

Bachelor Thesis by Lukas Stratmann

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SUBMITTED TO ACM SIGGRAPH 2017,  
6th Annual Faculty Submitted Student Work Exhibit,  
Los Angeles, CA, 30 July – 3 August 2017

*Task:* In his Bachelor Thesis, Lukas Stratmann designed a web tool for teaching and practicing color spaces. The tool includes, for example, interactive visualizations of color spaces such as RGB, CMY and HSL, as well as exercises to practice the conversion between them. To make the tool real-time capable and platform-independent, WebGL was used for implementation.

*Results:* The video shows elements of the web tool designed during the thesis. At the beginning, interactive visualizations of color spaces are shown. First a combination of the RGB and the CMY cube and afterwards the HSL biconal solid. Furthermore, an example for the exercise color matching is shown.

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Bachelor Thesis by Till Pankoke

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*Task:* The task of Till Pankoke's Bachelor Thesis was to create a concept for real-time shadowing integrated into a Deferred Shading Pipeline. The application area of this concept is to test a camera-based ADAS (Advanced Driver Assistance System), therefore Till's work had to fulfil special requirements like high quality in the near range and self-shadowing. In his research, he identified six suitable algorithms, applicable in a Deferred Rendering Pipeline. By evaluating (and partially programming) these algorithms, he could show that a combination of Light Space Perspective Shadow Mapping (LiSPSM by WIMMER, SCHERZER and PURGATHOFER) and Distorted Shadow Mapping (DSM by JIA, LUO and ZHANG) fits best for the given use case.

*Results:* The video shows the result of the implementation of a combination of Light Space Perspective Shadow Mapping (LiSPSM) and Distorted Shadow Mapping (DSM) as part of the thesis.

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