



Mark Grundland

Style and Content in Digital Imaging

Reconciling Aesthetics with Efficiency
in Image Representation

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Graphic design draws a fundamental distinction between style and content, as in font and text. Applying the same principle to digital photography, this work proposes a novel image representation that separates the specification of rendering style from the description of informative content, enabling style and content to be saved, changed and reused independently. From the abstract to the figurative, this technique represents images at progressive levels of detail. It also supports interactive style design using genetic programming. As every image has a grain, there is always a resolution where stylized depiction must take the place of exact reproduction. Intentional stylization enables visual artifacts to play a constructive role in visual communication by making abstraction and simplification appear legitimate. Painterly rendering styles that encourage the viewer's imagination to complete the picture can act as a powerful form of image compression. Based on University of Cambridge research, this book presents students, researchers, and practitioners of image processing and computer graphics with a new perspective on representation, compression, and stylization in digital imaging.



Mark Grundland

Mark Grundland is a research and development consultant. Combining computer graphics, computer vision and visual art, his research investigates how image processing tools can be designed to express the imagination and expand the creative possibilities of digital media. He received a PhD in image processing from the University of Cambridge in 2007.



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