Arranging Pixels in a DBMS
When Vision and Databases Come Together

Themistoklis Palpanas

themis@cs.toronto.edu

Department of Computer Science

University of Toronto

10 King's College Road, Toronto

Ontario, M5S 3G4, CANADA

Department of Computer Science

University of Toronto

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Abstract

The rapid technological advances augmented our capabilities for generating and storing multimedia content data. The large amount of image and video data makes it very cumbersome to manually search, browse, and annotate them. Therefore, the need for systems that would automate the aforementioned procedures is now evident more than ever. The focus of this paper is on image and video databases. We investigate what techniques are used in order to achieve the goals of searching, browsing, and annotating multimedia content. We analyze the state of the art methods employed for extracting interesting features from the data (colour moments, texture and shape, high level representation, motion components, camera operations). Most of the above methods originate from the vision community. Yet, many interesting problems arise when we try to apply these methods in conjunction with a DataBase Management System (DBMS). Thus, in many cases, the database community has derived new techniques to deal with the problem of indexing multimedia data. Note, that this survey does not intend to be exhaustive, but rather indicative of the state of the art trends, and the future research directions in both the vision and databases communities.