Telemeta
open web audio content management system

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Main goals

- Save, scale and sustain big music data and related metadata
- Play audio and read metadata at the same time, synchronously
- Index and share music data through a collaborative web app
- Link music data to various ontologies and external services
- Manage access rules and copyrights easily through time
- Process audio on demand through a modular architecture

History of the project

- 2006 : definition of the goals (open source web audio collaborative platform)
- 2007 : first partner : CREM
- 2007 - 2009 : technical specifications, definition of the DB migrator
- 2008 : prototype development
- 2008 - 2010 : workflow and format specifications
- 2011 : development, final migration and release of Telemeta 1.0 to the CREM for production : http://archives.crem-cnrs.fr
- 2011 - 2014 : collaborative indexing, more development, massive data imports...

Technologies

100% 0pen Source

- Python : smart object oriented language
- Django : high-level web MVC framework
- TimeSide : open web audio processing framework
- GStreamer : open source multimedia framework
- MySQL, PostgreSQL, etc : relational databases
- GNU / Linux : application and library suite / kernel

Features

- Pure HTML5 web user interface including dynamical forms and smart workflows
- On the fly audio analyzing, transcoding and metadata embedding in various formats
- Social editing with semantic ontologies, smart workflows, realtime tools, human or automatic annotations and segmentations
- User management with individual desk, playlists, profiles and access rights
- High level geo-located search engine
- DublinCore, OAI-PMH, RSS, XML and JSON data providers
- Multi-language support (now english and french)

Data model

- Main objects (hierarchy)

- Complete model : view PDF

Related projects

- TimeSide : open web audio processing framework
  - Easy plugin architecture (full Python)
  - Asynchronous and fast audio processing
  - Feature extraction (Aubio, Yaafe, Vamp plugins)
  - Smart, fancy and dynamical HTML5 web audio player

- DIADEMS : Description, Indexation, Access to Sound and Ethnomusicological Documents
  - granted by ANR : french national research agency (ANR-12-CORD-0022)
  - 3 years, 8 partners, 850 k€
  - new collaboration between human and computer science laboratories (not so easy!)
  - apply MIR algorithms on large scale ethnomusicological data
  - define some high level interfaces to find musical informations in complex corpus
  - http://diadems.telemeta.org

Development

- Links
  - http://telemeta.org
  - https://github.com/yomguy/Telemeta/
  - https://github.com/yomguy/TimeSide/
- Team
  - Guillaume Pellerin
  - Thomas Fillon
  - Paul Brossier
  - Riccardo Zaccarelli
  - Maxime Lecoz
  - David Doukan
- Licence : CeCILL v2 (GPL v2 compatible)

Partners

- Sponsors:
  - CNRS
  - Huma-Num (ex TGE Adonis)
  - ANR
  - CREM
  - UPMC
  - Parisson
- Partners :
  - IRIT (université Paul Sabatier, Toulouse 3)
  - LIMSI (universités Pierre et Marie Curie (UPMC, Paris 6) et Paris-Sud)
  - LAM (institut Jean Le Rond d'Alembert, UPMC)
  - LABRI (université de Bordeaux)
  - CREM (université Paris Ouest Nanterre La Défense)
  - LESC (université Paris Ouest Nanterre La Défense)
  - Museum d'Histoire Naturelle de Paris
  - Musée du Quai Branly

DIADEMS : roadmap

		IRIT	LESC	Parisson	LaBRI	LIMSI	MNHN	LAM	Année 1		Année 2		Année 3	
		1	2		3	4		5	6	12	18	24	30	36
T1	Gestion de projet								1.1	1.2	**1.3**	1.4	1.5	1.6
T2	T2.1 Zones d'intêret									2.1				
	T2.2 Détection de parole et de la musique									2.2.1	2.2.2		2.2.3	
	T2.3 Détection du chant									2.3.1	2.3.2		2.3.3	
	T2.4 Bruit d'intérêt										2.4.1		2.4.2	
T3	T3.1 Tours de parole et de chant									3.1.1	**3.1.2**	3.1.3	3.1.4	
	T3.2 Similarité musicale									3.2.1	3.2.2			
	T3.3 Instruments											3.3.1	3.3.2	
T4	T4.1 Spécification des Technologies d'extraction								4.1					
	T4.2 Interface augmentée - Analyse										4.2.1	4.2.2		
	T4.3 Inetrface de gestion													4.3
T5	T5.1 Evénements pertinents									5.1.1				
	T5.2 Evaluation des technologies, Analyse d'un corpus										5.2.1	5.2.2	5.2.3	5.2.2
	T5.3 Evaluation de l'interface												5.3.1	5.3.2
	T5.4 Profils										5.4.1			5.4.2
	Rapports d'avancement / états des dépenses								☺	☺	☺	☺	☺	☺
	Accord de consortium/rapport final									¤	.	.	.	¤

DIADEMS : TODO list

- TimeSide
  - web server (django)
  - process task manager
  - full HTML5 zooming player (+ annotations, segmentations, etc..)
  - analyzer parameters (+ interface)
  - more filtering (FIR, IIR, phase vocoder)
  - https://github.com/yomguy/TimeSide/issues

- Telemeta
  - class based views
  - rewrite geolocation services
  - public and enhanced user playlists
  - smart breadcrumbs
  - better interactions with TimeSide
  - http://telemeta.org/report/1

The end

Thanks !

telemeta.org