



Thursday 16th June 2011

Time: 14:20 - 14:45

## Descartes Medias

**Speaker:** Francois Cadé, Université Paris Descartes

### Abstract:

Médias<sup>2</sup> Descartes is a web application that allows to publish, view and comment on educational resources (courses, exercises, documents, conferences, virtual blades) classified on the basis of a thematic ontology. Access is either direct and dependent on the users' rights or indirect via e-Learning platforms. The content of this media library is also available by an internal search engine via ,for instance, the names of the authors or keywords. It is also possible to subscribe to RSS feeds of all media and topics. Médias<sup>2</sup> Descartes is Descartes Media Suite a collection of applications at the service of online learning content resulting from screen casts and a multimedia platform.

Software Suite DMS consists of 4 independent and closely cooperative applications:

- Descartes Capture:
  - wWeb Application recording in lecture halls and broadcast télé-amphi & streaming with booking management.
  - Is based on a professional product registration and dissemination of WebTV: Telestream Wirecast 4
  - Evolution to interfaces touch iPad for launch, pause, stop and switching sources and for inserting chapter points
  - Simple and evolving Server Architecture based on Tomcat7 JSF2 and JPA2.
- Descartes Broadcast:
  - device for live broadcasting and VOD in http streaming and virtual classes
  - based Wowza and EVO software infrastructure.



- Descartes Engine:
  - encoding string fully automated workflow, extensible cluster and easily shared
  - mode relies on a professional encoding product: Telestream Engine 6 platform Apple and Windows
  - Highly evolving Server Architecture based on an Xserve grid.

Médias<sup>2</sup> Descartes: is the platform for publications of Paris Descartes multimedia resources. It allows each member to publish their productions: filmed courses, tutorials, conferences, seminars, library digital resources, scientific imaging ...

- publications obtainable
- online signature of the contract of copyright and image rights for Paris Descartes members
- access management (public or restricted to a group in the repository of the institution)
- statistics tool
- display of the chapter for the videotaped courses
- indexing courses resources
- Podcast
- subscription by RSS feed
- search engine
- features of integration to display media on other sites
- display of video in different sizes according to reading screen used
- multilingual: English, French and Russian.

Technical specifications:

- multi-tier server architecture and Java WebObjects technology
- java WebObjects application server and client Web browser (Firefox, Chrome, Safari, Internet Explorer, iTunesU...)
- Hosting files (smb, nfs,... shared by WO and Apache servers)
- authentication via a CAS server and groups management.

The four Descartes Media Suite applications are distributed or 'broadcasted' in Saas mode "On demand" or "Hosting" .



The objectives of this suite:

- privileged and common workspace to share the university pedagogical resources
- enhance our educational, scientific, and event productions
- rich media and teaching methods via the Web,
- manage online and legally validate authors and image rights
- standard publication formats adapted to the new viewing devices (iPod, laptop, ...),
- technical follow-up and academic support
- expand resources access via ENT (digital work space).

The Users:

- faculty members who are the authors and stored in the digital directory of the University Paris Descartes,
- 38 000 students of Paris Descartes,
- teachers, scholarship services, eLearning and academic support team, administrative members and researchers.

Publication workflow: the filing of a document

- the notion of contributor: 3 possible cases : the author himself, a contributor, the automatic screen casting system.
- rights to access to any document: according to the target audience, can be restricted with a password or publicly open. Tree publication takes into account the enrolment system (disciplines and teaching groups).
- indexing: title, summary, keywords, author, co-author... should enable an automatic indexing using SUP-LOM-FR format.
- the publication is limited by default to the media library, but the workflow also allows to automatically create links to iTunesU and Canal-U (academic broadcasting).

In connection with a law firm, a great work, has been made to allow digital validation of the copyrights and the image rights by differentiating single publications from those in a semi-annual course program. Description of an extension : the virtual slides project of digital microscopy: new teaching tool for health studies the project goal is renovate the learning of different specialties of health currently based on looking at standard blades in the optical microscope. The digitally



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captured images from real blades images are called "virtual blades" and show all or part of a sample or a slice. After indexing, these images will be integrated in the media library of Paris Descartes and available through a Learning Management System (LMS) such as Moodle. This innovative technology will allow students to remotely consult these images and teachers to propose learning cases. This multi-faculties (medicine, pharmacy and odontology) pilot project perfectly integrates into the forthcoming transformation of the Health first year studies. The involved studies are medicinal and odontological anatomopathology, histology and biological haematology. 250 digital slides are used in various sessions of practical work.

The benefits of using Descartes Medias<sup>2</sup>:

- for teachers : automation of the course screen casting, protection and indexing of the course, ease-to-use within multiple LMS
- for students : a very easily viewed course with chapters
- for computers : easing of the LMS, a single link is sufficient to achieve the record, a single course repository with multiple internal or external uses
- everything is of course protected with single authentication architecture (SSO).