

## EnContRA: a generic multimedia information retrieval meta-framework

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**Abstract** Over the last years, multimedia collections have largely increased as new items are produced every day, such as pictures, audio/music or video. In Multimedia Information Retrieval, this exponential growth leads content-based approaches to gain advantage over other solutions, not only because they take advantage of the intrinsic information contained in the objects, but also because they automatically process and extract it, reducing the burden taken by developers. Several domain specific frameworks have been developed to efficiently retrieve multimedia items empowering the creation of new content-based applications. However, these frameworks are attached to a specific media type, are too complex to be used in a fast prototyping environment, and are not very flexible nor extensible. To solve these issues, we developed EnContRA, an architectural meta-framework that provides generic building blocks for creating domain specific frameworks. Our meta-framework aims at being ready to be used for fast prototyping, with support for rich and multimodal queries, allowing validation of new descriptors, indexing structures or searching algorithms, while creating domain specific frameworks. In this paper we present the meta-framework architecture and describe in detail its modules and features. To validate the meta-framework, we created an image retrieval framework and a demo application that combines image descriptors with textual information, showing how the hierarchical design of EnContRA could be applied to a searching system and to empower the creation of queries.

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