

Enhancing OJS journals with advanced online reading and viewing capabilities

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Providing users with a rich, intuitive and meaningful interface for accessing online electronic resources, e.g. books, monographs, journal papers is a significant factor for the adoption and usage of electronic publication systems and for the augmentation of the users' experience.

Traditionally, electronic journals, and scientific publications, have been published and viewed online, using the widespread PDF format, for the rigid, portable formatting it provides, and HTML for its versatility.

Recently, initiatives such as the "Google Books" and "Google Art" project, the Internet Archive "Open Library" and advanced repository systems, have paved the way for novel online reading capabilities and experience, with features such as "page by page" viewing of electronic resources and tile-based image viewing systems, exploiting advanced codecs such as JP2000 and corresponding online viewers.

These advances are becoming gradually available in electronic publication systems and, if incorporated in Open Access Journals can contribute to even wider adoption by users and publishers. Such incorporation will enable, apart from intuitive reading capabilities, the efficient viewing of large data sets visualisations, maps and/or images of cultural artifacts.

A very promising area concerns page by page reading capabilities, since it presents significant advantages: incremental, less bandwidth-consuming download of material (avoids downloading large pdf files, especially for digitised or media rich content, as well as browser incompatibilities with PDF readers), more attractive and intuitive reading experience. Furthermore, it can provide full-text search with hit highlighting, ability for e-journal hosts to capture statistics of visitor reading patterns, full-text searches, etc (something impossible with off-line reading), ability for a distinct, unique, user friendly URL for each page allowing bookmarking, reference and sharing at the page level, XHTML compatibility and lack of dependence on external closed source readers, and capability of advanced tile based browsing for scientific and cultural data of extremely high resolution.

EKT has integrated in OJS online reading and viewing capabilities. Documents can be read online through a page-by-page reader while full-text search with

hit highlighting is supported. Furthermore, supplementary material of publications (e.g. high resolution images which are common as material accompanying research articles particularly in the Humanities) can be viewed in high resolution utilising the progressive transmission features of JPEG2000.

In the full paper, the technologies, open source components and OJS integration mechanisms employed to achieve this functionality will be presented, including among others an interactive online reader with dynamic zooming, thumbnail view, full-text search and hit highlighting capabilities, a JPEG2000 image server, and the highly scalable backend common infrastructure for storage, batch image processing, OCR and access to digital files by multiple applications.

EKT will make available the tools developed for integrating OJS with these advanced open source components. While the full implementation of this functionality requires a substantial backend infrastructure and procedures, it is nevertheless suitable to be provided with a Software as a Service model, which nowadays becomes increasingly popular in electronic publishing, thus providing all open access publishers, independently of their size, advanced on line reading capabilities.