

# aDORe djabatoka: An Open-Source Jpeg 2000 Image Server and Dissemination Service Framework

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The JPEG 2000 image format has attracted considerable attention due to its rich feature set defined in a multi-part open ISO standard, and its potential use as a holy-grail preservation format providing both lossless compression and rich service format features<sup>1</sup>. Until recently there was lack of an implementation agnostic (e.g., Kakadu, Aware, etc) API for JPEG 2000 compression and extraction, and an open-source service framework, upon which rich Web 2.0-style applications can be developed. Recently we engaged in the development of aDORe djabatoka<sup>2</sup>, an open-source JPEG 2000 image server and dissemination framework to help address some of these issues. The djabatoka image server is geared towards Web 2.0 style reuse through URI-addressability of all image disseminations including regions, rotations, and format transformations. Djabatoka also provides a JPEG 2000 compression / extraction API that serves as an abstraction layer from the underlying JPEG 2000 library (e.g., Kakadu, Aware, etc). The initial release has attracted considerable interest and is already being used in production environments, such as at the Biodiversity Heritage Library<sup>3</sup>, who uses djabatoka to serve more than eleven million images<sup>4</sup>.

This presentation introduces the aDORe djabatoka image server and describes various interoperability approaches with existing repository systems. Djabatoka was derived from a concrete need to introduce a solution to disseminate high-resolution images stored in an aDORe repository system. Djabatoka is able to disseminate images that reside either in a repository environment or that are Web-accessible at arbitrary URIs. Since dynamic service requests pertaining to an identified resource (the entire JPEG 2000 image) are being made, the OpenURL Framework was selected to provide an extensible dissemination service framework. The OpenURL service layer simplifies development and provides exciting interoperability opportunities. The presentation will showcase the flexibility of this interface by introducing a mobile image collection viewer developed for the iPhone / iTouch platform.

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<sup>1</sup> Buonora, P., Liberati, F. (2008). A Format for Digital Preservation of Images: A Study on JPEG 2000 File Robustness. D-Lib Magazine, 14(7/8). <http://dx.doi.org/10.1045/july2008-buonora>

<sup>2</sup> Chute, R., Van de Sompel, H. (2008). Introducing djabatoka: A Reuse Friendly, Open Source JPEG 2000 Image Server . D-Lib Magazine, 14 (9/10). <http://dx.doi.org/10.1045/september2008-chute>

<sup>3</sup> <http://www.fak3r.com/2009/01/27/howto-serve-jpeg2000-images-with-a-scalable-infrastructure/>

<sup>4</sup> <http://biodiversitylibrary.blogspot.com/2009/01/now-serving-all-page-images-via-djabatoka.html>