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## **IMuR 2022 Introduction to the 2nd Workshop on Interactive Multimedia Retrieval**

Rossetto, Luca ; Bailer, Werner ; Lokoč, Jakob ; Schoeffmann, Klaus

**Abstract:** The retrieval of multimedia content remains a difficult problem where a high accuracy or specificity can often only be achieved interactively, with a user working closely and iteratively with a retrieval system. While there exist several venues for the exchange of insights in the area of information retrieval in general and multimedia retrieval specifically, there is little discussion on such interactive retrieval approaches. The Workshop on Interactive Multimedia Retrieval offers such a venue. Held for the 2nd time in 2022, it attracted a diverse set of contributions, six of which were accepted for presentation. The following provides a brief overview of the workshop itself as well as the contributions of 2022.

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# IMuR 2022: Introduction to the 2nd Workshop on Interactive Multimedia Retrieval

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## ABSTRACT

The retrieval of multimedia content remains a difficult problem where a high accuracy or specificity can often only be achieved interactively, with a user working closely and iteratively with a retrieval system. While there exist several venues for the exchange of insights in the area of information retrieval in general and multimedia retrieval specifically, there is little discussion on such interactive retrieval approaches. The Workshop on Interactive Multimedia Retrieval offers such a venue. Held for the 2nd time in 2022, it attracted a diverse set of contributions, six of which were accepted for presentation. The following provides a brief overview of the workshop itself as well as the contributions of 2022.

## CCS CONCEPTS

• **Information systems** → **Users and interactive retrieval**; *Retrieval models and ranking*; *Evaluation of retrieval results*; • **Human-centered computing**;

## KEYWORDS

Multimedia Retrieval, Interactive Retrieval

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## 1 INTRODUCTION

With the growth of multimedia content in many areas of our daily lives, the ability to efficiently retrieve relevant content becomes increasingly vital for the content to be relevant. Despite the recent advances in deep learning-based semantic extraction and annotation methods, in many cases, a single query is insufficient to express

an information need precisely enough to produce the desired result. Therefore, iterative and more importantly interactive retrieval methods need to be employed.

The IMuR Workshop offers a forum for the exchange of insights in the area of such interactive retrieval methods. Held for the 2<sup>nd</sup> time in 2022, it encompassed six contributions from the interactive multimedia retrieval community, focusing on a broad range of topics including automated content linking, query result presentation, retrieval system design, and retrieval evaluation mechanisms. The following provides a brief overview of both the aim and scope of workshop as well as the contributions presented in 2022. The complete IMuR'22 workshop proceedings are available at: <https://dl.acm.org/doi/proceedings/10.1145/3552467>.

## 2 AIM AND SCOPE

Multimedia retrieval is a very active research area, driven by benchmarks such as TRECVID [1], but the focus is often on automatic content description, indexing, and ranking methods. However, in many practical multimedia retrieval problems, the information need is fuzzy or the semantic gap problem renders automatic annotations infeasible, and thus an approach with a human in the loop is required. This adds the requirement of efficient user interfaces for interaction with a range of retrieval tools. With the backend components becoming increasingly deep learning-based, this also raises issues of human-AI-collaboration and explainability of AI outputs. The aim of this workshop is to advance the state of the art in interactive multimedia retrieval by bringing together researchers from different areas of the multimedia community, including (but not limited to) content analysis and understanding, storage and archiving, HCI, and retrieval.

This workshop asked for submissions related to retrieval in and across all types of multimedia content. We invited submissions reporting on current work done in the context of evaluation campaigns such as the Video Browser Showdown [5] or the Lifelog Search Challenge [4] as well as interactive variants of solutions to TRECVID or MediaEval [7] tasks, describing methods, but also insights and lessons learned from participating in these benchmarks.

In addition to aural presentations, all presenters were encouraged to also demonstrate their interactive retrieval solutions in a dedicated demo session.

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### 3 WORKSHOP CONTRIBUTIONS

In 2022, six contributions were presented at the workshop.

[3] introduces a method to automatically link multi-modal content, specifically short instructional videos, to information provided by a conversational digital assistant in response to a user query.

In [6], the authors analyse the effect of different late-fusion schemes when presenting the final result of multiple video retrieval approaches applied to the same query.

The authors of [2] present a mechanism based on semantic and visual similarity graphs that enables the effective visual exploration of very large and dynamic image collections.

[10] describes a novel asynchronous and distributed evaluation scheme for interactive multimedia retrieval evaluations and discusses its implementation in the same central evaluation infrastructure that is used in challenges such as the Video Browser Showdown or the Lifelog Search Challenge.

The impact of blind image quality assessment for content-based image retrieval applications is discussed in [9] specifically in the context of Lifelogs, where the ratio of low-quality images is usually higher when compared to other types of image collections.

In [8], the authors present a meta-data focused multimedia retrieval system implemented on top of a graph-database and discuss the advantages and shortcomings when compared to an approach based on relational database management systems.

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