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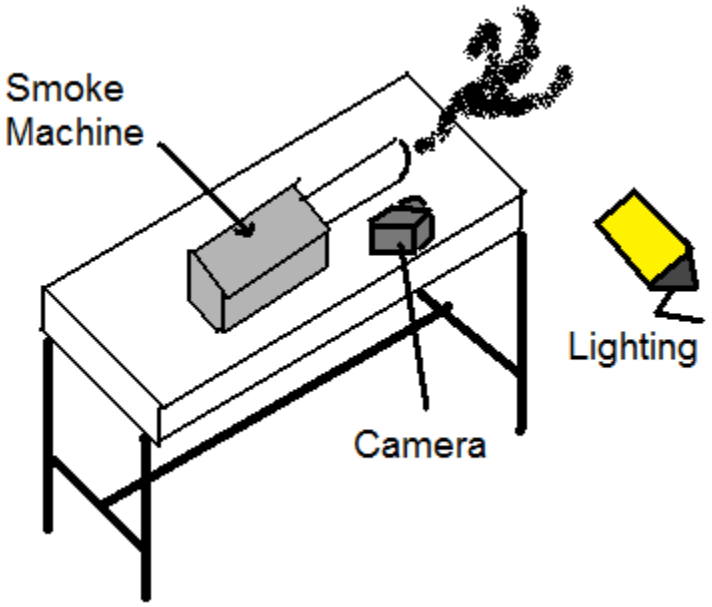
Flow Vis
Team Assignment 1
3/10/09

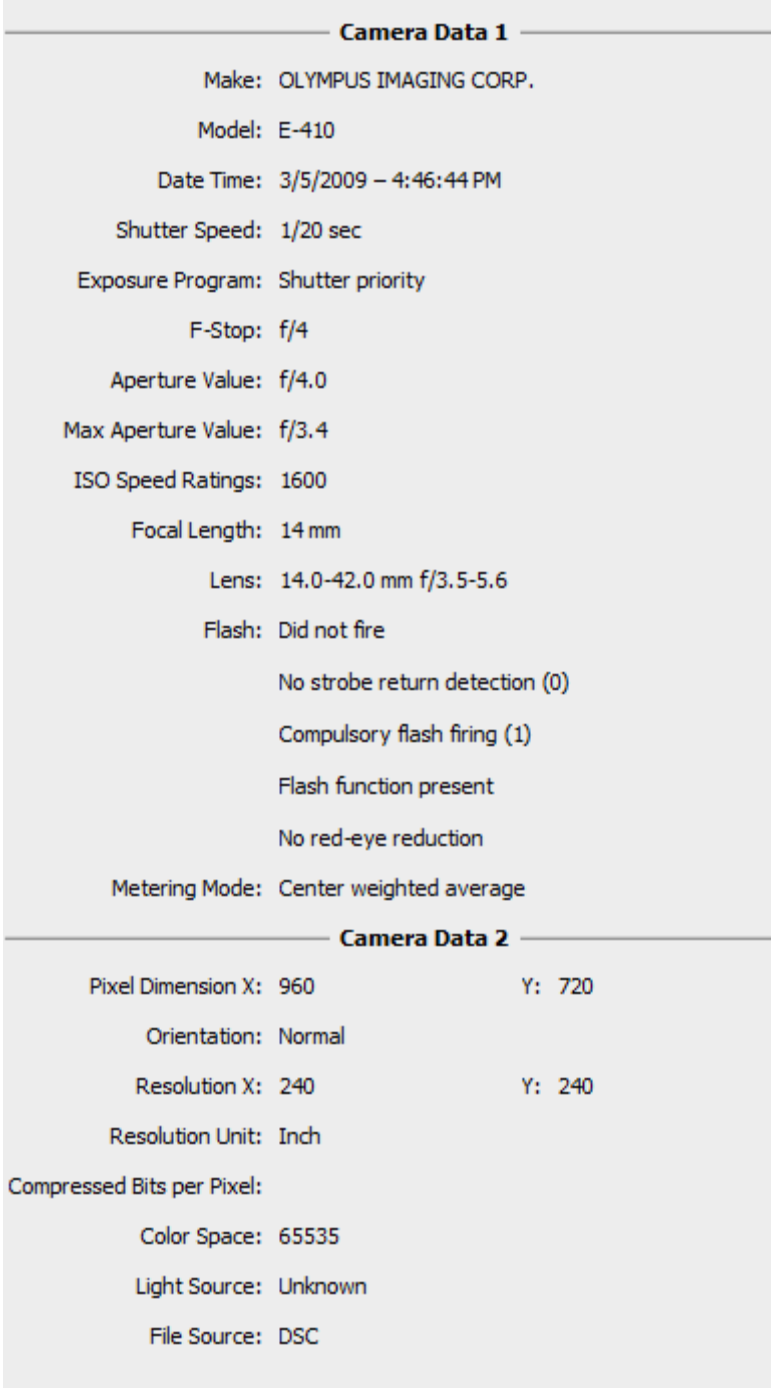
This is the first team assignment in Flow Vis. The purpose of this image is to see how fog smoke dissipates from the fog machine. This is part of a study to show how air moves in an operating room in hospitals. This study will help improve ventilation systems to keep the room a sterile as possible.

This was a very simple setup. A fog machine was placed on a polished steel table with lighting under the surface of the table. The fog machine was turned on for a very short time. The ventilation system was on a very low setting causing almost no air currents in the room. The camera was placed just behind the tub attached to the fog machine to see how the smoke would react to the air currents in the sealed room. A figure of the basic setup came be seen in the picture below. The fog comes out of the tube is mostly turbulent but moves very slowly due to the minimal air currents. It slowly diffuses into the air. A number of vortices can be seen in the images.



Fog from the fog machine is the only visible material used. This is a mixture of glycol and water. The fog machine heats up and the liquid is pumped through a heat exchanger which evaporates the liquid which forms a think smoke like fog. The lighting used was a small halogen free standing light. No flash on the camera was used.

The distance from the image to camera was about 2 feet. The field of view was a bit over that in the range of 2.5 to 3 feet. The rest of the specs are given in the table below.



The image reveals how fog will diffuse in a low air current environment. I like how the fog slowly splits apart and somewhat dissipates as it moves. There are a number of vortex rings in the images and long solid like stringy parts. This will help show how air diffuses in a hospital room.