. A film producer will always have a "set of boards" for bidding purposes. D.P. staff artists then draw high-quality renderings. A special skill is the artist's knowledge of what shapes are difficult or easy for the computer to execute. They also take advantage of the latest algorithms from the programmers.

STEP TWO: DRAFTING. Blueprint elevations are drawn, by hand, from the story boards. This may remain a hand-drawn operation to accommodate the hold-it-in-my-hand mentality of most film producers & directors. A similar resistance to electronics exists with many film editors, who will not give up their moviolas.

STEP THREE: ENCODING. Evans & Sutherland PS 300 systems are used in conjunction with data tablets to digitize the 3-D data base from the blueprint. A low resolution color raster display viewed on the RAMTEK 9050 is used to check objects before motion previewing.

STEP FOUR: MOTION PREVIEW. After key frames & motion parameters are determined, a frame by frame scene action file, called the "Movie File," is created. This is the second major data base. Object size, rotation, movement & perspective are fixed. Camera point-of-view, effective lens angle, zooms & moves are determined.

STEP FIVE: TECHNICAL DIRECTION. Surfaces, textures, reflections, lighting & shadows are added at this stage. This "Surface File" is the 3rd major data base. It is here that the choices available, versatility & real time display capability are anything but routine. It helps to have a Cray with which to play! The modeling software resides on the Cray." The artist logs onto the Cray in a 100% interactive mode, even for development work. One result of all of this computing power is the ability to use an unlimited number of light sources of any combination of intensity, specularly, or color. Motion picture realism often requires the use of many lights to "cheat." I have used more than 10 on one miniature. If the lighting isn't right on the display, it can be changed in real time; something no gaffer can do on the set! Other effects are available, such as metamorphosis, variable soft-edge contours & fluid-dynamics.