Morphing images

This in-class activity is an opportunity to get acquainted with your Assignment 1 group, make sure you're up to speed about using C/C++, and to start working on the assignment (e.g. by implementing convolution, etc.).

In class we saw examples of "morphing images" which look strikingly different at different viewing distances, like the one in Figure 1. Here's the general recipe for creating one of your own. Start with two images, apply a low-pass filter to one (which reduces its high-frequency components) and apply a high-pass filter to the other (which reduces its low-frequency components), and then average the two together. A low-pass filter can be implemented through convolution with a Gaussian, while a high-pass filter can be implemented by simply subtracting the result of a low-pass filter from the original image.

Implement a function that will create "morphing" images. Produce a cool hybrid image using photos of your own. Note that you'll have to experiment with the values for the sigmas of the low and high pass filters and different images before you find the perfect one to show.

Use the skeleton code from Assignment 1 to get started. Before the end of the class period, put your source code (and a sample morphing image, if you complete one) in your A1 repository, in a new directory called "morphing."

The AIs will be circulating around the classroom to help, so please ask questions!

Figure 1: This "morphing image" shows a tiger, but step back (or zoom out) and it morphs into a cheetah.