Title

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Remote Visualization of Extremely High Resolution Multispectral Data

Abstract

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Multispectral and Hyperspectral imaging possess up to several hundred
channels of spectral data per pixel. When scanned at high spatial
resolutions, huge quantities of data are produced which can be up to
hundreds of gigabytes in size. Such large volumes of data are difficult
to store, manipulate and use. Visualization of such data is often slow,
cumbersome and difficult without powerful hardware and often expensive
software. Even then, sharing or accessing the data remotely is often
prohibitively bandwidth intensive. The result is that valuable data
often remains under-used and not fully exploited.

In order to make such data more readily accessible for both professional
collaboration and to the general public, a light-weight and
network-enabled means to visualize and share this data is necessary. In
this presentation we describe an open source client-server architecture
designed to handle gigapixel scale multispectral imagery and to enable
interactive and efficient network streaming of scientific grade high
resolution to data. The system is able to interface with any
network-enabled client using a light-weight platform-independent web
based HTML5 client capable of running on both desktop and mobile devices.

The presentation will present the system, describe how it may be used
with multispectral data and present several case studies.

Author

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Ruven Pillay is a research scientist working on hyperspectral imaging of
works of art, 3D imaging and visualization. He has over a 15 years of
experience in scientific imaging of cultural heritage, having previously
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multispectral camera, before working at the C2RMF, the French national
centre for restoration and research housed within the Louvre museum. He
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