Exercise Digital Image Processing

SS 2008

Exercise 10
Submit by July, 7th, 10:00AM, for exercise on July, 9th

Multimedia Computing Lab
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Notes:

- You have a choice: Solutions to text exercises that do not involve programming can be in English or German, at your choice. Submission to text exercises can be made on paper or by email (scanned documents, PDFs, or Word/OpenOffice) to Eva.Hoerster@informatik.uni-augsburg.de before the above due date.
- Solutions to programming exercises must be submitted by email to eva.hoerster@informatik.uni-augsburg.de before the above due date. Only submit your source code (*.h and *.cpp files). Do not submit any executables, binary or object files, project or solution files, nor any other input data that can be downloaded from the course website (i.e. image or video data provided as part of the assignment). DO NOT COMPRESS YOUR SOURCE CODE FILES (.rar, .zip, etc. is not allowed)! Your code must compile and run; if your code fails to compile, you will receive zero points for the exercise.

10.1 (30 points)
Implement in C/C++ the computation of the test pattern shown in Lecture 9 "Test Pattern". Store the computed image.

10.2 (70 points)
Implement in C/C++ the following three filters:

- Median filter
- Gaussian filter
- Box filter

of size 3x3, 5x5 and 7x7. Applying each of them to the image computed in exercise 8.2 (If you could not compute the image use any other image).

Which differences in the output do you observe between the different sizes and filters? Explain your observations.