Nick Beato
Team 3 Assignment
Flo-Vis 2012

Team 3 Assignment

For my final project I had many ideas in mind. I originally wanted to combine a few ideas that I had, but ended just focusing on one. I wanted to capture what the image of what a plane of smoke looked like. Because we see in 3 dimensions it is impossible for us to picture this without the aid of a camera. My image came out very clean and my experiment worked well.

The flow is very simple in this image as it is merely a puff of smoke. As the smoke flows it begins to mix with the air. To reproduce this image exactly would be impossible, however, it is easy to come close. I set my camera on a tripod and adjusted my focus exactly where I will be putting the laser. As the puff of smoke become visible to the camera, I shined the laser, in one swooping motion across the depth of field, perpendicularly. As the shutter of the camera is open for about a second, the camera takes all the light and makes an image out of it.

The materials for this assignment are quite simple; all you really need is smoke and a laser. The lighting situation contains no light that is not the laser itself. There was no flash used. And the image was taken with an extended shutter speed. It is nearly impossible to reproduce this type of image, because smoke is so hard to contain and control.

This image took a few practice runs before I was able to get what I wanted. Eventually I found success leaving the shutter open for .6 seconds. I had my aperture open all the way at f3.5. The ISO was 800. I found these settings to be the best for this type of image after much experimentation. I used a Canon Rebel on a tripod. The only

thing I did in Photoshop was I cropped the image and the camera was about a foot away from the smoke itself.

For my final project I originally wanted to use this technique but capture a smoke plume. After experimenting for a long time I began to set up my experiment. I quickly looked at my images and ended up finding an image that I was very pleased with. This technique, I believe, was portrayed very well. The open shutter speed always ends up being very cool looking. I hope that I am able to do more projects like this in the past.

Report		Your assessment	Comments
Describes intent	Artistic	!	
	Scientific	√	
Describes fluid phenomena			
Estimates appropriate scales	Reynolds number etc.	Na	
Calculation of time resolution etc.	How far did flow move during exposure?	Na	
References:	Web level	Na	
	Refereed journal level	Na	
Clearly written		√	
Information is organized		√	
Good spelling and grammar		√	
Professional language (publishable)		!	
Provides information needed for reproducing flow	Fluid data, flow rates	√	
	geometry	Na	
	timing	Na	
Provides information needed for reproducing vis technique	Method	Na	
	dilution	Na	
	injection speed	Na	
	settings	Na	
lighting type	(strobe/tungsten, watts, number)	Na	
	light position, distance	√	
Provides information for reproducing image	Camera type and model	√	
	Camera-subject distance	√	
	Field of view	√	
	Focal length	√	
	aperture	√	
	shutter speed	√	
	film type and speed or ISO setting	√	
	# pixels (width X ht)	√	
	Photoshop techniques	!	
	Print details	!	
	"before" Photoshop image	!	