Computer Graphics IV Tutorial

– Assignment 1 –

Computer Graphics and Multimedia Systems Group
Martin Lambers

Assignment 1 Simple Image Processing

Complete a program that reads an input image, manipulates it, and writes the resulting image. Basic functions to read and write PNG images are alread included in the archive file.

The image manipulation to implement is a 5×5 averaging filter: for each input pixel (x,y), compute the average value of the pixels with horizontal indices $x-2, x-1, x, x+1, x+2$ and vertical indices $y-2, y-1, y, y+1, y+2$, and write the result to the output image. (This is in effect a simple low-pass filter; it blurs the input image.)

At the image borders, you can simply clip the 5×5 neighborhood: if your current column index is less than 0, then set it to 0; similar for the other borders.