



# Features Mining for Multimedia Indexing And Retrieval (Poster)

Anicet Kouomou-Choupo, Laure Berti-Équille, Annie Morin

## ► To cite this version:

Anicet Kouomou-Choupo, Laure Berti-Équille, Annie Morin. Features Mining for Multimedia Indexing And Retrieval (Poster). Proceedings of the 5th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS 2004), Apr 2004, Lisbon, Portugal. hal-01857335

**HAL Id: hal-01857335**

**<https://inria.hal.science/hal-01857335>**

Submitted on 15 Aug 2018

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# Features Mining for Multimedia Indexing And Retrieval

Anicet Kouomou-Choupo, Laure Berti-Équille, Annie Morin  
IRISA, University of Rennes I, FRANCE

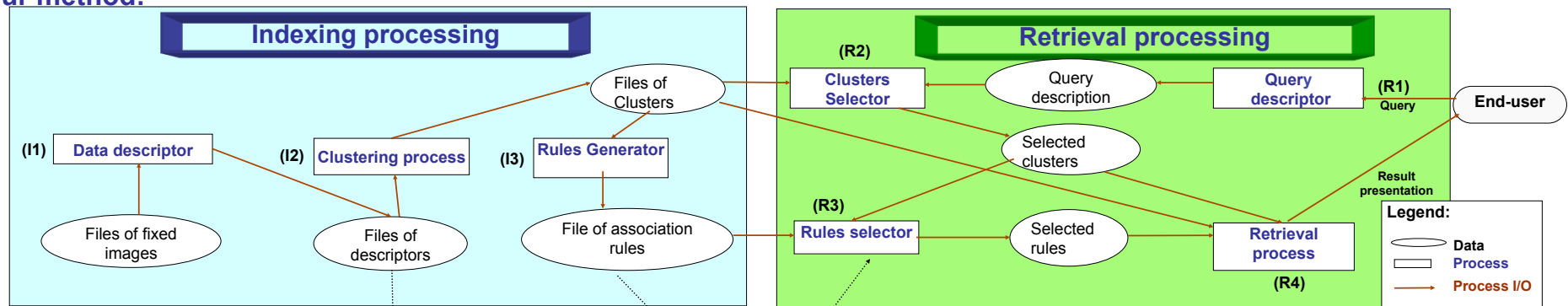
## Problem

- How to solve the following problem : Retrieve all the images similar to a given image using appropriate global visual features ?
- What about query response time and quality of results ?

**Our aim:** Describe a new method applied to large still image databases that combines clustering and association rules mining in order to:

- better organize the image collections**
- improve the performance of query processing**

## Our method:



## Experimentations:

### Conditions:

- 7727 of still images
- 5 global MPEG-7 features of color, texture, and form
- K-means algorithm for clusters computation and Apriori algorithm for association rules computation
- minsup = 10% and minconf = 50%
- C++ programming under Linux OS

### MPEG-7 Descriptors

```
<Descriptor xsi:type="ColorLayoutType">
  <YDCCoeff>55</YDCCoeff>
  <CbDCCoeff>26</CbDCCoeff>
  <CrDCCoeff>37</CrDCCoeff>
  <YACCcoeff5>15 16 22 15 27</YACCcoeff5>
  <CbACCcoeff2>16 15</CbACCcoeff2>
  <CrACCcoeff2>16 15</CrACCcoeff2>
</Descriptor>
```

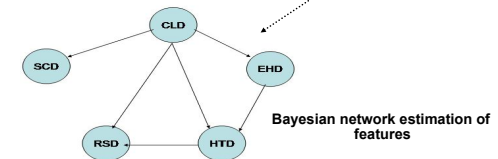
### Association Rules

```
(1, CLD) -> (3,RSD) (11, 69.2)
(2, CLD) -> (2,SCD) (12.3, 67.4)
(2, SCD) -> (2,CLD) (12.3, 55.1)
(2, CLD) -> (0,HTD) (10, 55.1)
(1, SCD) -> (4,CLD) (13, 52.6)
(1, SCD) -> (4,EHD) (12.8, 51.5)
```

Clusters Support (%) Confidence (%)

### Rules produced by ACM

Strong relations between modalities of variables	Induced modalities
(2,CLD) and (2,SCD)	(0,HTD) (54.4%)
(1,CLD) or (3,CLD) and (2,HTD)	(0,SCD) (59.7%) and/or (4,EHD) (51.3%)
(0,CLD) and (3,HTD)	(0,SCD) (47.9%) or (3,SCD) (45.7%)
(4,CLD) and (1,SCD)	(4,EHD) (52.6%)
(3,CLD) and (0,SCD)	(2,EHD) (52.2%) and/or (3,RSD) (54.4%)



## Conclusion:

- The method can be applied to every kind of very large image databases
- Interesting perspectives for optimizing query plans

**Reference:** A. Kouomou et al. **Multimedia Indexing and Retrieval with Features Association Rules Mining**, IEEE ICME 2004. To appear .