Introduction to the Seventh Annual Lifelog Search Challenge, LSC'24

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ABSTRACT

For the seventh time since 2018, the Lifelog Search Challenge (LSC) benchmarked interactive lifelog search systems in a live challenge. The LSC goal is to comparatively evaluate system capabilities to access large multimodal lifelogs comprising hundreds of thousands of records. LSC'24 attracted an unprecedented record number of twenty-one participating teams, where each team proposes innovative ideas implemented to new or already established interactive lifelog retrieval systems. The benchmark was organised in front of a live audience at the LSC workshop at ACM ICMR'24 in Phuket, Thailand. This short paper summarises the LSC workshop setting and presents the participating lifelog search systems.

CCS CONCEPTS

• **Human-centered computing** → *Empirical studies in interaction design*; • **Information systems** → **Mobile information processing systems**; **Search interfaces**.

KEYWORDS

Lifelog, Interactive Retrieval Systems, Benchmarking

1 INTRODUCTION TO ACM LSC'24

The seventh annual ACM Lifelog Search Challenge took place during the ACM ICMR'24 conference in Phuket, Thailand, in June 2024. This year saw the highest number of interactive lifelog search systems ever at twenty-one. LSC'24 reused the complete 18-month multimodal dataset gathered by one lifelogger that was also used in the past two years [5, 6]. LSC'24 utilized 24 realistic tasks. As in the previous year [5], LSC'24 used three task types, presented with textual descriptions: ad-hoc/conventional topics, single known item topics, and Q&A-type topics. For both ad-hoc and known-item topics, the results were submitted as one or more images, while the Q&A topics required the submission of a textual answer. To assess correctness beyond known item topics, judges used the judging/scoring interface of the evaluation system 'DRES' [15] for managing the whole challenge. A score for each topic was calculated based on precision and combined with the times taken for the known item and Q&A, which were averaged over all topics during the competition. LSC'24 results identified the best-performing system for expert use, novice use, and overall.

2 LSC'24 PARTICIPATING SYSTEMS

Of the twenty-one participating systems, seven were new to LSC. The winning system from LSC'23 [18] returned in 2024 with a revised system [14], which supported faster performance and combined free-text and meta-data queries. A number of new systems have directly transitioned from video search into lifelog search, such as VISIONE [3], vitrivr [17], Libro [7] and the PraK system [23]. Most systems follow the trend of applying embedding models to support cross-modal retrieval, and many, such as LifeInsight 2.0 [24] and LifeSeeker 6.0 [11], which include ensemble-models. Some systems highlight the application of automatic query parsing when supporting multiple search and filtering methodologies, such as LifeInsight 2.0 [24] and SnapSeek [8], a new system this year. Given recent progress in conversational search, there is a clear trend towards integrating chatbots, conversational search, and dedicated question answering, as we see in MemoriEase 2.0 [21] and Memento 4.0 [1]. MyEachtraX [20] takes the additional step of implementing the system on a mobile device. Exquisitor [10] blends

conversational search with relevance feedback, and the new system Retrospect [25] supports conversational search with novice users in mind. While most LSC systems offer conventional multimodal-retrieval interfaces, some systems explore novel interface elements. Vitrivr-VR [19] is a VR multi-media analytics system for multiple users, while CollaXRSearch [12] is a collaborative VR system. Eagle [13] is a new system that incorporates eye movements into the search process to optimize result presentation, while SnapSeek [8] introduces a novel timeline interface. VitaChronicle [22] is a user-friendly system that simplifies navigation and interaction, LifeLens 2.0 [9] brings an enhanced user interface, and Memoria's new UI [4] features an efficient and simplified event-based navigation. Finally, Voxento-Pro [2] provides a natural conversational search interface, while LifeGraph 4.0 [16] takes the novel approach of indexing the content into knowledge graphs. We encourage the interested reader to refer to the full-length LSC'24 papers in the LSC'24 proceedings.

ACKNOWLEDGMENTS

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