

SP-757 FINAL PROJECT Fall 2006

Martin McBrien

“The Walk”

The Idea

To take a series of photos from where I live in Boston along the route I normally walk to MIT, and stitch them together as a large panorama, with the final product taking the same format as below:



Fig 1 – Initial Idea

The Inspiration

While in Pearson Airport, Toronto, I saw a display of panoramic pictures taken in the airport with each panorama stacked on top of each other (I unfortunately can't remember the photographers name now, and cannot find mention of it online.) I liked this effect, and wanted to base my project on the idea of creating panoramas.

I then had to think about what to take panoramas of; in my spare time, I have already created 360° panoramas of the Boston skyline, which turned out quite well, but I didn't want to reuse an old idea. Instead, I had the idea to take a series of pictures to convey my walk to MIT, possibly shooting from night through dawn to morning on the way, in the hope that I can convey some sort of 'waking-up' feeling.

The Challenges

1. I'm estimating I'll be taking about 200-300 photos, which is a lot to try and stitch together. Hence, I will use a piece of software I have used before, Firmtools Panorama Composer 2.0 <<http://panorama.firmtools.com/>> to stitch the photos together, and then use Photoshop CS2 to do the final editing.
2. Very difficult to have people/moving cars in shots as they will interfere with the software joining photos – this is another reason for taking the pictures early in the morning, as hopefully there will be fewer people around.

3. In order to have the software work correctly, each image needs to nicely overlap and be oriented correctly; I will need to pay close attention to this when taking photos.
4. Capturing the changing light through dawn will require me getting up quite early.

The Execution

Taking the Photos

The all-knowing Google told me sunrise on Wednesday 29th November was at 6.52am, so I rolled out of bed and onto the street outside at 6.30am. I began taking photos straight away, using a high ISO, fast shutter speed and no flash in order to get the best quality, sharpest photos in a night-time setting. Each photo was taken in increments of 10 steps walking along the opposite side of the street.

Things appeared to be going well until I paused to review the shots I had taken; objects in the foreground were lining up differently with the background in different shots, as shown below.



Fig 2 - The above two pictures are only roughly matched together using the foreground object, but it is clear there is no chance of background objects matching.

Realizing that to fix this in Photoshop would be a mammoth undertaking, I chose to alter my idea to make it more feasible. Instead of one long panorama, I decided to create a series of panoramas taken at different points along the road. This approach was closer to my original inspiration, the display at Pearson Airport.

I took over 250 photos at 26 locations along the road to create the panoramas, being especially careful to keep moving objects centered in the frame so that stitching the images together would be a relatively easy process.

Creating Panoramas

As I mentioned before, I used a special piece of software (Firmtools Panorama Composer) to create each panorama. This proved to be a relatively simply process due to how careful I was taking each photo (ensuring sufficient overlap, keeping the camera horizontal, keeping the camera pointing at the same vertical height, no moving objects at the edge of pictures). Minor adjustments, e.g. cropping, rotation, were needed in Photoshop for some shots.

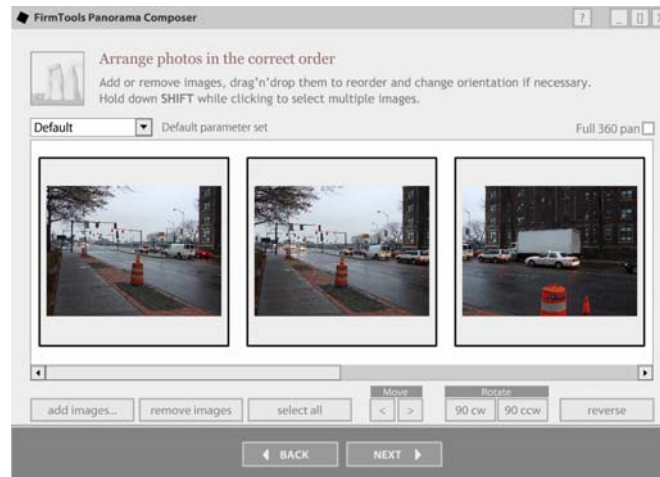


Fig 3 – Creating a panorama

Editing with Photoshop

In order to make the panoramas fit together nicely, I used an automated script feature; Image Processor; to batch resize images to a width of 4000 pixels, with the expectation that they would be further scaled down for printing.

I then created a new canvas at a size of 4000x18000 pixels (26 panoramas at an average height of 800 pixels), and added each panorama in order as a new layer. However, it quickly became clear that this idea would not work due to the proportions of the images – the result would be too tall and not wide enough, so that when printed it would be difficult to see detail in the photos. Also, there was not enough distinction between the first few panoramas to make it worthwhile continuing on this route.

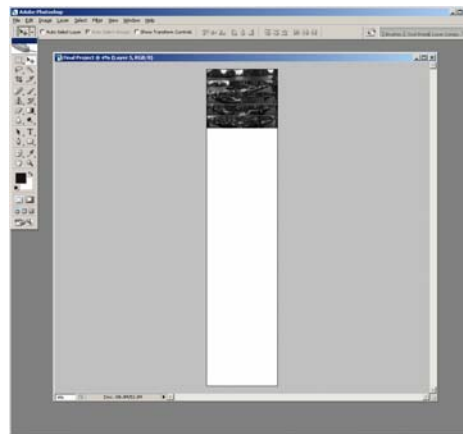


Fig 4 – Initial layout in Photoshop

Instead, I cut out some of the panoramas I deemed unnecessary, to give a more condensed version of the collage. After organizing layout, I carried out adjustments in contrast/brightness for each layer to give the whole image coherence, and to try and emphasize the transition from sunrise to morning and then printed.

The Result

I was happy with the end result of the project, but slightly disappointed that I had to change my idea mid-execution due to technical reasons (admittedly, I should have realized this would happen beforehand.) The modified idea worked quite well though, with a general transition from darker to lighter photos as the sun rose. I also think cutting out some of the panoramas ruined the way each shot carried on to the next, although this was hard to follow in the original version anyway.

If I was to do this again, I would not have chosen the idea of trying to convey my walk to school, as this is a very specific thing to me, with little relevance to anyone else. I would instead have picked something that could be appreciated by more people, for instance panoramas of the MIT campus.



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Fig 5 – Final Design