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„Game Technology“
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Example Problems for Lecture 4 „Software Rendering 2“

1. Important Topics

Depth Buffering

Matrix calculations (only on a higher level, you won't have to do matrix multiplications by hand)

Quaternion calculations (also only on a higher level)

Basic local lighting

2. Example Problems

a) Explain the benefits and shortcomings of the depth buffering algorithm.

b) Given a rotation r around the y axis (in the form of an angle), a translation t (in the form of a three component vector) and a mesh p – show how to calculate the rotation followed by the translation using only matrices and using matrices and a quaternion. You don't have to show how the matrices and quaternions themselves are built.

c) What are the shortcomings of per-vertex lighting?