Programming Project #0 (proj0)

15-463: Computational Photography

(Images from here)

The Vertigo Shot
Due Date: 11:59pm on Monday, January 18, 2010

Overview

In this assignment, you'll be duplicating a famous in-camera effect: the dolly zoom. This camera movement is also known as the "Vertigo shot", referencing a famous scene (pictured above) in Hitchcock's Vertigo. More examples of the effect are shown in this Youtube video.

To duplicate this effect, you'll need a camera with a real zoom lens ('digital zoom' will make your pictures look terrible). Pick a subject for your dolly zoom and then take a series of photographs, changing the FOV as you change distance to the subject.

Bells & Whistles (Extra Credit)

The following (optional) exercises can net you some bonus points:

- **5 points** Assemble your sequences into animated gifs.
- **5 points** Try different combinations of moving the subject and camera.
- **10 points** Using measurements of the distance from the camera to your subject and the width of the subject, compute the field of view of your camera at minimum and maximum zoom. (This works best when these distances are large compared to size of the camera, since this mitigates the impact of not knowing the exact optical center of the lens.)

Deliverables

Since this effect is created entirely in the camera, you won't need to write any code for this assignment. However, you will need to create a web page to showcase your results. Please, nothing flash-y or complicated -- simple html should suffice. This assignment will be graded out of **100** points. Grad

students can earn up to **90** points from the basic assignment, and should do at least **10** points of bells & whistles (above). This web page should include:

- Two dolly zoom sequences you have captured (at least 4 images each). Please use jpeg compressed images of a reasonable resolution (no more than 1024x768).
- Any bells & whistles you choose to implement.
- A short write-up describing the process of completing the project, including information about the camera you used, the locations you chose, and any difficulties you encountered.

Place the web page and accompanying images in your `proj0/www` folder as described in the submission instructions.