Assignment in Computer Graphics II
– Assignment 2 –

Computer Graphics and Multimedia Systems Group
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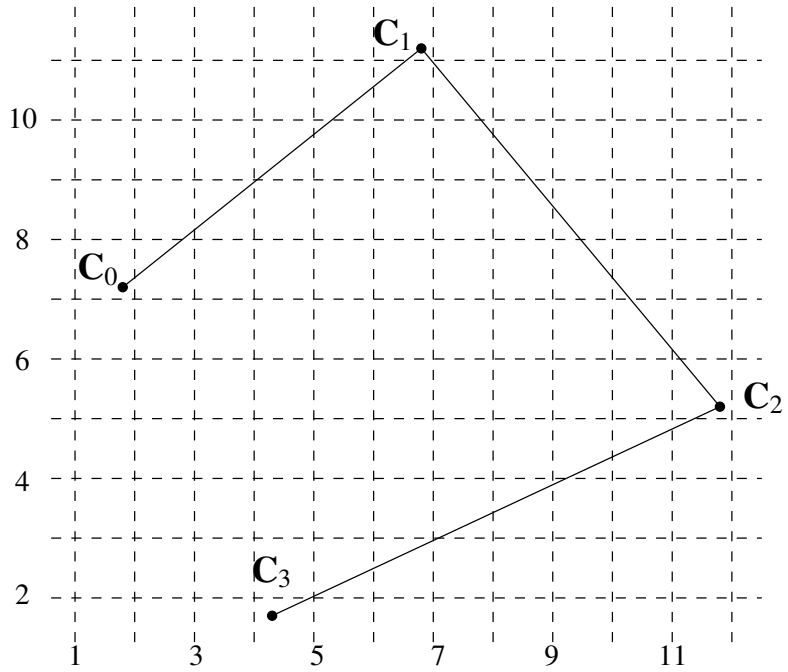
Assignment 1 [1 Point] Example de Casteljau-Algorithm

Evaluate the cubic Bézier-curve with control points

$$\mathbf{C}_0 = \begin{pmatrix} 1.8 \\ 7.2 \end{pmatrix} \quad , \quad \mathbf{C}_1 = \begin{pmatrix} 6.8 \\ 11.2 \end{pmatrix} \quad , \quad \mathbf{C}_2 = \begin{pmatrix} 11.8 \\ 5.2 \end{pmatrix} \quad , \quad \mathbf{C}_3 = \begin{pmatrix} 4.3 \\ 1.7 \end{pmatrix}$$

graphically and mathematically with the **de Casteljau-Algorithm** for $u = 0.4$! Denote all the points!



Assignment 2 [1 Point] de Casteljau-Algorithm

Write a program that evaluates a Bézier-Curve with the de Casteljau-Algorithm.

Take the program framework `assignment_02.zip` (provided on our website) as a starting point .

To execute the project in your preferred development environment use the included CMake project ("CMakeLists.txt"). CMake can be downloaded from the following website: `http://www.cmake.org/`. Use the instruction on the page
`http://www.cmake.org/cmake/help/runningcmake.html` and the tutorial page to create the project.

Your task is the implementation of the methods `getBPoints` and `plotBCurve` in the file `main.cpp`.

- `getBPoints`: Computes all Bézier-points from given control points .
- `plotBCurve`: Draws the Bézier-curve by using many small and straight pieces(lines).

Further explanations can be found in the comments of the code.

Submission: 16.10.2014, before /at the beginning of the exercise.

Submit task 1 on paper and send for task 2 an email with the modified main.cpp.
$\rightarrow$ Email to: david.bulczak@uni-siegen.de, christoph.schikora@uni-siegen.de

The **deadline** is the same for both tasks, e.g. emails will only be accepted till Thursday 12:00 clock. If we receive your mail, we will send you as soon as possible a confirmation.