



Original shot on 35mm color negative film and scanned with a Nikon scanner.



Window shot brought into Painter.



Second shot of window scanned. Exposure was made for detail outside.



Using the magic wand to select the area inside the windows.

Gone Fishing!



Display of mask created from window image.

A Mixed Lighting, Computer Assembly Nightmare

Jack and Sue Drafahl

YEARS AGO, WHEN we both attended Brooks Institute of Photography, we had a photo assignment that we all came to know and hate. We had to photograph the interior of a very large room and mix interior lighting and match it to exterior daylight. It is was quite a challenge. Once several images were made, they were painstakingly pin-registered, and it seemed like days were spent in the darkroom before the final prints emerged.

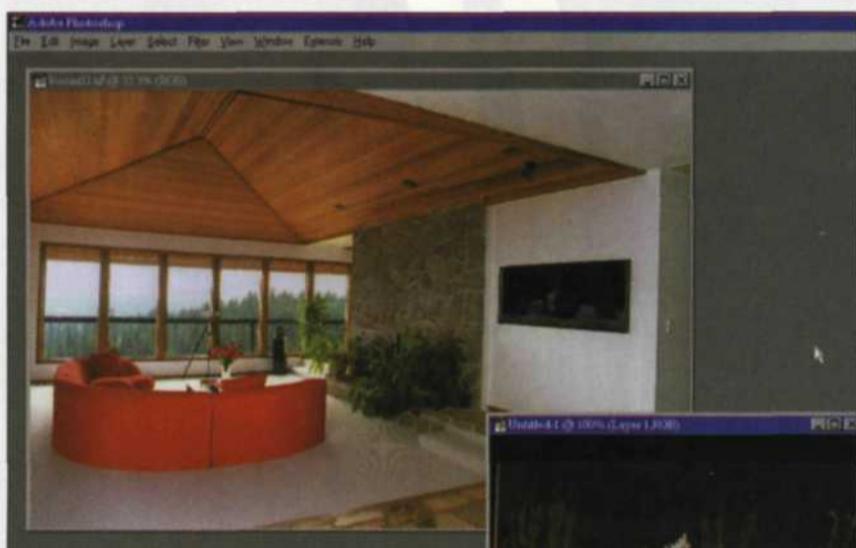
Needless to say, we cringed when a similar job came into our studio. The client operated a service that set up and maintained aquariums and ponds for both offices and private homes. He wanted us to create a display book of 5x7 prints for his booth at the local home improvement show.

Photographing the ponds in their natural surrounding was no problem. We used a high resolution 35mm color negative film and made direct prints. We mustered up our courage



Using Room 01, Window and the new mask, the images are blended together using the feather tool. Some fine tuning was then accomplished in the problem areas using the clone tools.

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Tank image scanned and brought into Painter.



Image was pasted and skewed to fit the tank image in the "Room 02" image.

and headed inside to tackle the fish tanks.

We met with the staff of the company and discussed the problems associated with these shots. We were only allowed to take pictures right after the tanks were cleaned. We could set up our camera ahead of time, but we only had minutes to make the shot before we had to move on to the next location. Boy, did this sound like fun!

Lighting the scene proved to be next to impossible. Daylight coming through windows, extensive interior tungsten lights, and the low light level in the aquariums, all created a mixed lighting nightmare. As if that wasn't problem enough, the glass in the aquariums reflected everything in the room. Camera angles were very critical and there was no time for reshoots.

Our solution was to photograph the whole job on a high resolution 35mm color negative film, and solve the problems by editing in the computer. We selected color negative film because of its wide exposure latitude and its great compatibility with scanners. The best part of using hybrid photography is that you can combine the best of both worlds.

We set the camera on a tripod and exposed a negative for each of the problem areas. Care had to be taken not to move the

camera so the negatives would all align. We exposed one negative for the window light, another for the room and a third of the aquarium. When we exposed the aquarium negative, we turned off all room lights, and closed all possible window blinds and curtains. In some situations, we got lucky and only had to make exposures for the room and aquarium lights.

Each resulting negative was then scanned into the computer and saved as "image1A.tif," "image1B.tif," and "image1C.tif." For the editing process we loaded the room image into the Painter 5 editing program and color balanced it as best as possible. (Painter 6 is now available) The window images were next, and special care was taken to make sure that the scan size was exactly the same as the room shot. Using the magic wand tool, we selected the area where the sunlight was coming through the windows. We used a large feather value of 15 to insure a seamless blend before we copied the selection to the clipboard. We then pasted the selected windows over the windows in the original room shot.

Additional controls for more feathering and transparency allowed us to make a perfect blend. The aquarium image was loaded next and we selected the tank using the manual select tool. Again we feathered the selection and copied it to the clip-



Completed image of inserted tank image.

Single image of fish was scanned, copied, pasted and skewed into the "Room 03" image.



board. Going back to the room shot, we pasted the clipboard image of the aquarium over the aquarium in the room shot.

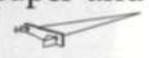
As we move from one location to the next, we ran into a situation where the window light could not be blocked so the light reflected into the aquarium glass. The only angle that would work to eliminate highlights in the aquarium was not the best angle for the room shot. So, we decided to move the tripod for the aquarium image and would deal with that problem when we got back to the lab. The window and room blends worked fine, but since we had to move the tripod for the aquarium image, we now had our work cut out for us.

First, we selected the aquarium image with the manual select tool. We used this tool because it is faster to manually select objects with straight sides than with the magic wand tool. The selected image was copied to the clipboard and pasted into the room shot. We scaled down the pasted image, and then used the distort command to match the perspective of the aquarium in the room shot. The brightness and contrast were adjusted to match the lighting qualities of the room.

Besides the lighting problems, for some crazy reason, the client also wanted to have fish swimming in the aquariums. Imagine that! When we photographed the aquariums, we

used a long exposure to obtain the best lighting in the tank. This resulted in blurred fish because they moved during the exposure. The only answer was to use flash to stop the swimming action.

Because of the tight photo schedule, setting up lighting with flash was not feasible. The best solution was to place the camera up against the aquarium and use flash through the sides of the glass to photograph just the fish. The resulting images were then scanned and the magic wand was used to capture only the fish. These scaly critters were then copied to the clipboard and pasted back into the aquarium. Once the fish were feathered (we thought they had scales!) they started to swim around in the aquarium, and we had our finished shot. Whew!

We saved each step out as a separate image, so we could make any changes with minimal re-editing time. Each approved image was then printed out to inkjet paper and gathered together in a photo album for all to view. 

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