TECHNISCHE UNIVERSITÄT WIEN
Institut für Computergraphik und Algorithmen
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OESTERREICHISCHE COMPUTER GESELLSCHAFT
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laden gemeinsam zum

GASTVORTRAG

Johannes Kopf
Microsoft Research
Redmond, USA

"A Blast from the Past --- Digital Reconstruction and Vectorization of Classic Comic Books and Old School Pixel Art"

Abstract:
Over the last few decades, nearly all media (e.g., audio, images, video, text, CAD) have been transitioning to digital representations. There are of course countless works that predate this transition. One key challenge is that analog representations in physical media may be subject not only to noise but to other artifacts specific to each physical representation.

In this talk I will consider the challenging case of printed color illustrations, and in particular, comic art. I will present our recent work on automated conversion of scanned color comic books, as well as some other types of hand-drawn color illustrations, into a new, high-fidelity rescalable digital representation, suitable for today's high resolution digital reading devices. Our approach is to model the color comics printing process in a rigorous manner and to invert this model using non-linear optimization.

I will also present another line of research, in which we---in a similar spirit---convert "old school" pixel art into a resolution-independent vector art representation, suitable for significant magnification. Our algorithm resolves pixel-scale features in the input and converts them into regions with smoothly varying shading that are crisply separated by piecewise-smooth contour curves.

Biography:
Johannes Kopf is a Researcher at Microsoft Research in Redmond, working in computer graphics and related areas. More specifically, his research spans a variety of areas including computational photography, vectorization, and image-based rendering. Before joining Microsoft he received a PhD from the University of Konstanz, Germany.

Datum: 19. Oktober 2012, 10:30 Uhr s.t.
Ort: TU Wien, Favoritenstr. 9, Stiege 1, 5. Stock, Seminarraum E186