



fRamework for safE, opEn, collaboratiVe And inclUsive digitisAtion and management of cultural heritagE

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DELIVERABLE 3.5:

Collaboration Enabler.R2

Work Package: 3

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KU Leuven (KUL)

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Document Sheet

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Document history

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01	08/12/2025	Initial version	KUL
02	12/12/2025	Added visual embedding module in matchmaking system	CERTH
03	12/12/2025	Added composed image retrieval module in information retrieval system	LINKS
04	17/12/2025	Internal Review	HYP
05	18/12/2025	Internal Review	LINKS
06	19/12/2025	Revise the document based on reviews	CERTH
07	22/12/2025	Revise the document based on reviews	KUL
08	26/12/2025	Final Version	KUL

Publishable summary

This deliverable presents the final design, implementation, deployment, and evaluation of the Collaboration Enabler, a core component of the REEVALUATE platform that supports the discovery, retrieval, and reuse of digitized cultural heritage (CH) assets. The deliverable represents an updated version of D3.1, reporting architecture enhancements and the deployment of the Collaboration Enabler operating over a knowledge graph (KG) constructed in Task 1.4. The Collaboration Enabler comprises two systems that have been enhanced since D3.1: a knowledge-enhanced multimodal information retrieval system and a multimodal matchmaking system. The information retrieval system integrates three complementary modules: a domain-adaptive CLIP model for semantic text-image matching, an LLM-based Text2SPARQL module for knowledge reasoning over complex metadata constraints, and a MagicLens model for composed image retrieval supporting reference-image-based queries. The matchmaking system combines an RDF2Vec model capturing semantic relationships between users and artefacts through KG embeddings, and a deep learning-based model for visual similarity matching. Both systems are deployed as RESTful APIs integrated into the REEVALUATE Marketplace developed in Task 4.2. This deliverable provides detailed documentation of the system architecture, methodology, implementation specifications, evaluation results, deployment infrastructure, and API design.