CONTENT-BASED INFORMATION RETRIEVAL BY GROUP THEORETICAL METHODS

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Abstract This paper presents a general framework for efficiently indexing and searching large collections of multimedia documents by content. Among the multimedia information retrieval scenarios that fit into this framework are music, audio, image and 3D object retrieval. Combining the technique of inverted files with methods from group theory we obtain space efficient indexing structures as well as time efficient search procedures for content-based and fault-tolerant search in multimedia data. Several prototypic applications are discussed demonstrating the capabilities of our new technique.

Keywords: multimedia retrieval, content-based retrieval, music and audio retrieval.

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