

“Create, communicate, find, consume, re-use”
the **aceMedia** project
for the professional users

Towards the **DIP**'s “**Dissemination Information Packages**” of the **OAIS** model

The **ace**'s “**Autonomous Content Entities**”

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<http://www.acedmedia.org>



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Partners

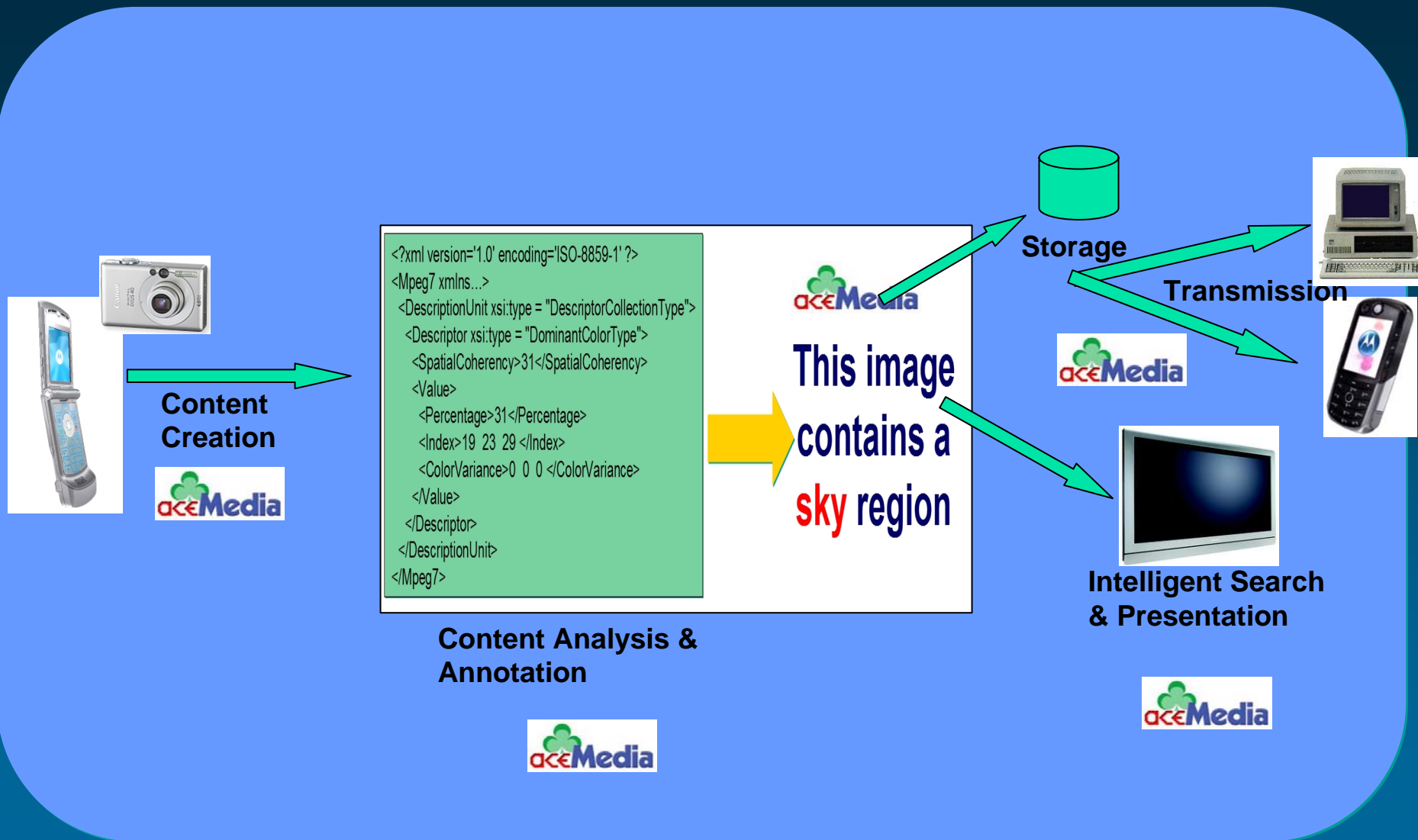
Motorola Ltd. (co-ordinator),
Philips Research,
Queen Mary University of London,
Fraunhofer FIT,
Universidad Autónoma de Madrid,
Fratelli Alinari,
Telefónica I+D,
Dublin City University,
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<http://www.acemedia.org>

aceMedia in the content value chain



Introduction

The OAIS functional model

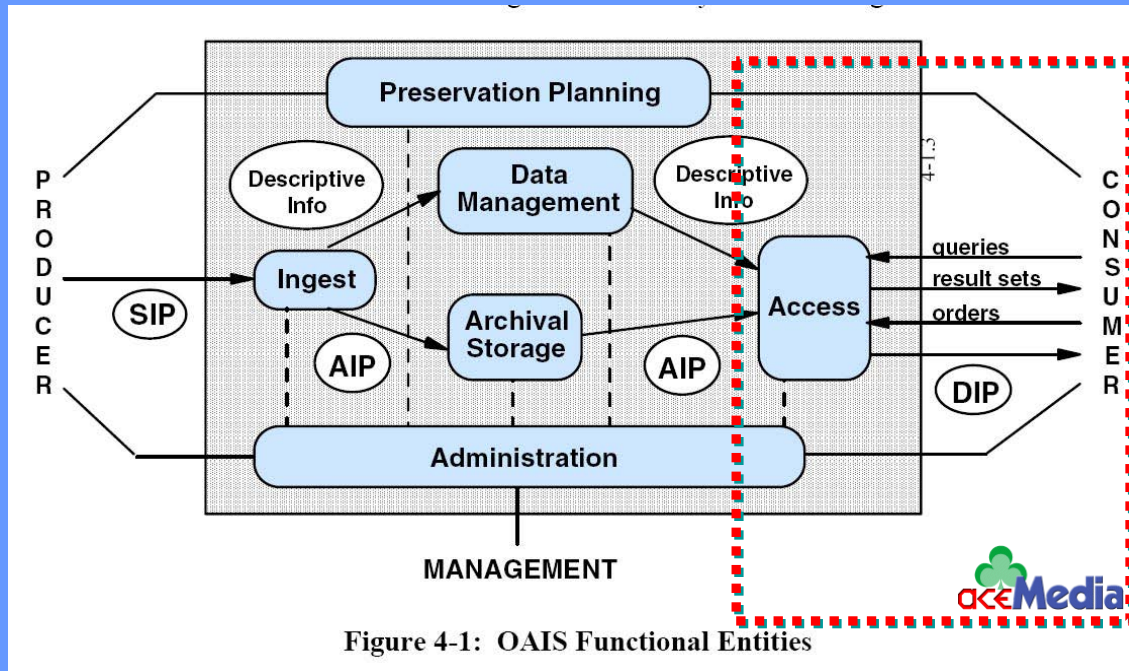
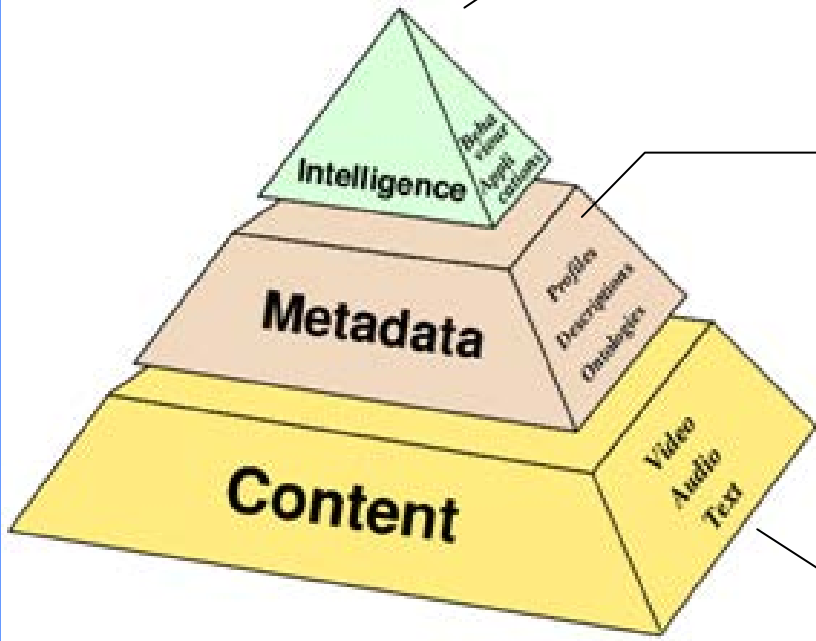


Figure 4-1: OAIS Functional Entities

Autonomous Content Entity (ACE)




Programmable Intelligence Layer:
Enabling the ACE to be self-organizing, self-analysing

Metadata Layer: Knowledge-based automatic semantic analysis and annotation based on ontology infrastructure. Also scalable.


Content Layer: Scalable content for **adaptation** to different devices, different network environments and user preferences.

3 layers of the ACE


Introduction

 aceMedia focuses on generating value and benefits to end users, content providers, network operators, and multimedia equipment manufacturers, by introducing, developing and implementing a system based on an innovative concept of knowledge assisted, adaptive multimedia content management, addressing user needs.

Main focus

 The main technological objectives are to discover and exploit knowledge inherent to the content in order to make content more relevant to the user; to automate annotation at all levels; and to add functionality to ease content creation, transmission, search, access, consumption and re-use.

Moreover....

 In addition, available user and terminal profiles, the extracted semantic content descriptions and advanced mining methods can be used to provide user and network adaptive transmission and terminal optimised rendering.

What is new

♣ aceMedia aims to discover and exploit knowledge inherent to multimedia content, automating annotation and making it more relevant for the user.

♣ aceMedia fulfils its vision through the concept of the Autonomous Content Entity (ACE)

System Architecture

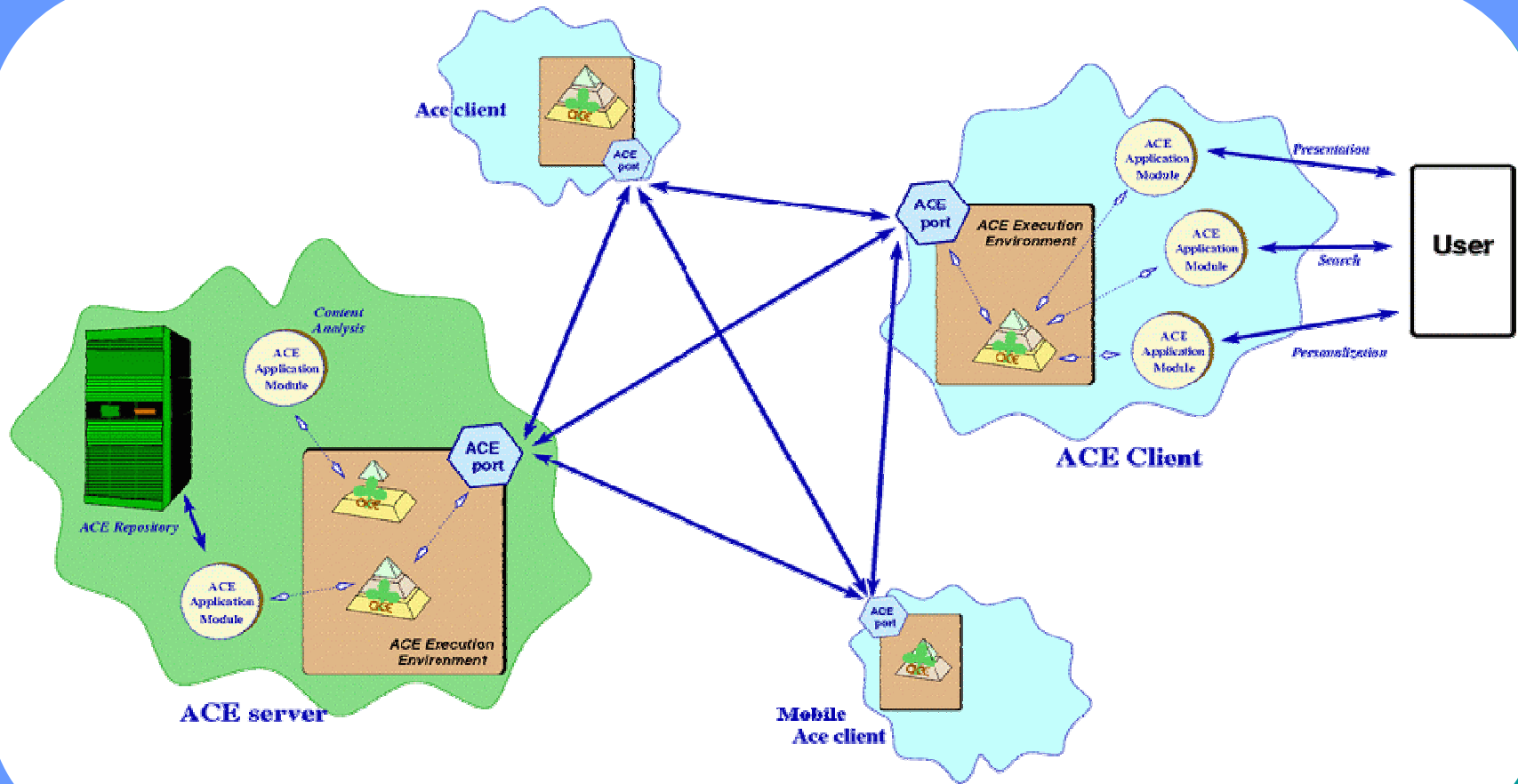
♣ aceMedia implements, using a user centred approach, a full content value chain which enables content and knowledge creation, update, transmission, and manipulation and exploitation (through advanced search and retrieval, and intelligent content applications).

Architecture (1/2)

The aceMedia architecture allows:

- ♣ ACEs to be distributed
- ♣ Access to remote repositories
- ♣ Several applications on the same aceFramework
- ♣ Remote procedure calls

Architecture (2/2)



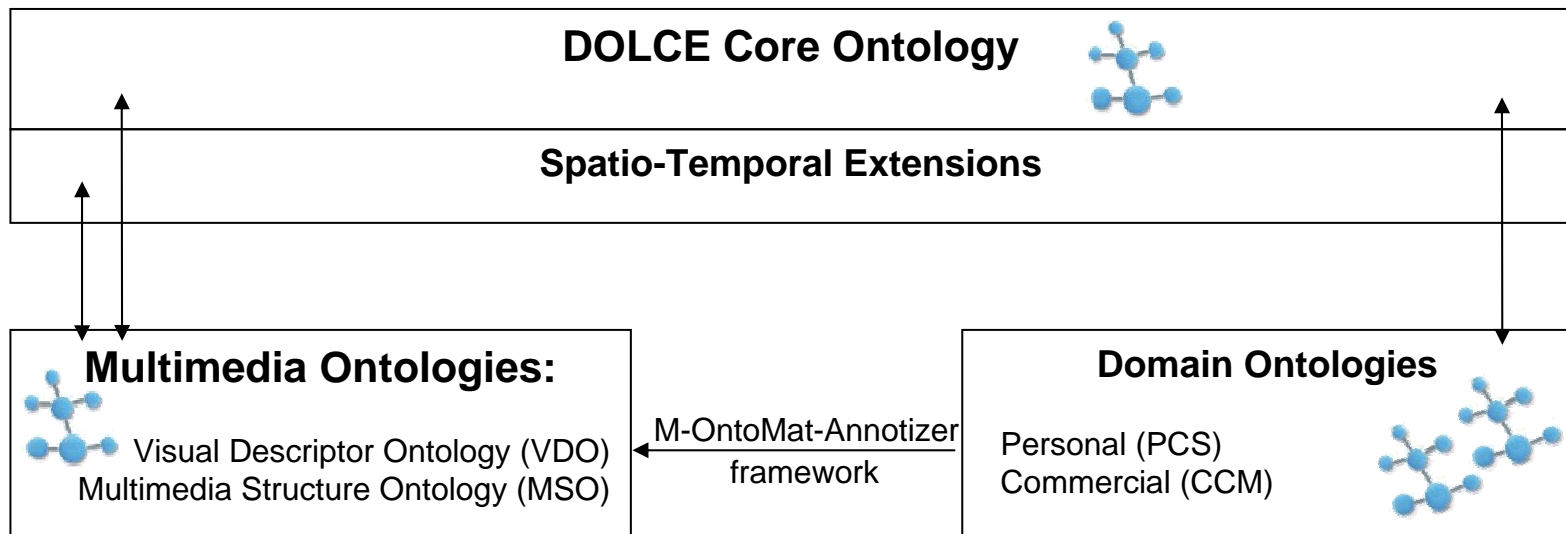
Knowledge Infrastructure

♣ The developed RDFS knowledge infrastructure consists of several parts:

the *core ontology*

multimedia-specific conceptualizations in form of the *visual descriptor ontology* and the *multimedia structure ontology*

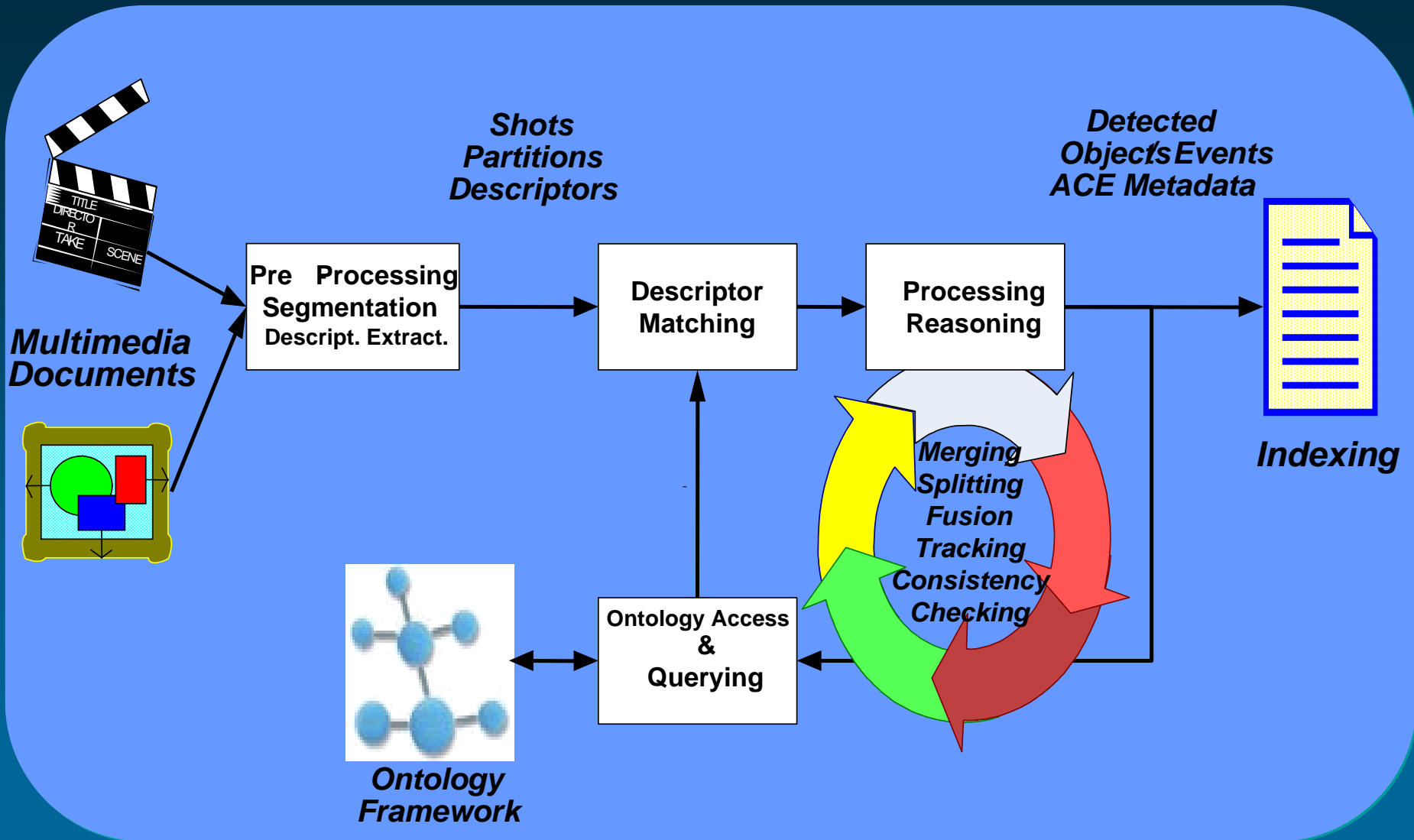
domain ontologies for selected personal and commercial domains.



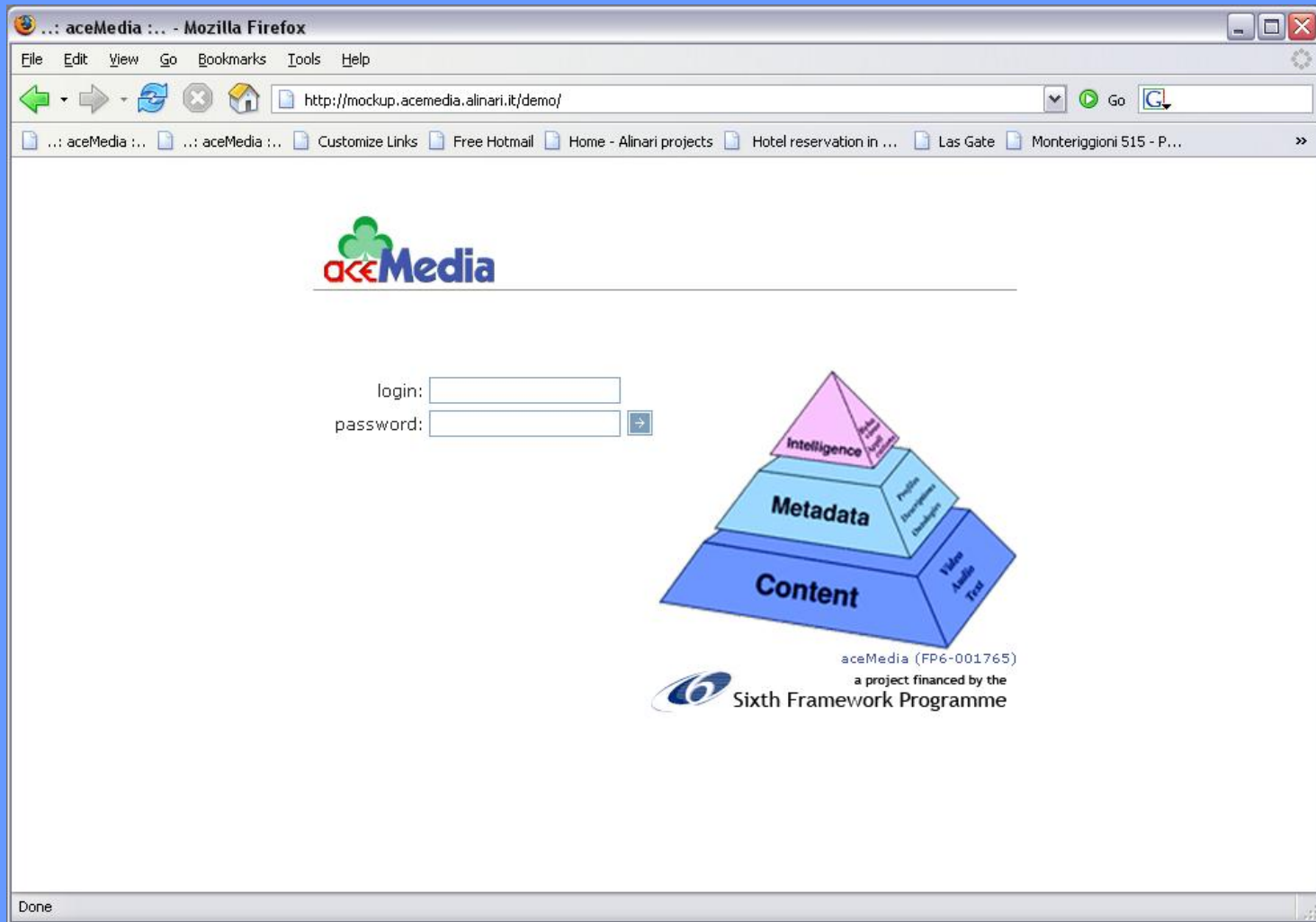
Knowledge-Assisted Analysis

- ♣ **aceKAA automatically produces semantic metadata using the aceMedia Multimedia Knowledge Structures and Domain Ontologies**
 - Prototype MPEG-7 VDs extraction (M-OntoMat-Annotizer)**
 - Pre-processing: color and motion segmentation**
 - Combined descriptors distance (NN, SVM)**
 - Initial semantic labelling**
- ♣ **aceKAA constraint reasoning module using spatial and temporal relations**
 - initial labelling validation**
 - semantic region merging**

Flow diagram



The professional user interface



Creation of an intelligent search agent

searchACE : create new search

search phrase

select archives:

- Alinari
- Belgavox
- Lunettes
- Marius

cancel

Completato

aceMedia (FP6-001765)
a project financed by the
Sixth Framework Programme

Visualization of retrieved results

The screenshot shows a Mozilla Firefox browser window displaying the ACEMedia search results page. The browser's address bar shows the URL `http://mockup.acedmedia.alinari.it/ver_0.7/entry_frame.html`. The page features a navigation bar with buttons for 'Search results', 'Search settings', 'Share', and 'Buy'. A message prompts the user to click on 'Permanently Store' to save the search. Below this, a 'Permanent Store' button and pagination controls are visible. The search results are displayed in a grid of eight image thumbnails, each with a 'view' link and a placeholder text 'Lorem ipsum dolor sit amet, consectetur discit...'. On the left side, there is a sidebar with the ACEMedia logo, a welcome message 'Welcome Domenico', and a 'NEW SEARCH' section. This section includes a 'view also old search' checkbox and a list of search suggestions for 'Tennis player' with item counts and 'NEW' indicators.

Refining the query

The screenshot shows a Mozilla Firefox browser window displaying the 'searchACE' website. The browser's address bar shows the URL 'http://mockup.acemedia.alinari.it/demo/entry.html'. The website header includes the 'aceMedia' logo and a 'NEW SEARCH' button. A modal dialog titled 'searchACE : create new search' is open in the foreground, containing the following fields and controls:

- search phrase:
- title:
- select archives: (dropdown menu showing: Alinari, Belgavox, Lunettes, Marius)
-

In the background, the search results page is visible, showing 'Items found: 9' and two image thumbnails of tennis players. The left sidebar of the website lists 'Current search' with 'Winner (3 items found)' and 'Tennis (9 items found)'.

...Keep searching, also in my absence

The screenshot shows a Mozilla Firefox browser window displaying the searchACE interface. The main page has a header with the ACEMedia logo and a navigation menu. A modal dialog box titled "searchACE : permanently store" is open in the foreground. The dialog contains a form with the following fields and options:

- searchACE name:
- perform a continuous search
- duration of the query (days):
- Buttons: [store](#) and [cancel](#)

Below the dialog, the main search results are visible, showing a list of items with thumbnails and "view" links. The status "Completato" is displayed at the bottom of the dialog.

Manage Personal collections

ACEMedia | searchACE :: - Mozilla Firefox

File Modifica Visualizza Vai Segnalibri Strumenti ?

http://mockup.acemedia.alinari.it/ver_0.7/entry_frame.html

cdcoverz.com Customize Links Franco Baldaccini Garzanti Linguistica GoldEsel INGENIUM - Macrome... Italodome JavaScript PagineBianche.it

Disable Cookies CSS Forms Images Information Miscellaneous Outline Resize Tools View Source Options

You are here: browse searchACE [Show tray](#) [Hide tray](#) [Help](#)

ACEMedia

Welcome Domenico

NEW SEARCH

view also old search

Current search

Tennis player (10 items found) **1 NEW**

Search results Search settings Share Buy

Click on 'Permanently Store' to save this SearchACE for future use and to activate the selection box.

Permanently Store

Pages... [1]

Items found: 37

SELECTED CONTENT

Item selected: 77

Remove

I think this one is perfect for the cover.

Remove

I think this one is perfect for the cover.

Remove

I think this one is perfect for the cover.

Remove

I think this one is perfect for the cover.

Tennis player (12 items)

Completato

Relevance Feedback (1/2)

searchACE: modify query

Textual query Visual query Visual feedback

Please provide an example for the visual query.
Click [here](#) to use a content already stored in your machine or select one of the items contained in the searchACE.

[1] 2 3 4 5 Items found: 154

search cancel

Completato

one is perfect for the cover.

one is perfect for the cover.

one is perfect for the cover.

think this one is perfect for the cover.

Relevance Feedback (2/2)

searchACE: modify query

Textual query Visual query Visual feedback

Please select items that best and worst fit your query.

[K] [←] [1] 2 3 4 5 6 [→] [I]

Items found: 154

good | bad good | bad good | bad good | bad good | bad good | bad good | bad good | bad good | bad

good | bad good | bad good | bad good | bad good | bad good | bad good | bad good | bad good | bad

good | bad good | bad good | bad good | bad good | bad good | bad good | bad good | bad

search cancel

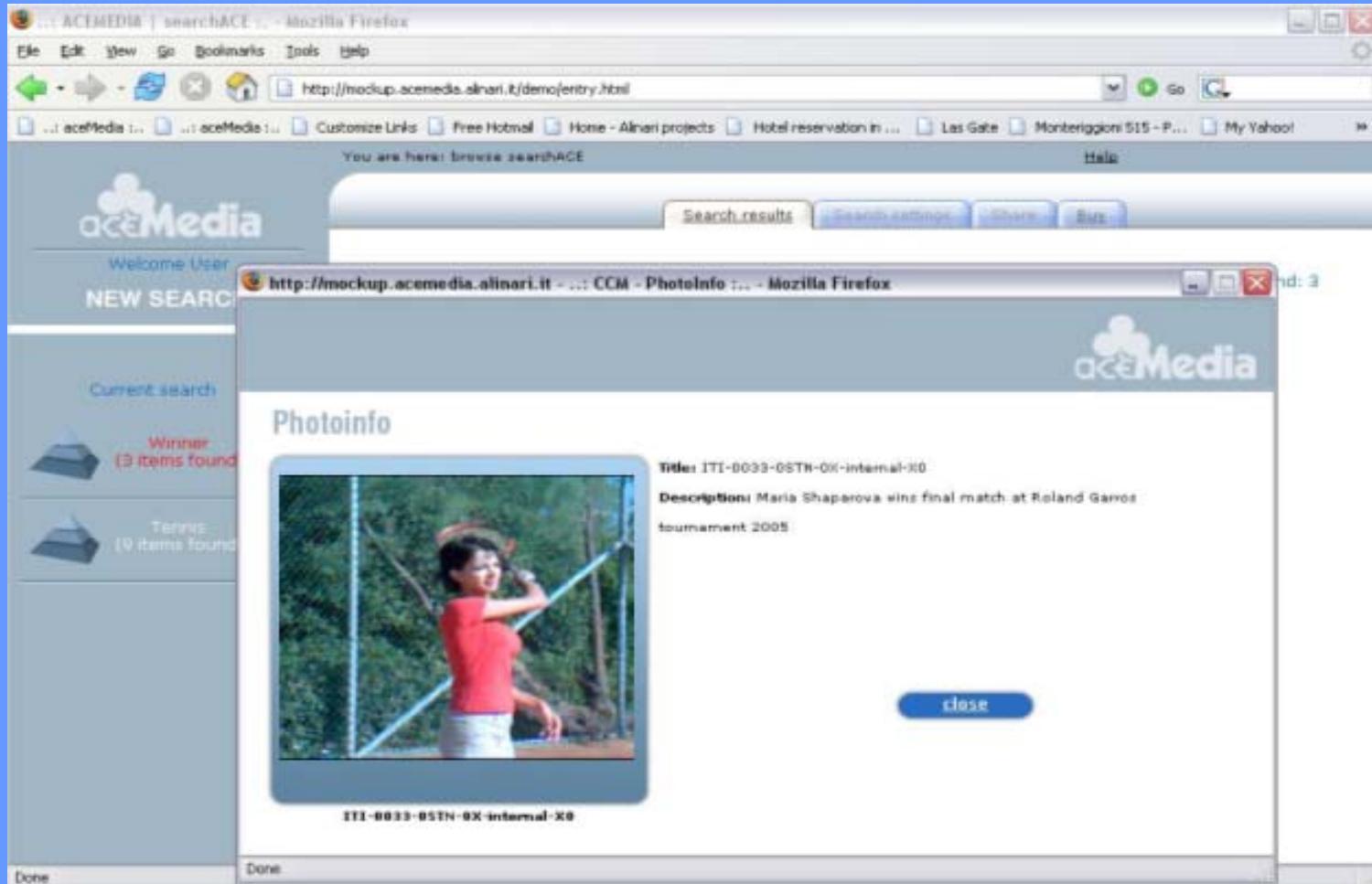
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perfect for the cover.

Full professional services



Images ...



...and Video

