

# MILOS: A Multimedia Content Management System for Digital Library Applications

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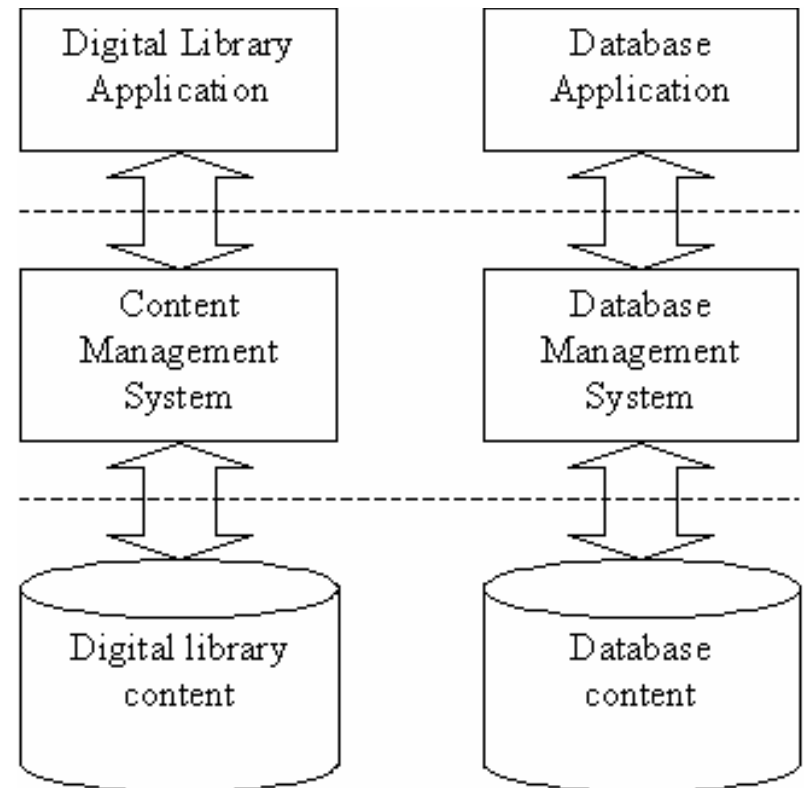
ISTI-CNR

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- ECD and VICE, funded by MIUR

# What is MILOS?

- Multimedia Content Management System
  - Specialised for Digital Library (DL) Applications
  - the same role that a Database System has in the business management field
    - Database system -> data intensive applications
    - MILOS -> document intensive applications (as DL)



# Features:

- Basic functionalities:
  - Document storage and preservation
  - Efficient and effective retrieval
  - Efficient and effective metadata management
  - Searching and managing multimedia documents
  - Scalability
- Additional functionalities
  - Managing heterogeneous documents
  - Managing heterogeneous metadata
  - Applications provided with metadata schema independence

DL Application

Meta XML Search Engine:  
Structure search

Retrieval Interface:  
JSP  
(SOAP Comm.)

Metadata independence:  
The schema seen in the  
interface logic can be  
different of the one(s)  
used in the repository

Metadata  
Storage  
Retrieval

SILO (SOAP Web Service)

RAID

XML

# Digital Library Application Examples

- We have tested MILOS building the following DL applications (Shown in the demo):
  - ECHO:
    - 50 hour of A/V data with IFLA-FRBR and MPEG-7 metadata (21 Gb of MPEG-1, 43.000 XML files), ~ 27.000 key-frames
  - REUTERS:
    - 810.000 XML encoded, news agencies (2.6 Gb)
  - DBLP and SIGMOD Records
    - 187 Mb of XML files
  - Photo Book
    - ~2000 Colour images, with MPEG-7 visual descriptor metadata
- User requests are processed in less than a second on average

**MILOS** Multimedia digital Library for Online Searches

**Search ECHO** Metadata: echo\_AVDocument

Fulltext Value: young director documentary  
 Fulltext Field: EnglishAbstract

Value: NL  
 Field: DescriptionLanguage

Exact Match

Search Reset

**Version**

**Title:** HET LEVEN EEN FEEST

**Series Title:**

**Genre:** Not assigned

**Location:**

**Themes:** 4 - Daily Life

**SubThemes:** 4.1 - Daily Life - Work and Leisure

**Thematic Keywords:** Leisure activities

**English abstract:** Four-part documentary made by four young directors. Central is the theme: Life is a Celebration! In this second episode, a documentary made by Tamara Miranda about two former class members. The documentary received an award Nomination at the Dutch Filmfestival in Utrecht.

**Description Language:** NL

**Production date:** 1998-11-12

**Makers:**

[AVDocument](#) [Media](#) [Video](#) [Audio](#) [Transcript](#)

**Title:** HET LEVEN EEN FEEST

**Duration:**

- results 1-10 of 56
- [JOURNAAL](#)
  - [GOUDEN VLEUGELS](#)
  - [HET LEVEN EEN FEEST](#)
  - [VERLAAT DE STOFFIGE STAD](#)
  - [ALETTA JACOBS](#)
  - [JAZZ-KELDER](#)

**Version**

**Title:** HET LEVEN EEN FEEST

**Indication video unit:** Whole

**Location:**

**Silent:**

**Time:** start: 0 end: 1509640

**Frame rate:** 25

**Color:** Color

HET LEVEN EEN FEEST 73 | HET LEVEN EEN FEEST 69 | HET LEVEN EEN FEEST 78 | JOODS ONDERWIJS IN NEDERLAND | afl. 8 134

HET LEVEN EEN FEEST 10 | HET LEVEN EEN FEEST 11 | HET LEVEN EEN FEEST 12 | HET LEVEN EEN FEEST 13 | HET LEVEN EEN FEEST 14

JOODS ONDERWIJS IN NEDERLAND | HET LEVEN EEN FEEST 149 | HET LEVEN EEN FEEST 156 | HET LEVEN EEN FEEST 68 | CH Z'rich, ZH: Eröffnung Gem.

Intranet locale

# MILOS

Multimedia digital Library for Online Searches

## Search Reuters

Fulltext Value

Fulltext Field

Value

Field





 Exact Match



results 1-10 of 283

[BELGIUM: ATHLETICS-KOMEN TAKES ON MORCELI OVER 3,000 METRES.](#)

[BELGIUM: ATHLETICS-HISSOU SMASHES MEN'S 10,000 WORLD RECORD.](#)

[BELGIUM: ATHLETICS-MASTERKOVA CASHES IN WITH SECOND WORLD RECORD.](#)

[BELGIUM: ATHLETICS-MASTERKOVA BREAKS SECOND WORLD RECORD IN 10 DAYS.](#)

[BELGIUM: ATHLETICS-JOHNSON RETURNS TO ACTION WITH EASY WIN.](#)

[BELGIUM: ATHLETICS-MITCHELL UPSTAGES TRIO OF OLYMPIC SPRINT CHAMPIONS.](#)

[GERMANY: ATHLETICS-CHRISTIE AND JOHNSON ASKED TO JOIN OWENS' TRIBUTE.](#)

[GERMANY: ATHLETICS-JOHNSON IS FASTEST MAN, SAYS WELLS.](#)

[GERMANY: ATHLETICS-JOHNSON, CHRISTIE, BAILEY TO RUN OWENS RELAY.](#)

[GERMANY: ATHLETICS-FREDERICKS MUST DEFEAT JOHNSON TO WIN JACKPOT.](#)

1 2 3 4 5 6 7 8 9 10

The Russian took up the ground in a sprint race on Saturday from track to improve on the previous best of 2:29.66 set by Mexicanique's Maria Masterkova in the same stadium in August last year.

Former 800 metres world champion Mutola pushed the Russian all the way and took second in 2:29.66. An exhausted Masterkova, who earned a bonus of \$25,000 for the performance, paid tribute to her rival after the race.

"That really finished me," she said. "If it wasn't for Maria, I couldn't have done it. She pushed me...It was a fast track, a terrific atmosphere. The Mexican waves in the crowd gave me wings."

"In the last 400 metres I felt Mutola closing in and that drove me to the decisive extra effort.

Masterkova dominated the middle-distance races at the recent Atlanta Games after returning to competition after a three-year maternity break.

In her first mile race at the richest meeting in Zurich, she slashed 3.05 seconds off the previous record, earning a bonus of \$50,000 plus one kilo of gold.

After Friday's performance in front of a capacity 40,000 crowd who were all on their feet at the end of the race, the Russian will have earned well over \$100,000 in less than a fortnight, taking her appearance money into account.

She celebrated by pointing at the clock in delight after she crossed the line.

Brussels organisers had laid a new track for the meeting comparable to the surface at the Atlanta Games but put down on a softer surface. It was clearly fast.

Despite damp conditions after a downpour at the start of the meeting, there were some superb performances in both the sprint and distance events.

American Dennis Mitchell upstaged a trio of Olympic 100 metres champions. Kenyan Daniel Komen produced another historic 3,000 metres and American high hurdler Allen Johnson went within 0.01 seconds of the world record despite damp conditions.

Sporting his ubiquitous bright green outfit, Mitchell ran 10.03 seconds to take the scalp of Canada's reigning sprint champion Donovan Bailey, 1992

**codes class:** bip:countries:1.0

- **code:** BELG RUSS

**codes class:** bip:topics:1.0

- **code:** GCAT GSPD

**dc.date.created:** 1996-08-23

**dc.publisher:** Reuters Holdings Plc

**dc.date.published:** 1996-08-23

**dc.source:** Reuters

**dc.creator.location:** BRUSSELS

**dc.creator.location.country.name:** BELGIUM

**dc.source:** Reuters



MILOS Multimedia Digital Library for Online Searches

**Search Sigmod-DBLP** Metadata:

Fulltext Value:  Fulltext Field:

Value:  Field:

Exact Match

results 1-2 of 2

[EE Giuseppe Amato Pasquale Savino Fausto Rabitti Pavel Zezula](#) *Approximate Similarity Search in Metric Data by Using Region Proximity.* DELOS Workshop: Information Seeking, Searching and Querying in Digital Libraries, 2000

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[EE Giuseppe Amato Fausto Rabitti Pasquale Savino Pavel Zezula](#) *Region proximity in metric spaces and its use for approximate similarity search.* ACM Trans. Inf. Syst., vol. 21, n. 2, pages: 192-227

Book Title : DELOS Workshop: Information Seeking, Searching and Querying in Digital Libraries Year: 2000

[EE David A. Grossman Steven M. Beitzel Eric C. Jensen Ophir Frieder](#) *The IIT Intranet Mediator: An Overview.*

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[EE Ilaria Bartolini Paolo Ciaccia Florian Waas](#) *Using the Wavelet Transform to Learn from User Feedback.*

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[EE Dieter Merkl Andreas Rauber](#) *Representation of Document Archives for Interactive Exploration.*

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[EE Pavel Zezula](#) *A Hashed Schema for Similarity Search in Metric Spaces (invited talk).*

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[EE Ophir Frieder](#) *On the Integration of Structured Data and Text: A Review of the SIRE Architecture (invited talk).*

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[EE Wolf-Tilo Balke Werner Kießling Ulrich Güntzer](#) *Applications of Quick-Combine for Ranked Query Models.*

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[EE John R. Smith](#) *Interoperable Content-based Access of Multimedia in Digital Libraries (invited talk).*

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[EE Paolo Ciaccia Marco Patella](#) *The M2-tree: Processing Complex Multi-Feature Queries with Just One Index.*

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[EE Andreas Henrich Günter Robbert](#) *Combining Multimedia Retrieval and Text Retrieval to Search Structured Documents in Digital Libraries.*

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[EE Jürgen Krause Jutta Marx](#) *Vocabulary Switching and Automatic Metadata Extraction or How to Get Useful Information from a Digital Library.*



# MILOS

## Photo book

This service is powered by the [MILOS](#) Multimedia Content Management System, developed at [ISTI - CNR](#), with support of the [ECD](#) project and [VICE](#) project, both funded by the Italian Ministry of Research and Education, and the [DELOS NoE](#), funded by the European Commission under the VI Framework Program.

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Value	Field	
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<input type="text"/>	Title	<input type="checkbox"/> Exact Match
<input type="text"/>	Location	<input type="checkbox"/> Exact Match

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For any information please contact: [milos@isti.cnr.it](mailto:milos@isti.cnr.it)

by Paolo Bolettieri © ISTI-CNR



# MILOS Technical Details

- SOAP compliant Web Services
- Entirely Developed in JAVA
  - Apart some specific third party libraries
    - Low level indexes and image similarity indexes
- Application server:
  - TOMCAT with JAX-RPC
- Basic (Quick Start) installation is trivial
  - (Just copy the MILOS folder where you want and double click Start.bat)
- Operating System
  - Tested on WIN 2000 and XP
  - May run on Linux (without image similarity)

# Questions?

