Posudek diplomové práce

Matematicko-fyzikální fakulta Univerzity Karlovy

Autor práce Lucia Tódová
Název práce Spektrální syntéza s omezujícími podmínkami
Rok odevzdání 2017
Studijní program Informatika **Studijní obor** Počítačová grafika a vývoj počítačových her

Autor posudku Alexander Wilkie **Role** Vedoucí
Pracoviště KSVI

Text posudku:

The student was faced with a complex problem from real VFX production work: to allow artists to create RGB textures for virtual assets which would then uplift to spectral shapes that correspond to those found on real production assets that a virtual double was being created for. To make this work, she had to build on non-trivial existing spectral uplift software, and had to add an entirely new layer of capability to it. So far, spectral uplifting had been restricted to generation of arbitrary plausible spectra, the shape of which could not be controlled by the end user. The work submitted by the student is the first technique ever that allows actual user control over the result of a spectral uplift, and which as a result allows RGB textures to be uplifted to particular spectral shapes. The student not only succeeded admirably in solving the technical problems she was faced with (to the extent that the resulting technique could already be used for production work), but also authored a technical publication which was accepted at the Eurographics Symposium on Rendering, the best specialist venue for rendering technology. Due to this, I recommend the thesis for acceptance.

Práci doporučuji k obhajobě.

Práci navrhuji na zvláštní ocenění.

Pokud práci navrhujete na zvláštní ocenění (cena děkana apod.), prosím uveďte zde stručné zdůvodnění (vzniklé publikace, významnost tématu, inovativnost práce apod.).

For the reasons outlined in the assessment, this thesis is outstanding insofar as it provides a new level of capability to cutting edge spectral VFX workflows. It is no mean feat for a master's thesis to create something which will in the near to medium term future end up in actual production software in leading companies. The conference paper that came out of this thesis was co-authored with the head of research of Weta Digital, which is a leading VFX company of "Lord of the Rings" and "Planet of the Apes" fame. This alone indicates that this thesis solved a real problem that matters to industry: and that it was accepted at first attempt at the Eurographics Symposium on Rendering is an indicator that the rendering community agrees that this is highly interesting work.

Datum 18. June 2021 **Podpis**