

Kurzfassung der Studienarbeit

Abteilung	Informatik
Name der Studierenden	Jonas Mäder Benjamin Dürrenberger
Studienjahr	04
Titel der Studienarbeit	Hardwareunabhängige 3d Bibliothek
Examinatorin / Examinator	Thomas Letsch
<p>Kurzfassung der Studienarbeit</p> <p>To teach object oriented methodologies, a three dimensional visualisation tool (3DCOV) was developed as a previous project. This tool used Java3d, a software that makes use of graphics cards in computers to visualize three dimensional scenes.</p> <p>Because it uses the underlying hardware, the behaviour of 3DCOV differs depending on what computer and graphic card it is used on. For an educational environment, this proved to be too unreliable, because of the different hardware setups.</p> <p>It was thus decided to port 3DCov to a pure software solution. This would ensure that it runs on every computer (that has java installed) in the same way. The goal was to port as much of the old functionality over to the new version, the user should not feel any difference between the two version.</p> <p>To be useful, certain performance goals had to be met as well (software is slower than using graphics cards).</p> <p>During the project, a few different variations of possible solutions were evaluated. It was then decided to port the 3D part of 3DCOV over to an existing framework that offers software rendering. This framework is JPct, a small, easy and free to use library.</p> <p>It proved to be the right choice, as we were able to port most of the features. Even some old issues were integrated properly in the new version. Performance by far succeeded our expectations; it does run nearly as fast as the java3d version.</p>	