Every good search tells a story: creating virtual exhibitions on the Greek national cultural aggregator through query-based curation

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Abstract. With a staggering collection of over 815,000 cultural heritage items, SearchCulture.gr stands as the national aggregator of Greece's rich digital cultural heritage. But mere access to such a treasure trove is not enough and the volume and variety of content can be daunting to the novice user.

This is why the scientific team developing SearchCulture.gr has been curating the aggregated data by applying a multi-layered semantic enrichment strategy, aiming to answer the key questions about cultural heritage objects – What (is it), Who (made it), Where (was it made), When (was it made) and What/who/where it refers to- through LOD Vocabularies.

Building on the extensive semantic enrichments, an array of Discovery Services was developed, with the scope to enhance search efficiency and user engagement. By crafting narratives, connecting dots, and presenting these cultural items in a compelling and meaningful way, the intention is to showcase the national aggregator as a platform for digital storytelling, exploration, and cultural discovery for all.

Keywords: Digital Curation, Digital Storytelling, Aggregator Discovery Services

1 Introduction

SearchCulture.gr, by the National Documentation Center in Greece, stands as a gateway to Greece's cultural legacy, boasting an expansive collection of over 815,000 CHOs (Cultural Heritage Objects). Recognizing the transformative potential of large cultural datasets, but also the challenges of navigating them, the SearchCulture.gr scientific team has pioneered the development of an array of Discovery Services for novice and expert users.
Through meticulous semantic enrichment processes utilizing Linked Open Data vocabularies, metadata within the aggregator undergoes homogenization and curation, leading to more efficient searches and better results. Four bilingual and hierarchical vocabularies for Types, Subjects, Places and Historical periods were developed alongside a Notable Persons Catalogue. Each digital collection ingested into the aggregator undergoes this enrichment process before being published. This strategy allows for the development of advanced multilingual search and browsing features.

During the 2020 pandemic an editorial feature was developed which turns a query into a virtual exhibition. In response to the urgent need for digital cultural content for education and use throughout the closure of physical cultural spaces, the SearchCulture.gr team developed the functionality and created a series of exhibitions which found much favor with the public, increasing user numbers significantly.

The Exhibitions Query Form was created in the aggregator's back end allowing the curation and publishing of a Thematic Exhibition -the working title for the new feature-, a smaller or larger set of CHOs from different digital collections with storytelling relevance.

Each Exhibition assembles data in a narrative tapestry, weaving together primary sources to offer insights into distinct aspects of Greek cultural heritage and history. Furthermore, these exhibitions serve as teasers and learning aids for the more advanced search functions, prompting, and enabling users to embark on their own exploratory search journey.

This paper aims to delve into the curation methodology behind the Thematic Exhibitions feature and present the creative process of data-based storytelling, sharing insights and key learnings about digital curation in an aggregator where content is vast, diverse, and often daunting to navigate.

2 A Tool for Curated Storytelling

2.1 Exploiting semantic enrichments for creative narrative threads

The enrichment scheme in SearchCulture.gr entails linking metadata of Cultural Heritage Objects (CHOs) to terms from Linked Open Data (LOD) vocabularies through curated mappings. The enrichment pipeline takes place in Semantics.gr, a platform developed by the National Documentation Centre (EKT) for managing vocabularies and thesauri as LOD. The platform's Mapping Tool enables bulk data enrichment, allowing curators to map source 1. metadata to target vocabulary terms with the aid of both automated suggestions and manual curation [1]. These mappings are provided via a RESTful API in JSON format, ensuring seamless integration.

The semantic enrichment workflow aims at enhancing the user experience by providing more detailed and meaningful connections between data points. The array of Discovery Services built on the back of the semantic enrichments offers various gateways into the aggregated content. This approach not only improves the usability of the platform but also supports deeper scholarly research and public engagement with Greece's cultural heritage.

2.2 The Exhibitions Query Form

Leveraging the potential of Linked Data, the Exhibitions Query Form allows editors to create thematic exhibitions by publishing retrieved query results in a curated way.

The functionality of the Query Form draws upon the Advanced Search Box functionalities of the aggregator. The curator selects either a Type, or a Place or a Person or a Subject and enters the search parameters: time, type sub-category, including or excluding items, collections, or organizations.

Following traditional curatorial practices, the digital curation process begins with a conceptual query. The curator refines this query through trial and error, selecting and organizing objects to create a coherent and compelling narrative, by orchestrating the exhibition through layering, juxtaposing, comparing, combining, or excluding objects. Through trial and error, the query is refined, and the sum of the retrieved items starts having conceptual coherence and narrative confluence. A story is born.

The interpretative phase involves deploying tools to elucidate and narrate the exhibition's stories in both Greek and English, using images, quotes, and hyperlinks to provide context, depth and additional information. The exhibition can be presented using map-based storytelling (Fig. 1.) or a grid layout (Fig. 2.) depending on the importance of geographical data for the retrieved dataset. An interpretative text, enriched with contextual elements, alongside a key image, title, and subtitle, engages the audience and enhances the exhibition's appeal [2], [3].

2.3 The Thematic Exhibition Page

The Query Form's output is the Exhibition Page, meticulously designed with a bilingual interface (Greek and English). Each virtual exhibition features a key image, title, and context-providing subtitle, accompanied by an interpretative text. The content is displayed either on a map, if the geolocation data have inherent narrative value, or on a grid if the data lack geographical variety or interest [4], [5].

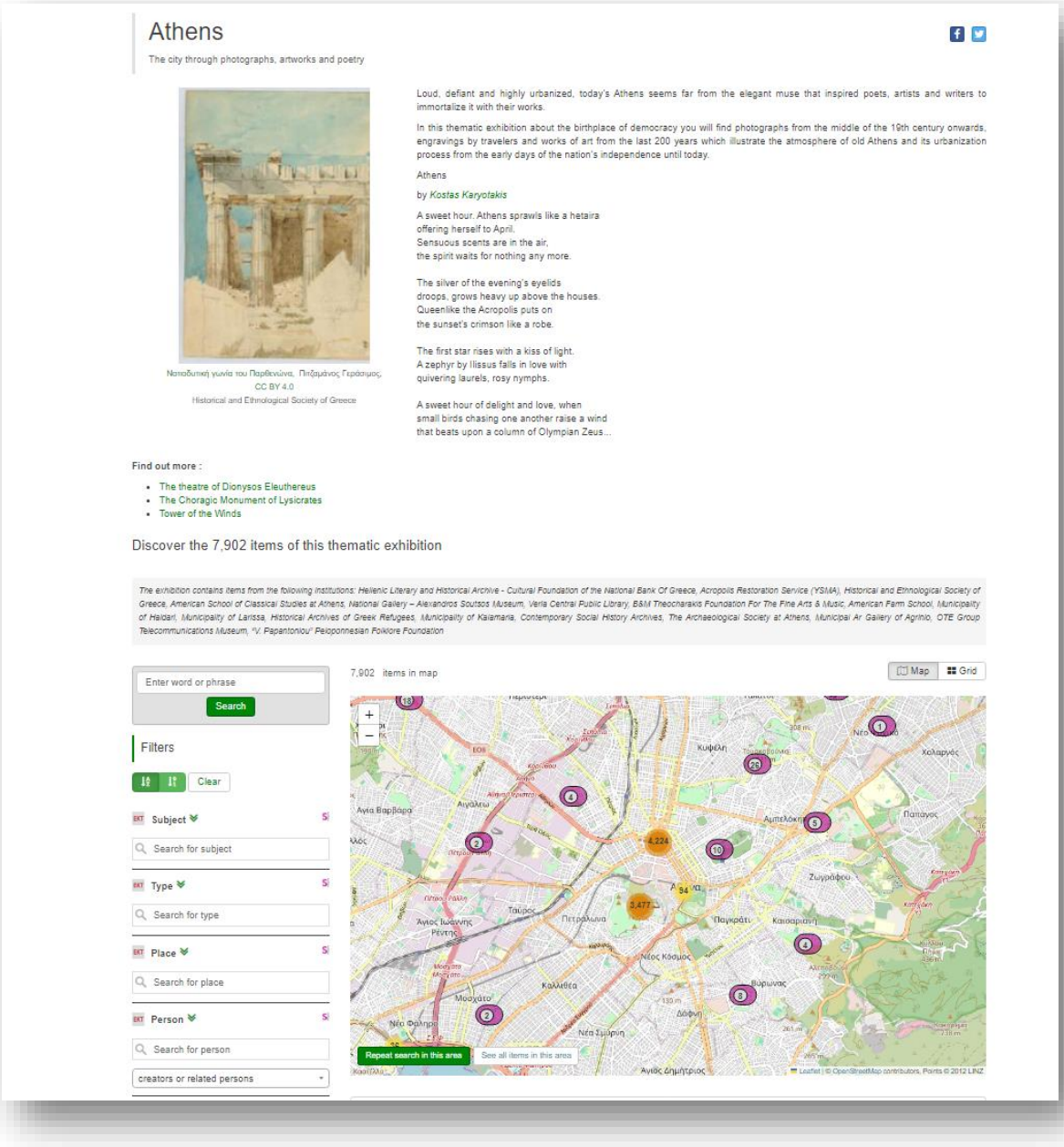

Fig. 1. A map-based Exhibition Page

The accompanying text provides context and previews the exhibition's contents, often including links to sub-sets of data, other exhibitions, and external resources. Reference materials and related articles are offered as additional reading below the interpretative text. The system automatically generates a comprehensive list of organizations whose cultural heritage objects (CHOs) are featured in the exhibition, allowing users to explore more at the content providers' repositories. This enhances user engagement and adds value to participating organizations by increasing traffic to their collections [6].

Each thematic exhibition functions as a dynamic virtual space, where the "walls" are fluid. With each filtering of results, a new "room" is revealed, and smaller narratives emerge with each interaction, making the process both dynamic and creative. This interactive and adaptive structure encourages deeper exploration and engagement with the material [7], [8].

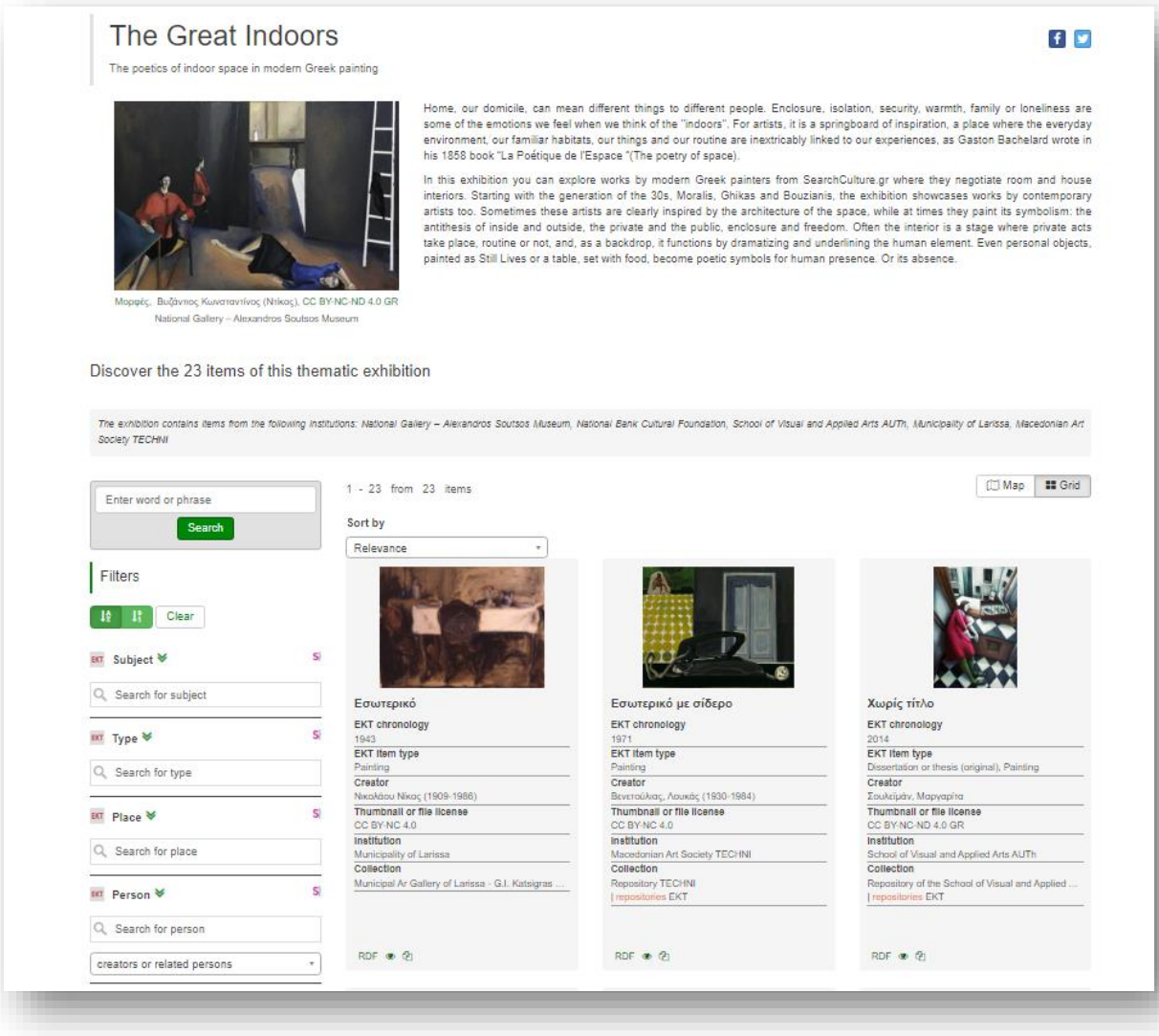

Fig. 2. A grid layout Exhibition page

2.4 Thematic Exhibitions as a Discovery Service

Thematic Exhibitions are not just about finding information; they are about understanding the context, relationships, and significance behind each cultural artifact.

Each set of retrieved items under a Thematic Exhibition title represents a thematically linked primary source mosaic, offering valuable context for users. Thematic exhibitions highlight unexpected connections, talk about important or less visible aspects of Greek cultural heritage and history as well as demonstrating the relationships between different collections.

With a scope to include various aspects of Greek cultural heritage, the Thematic Exhibitions developed ranged from simple type-based archaeological exhibitions, i.e. the story of the simple oil lamp, to more nuanced aspects of heritage, such as Olfactory or Industrial Heritage. All exhibitions are translated into English (Fig. 3).

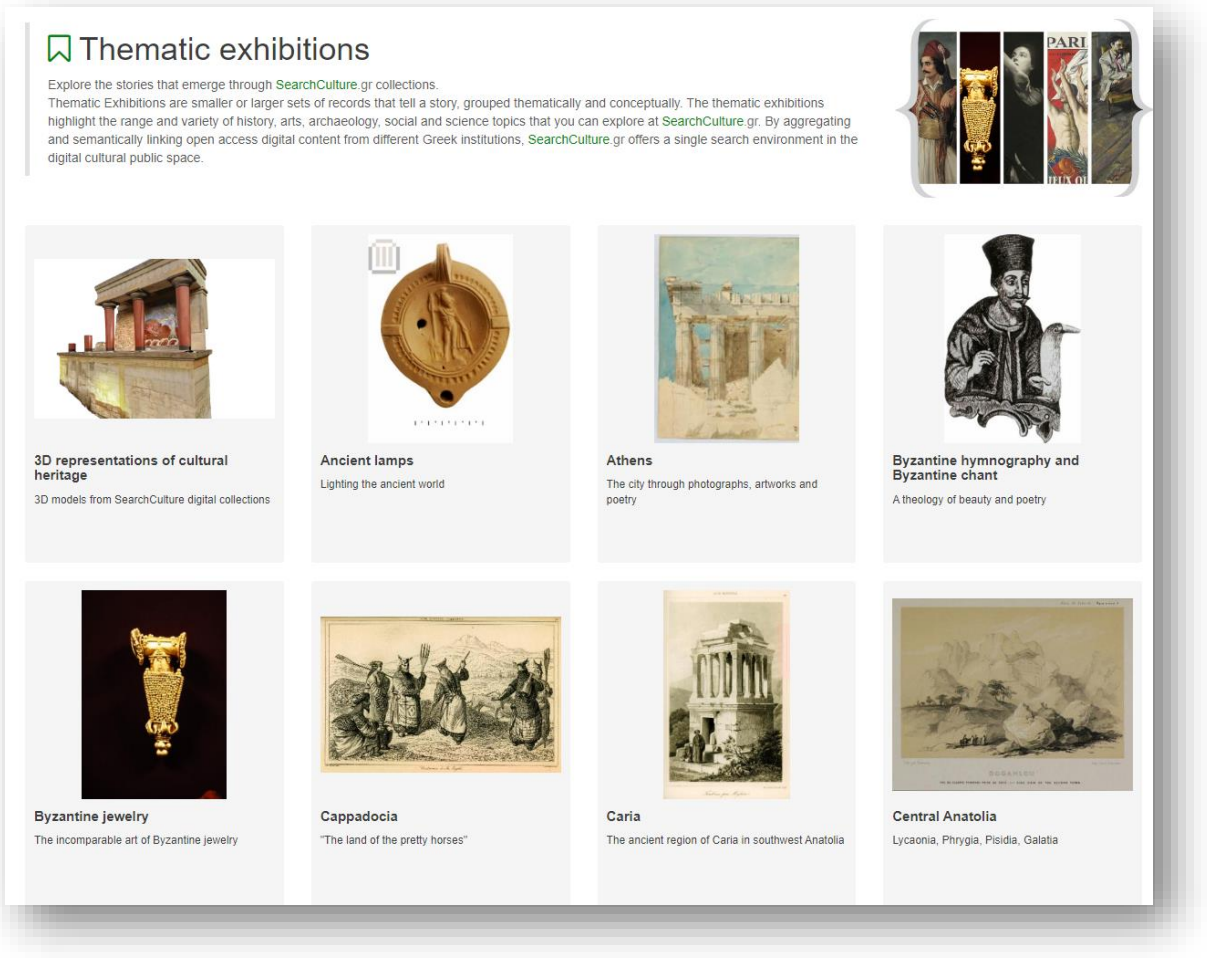

Fig. 3. The English interface of the Exhibitions page

From 2020 to 2024 sixty (60) Thematic Exhibitions were developed, covering arts and crafts, archaeology, music and theater, religion, architecture, folklore, oral traditions and social issues. Following the enrichments with geolocations in 2023, a series of place-based Exhibitions were created, featuring many Asia Minor areas where Hellenism flourished as well as Greek islands and regions with strong local interest.

The scope was to highlight diverse aspects of Greek culture, cover many chronological periods, look at often under-represented histories, such as women's history or crafts, highlight aspects of intangible culture, such as proverbs, heritage trades and the history of smells and intrigue communities of interest with specific areas of heritage, such as Byzantine music, Caves and Speleology, the art of Engraving, Orthodox history etc.

Through the fusion of digital storytelling and primary source engagement, Thematic Exhibitions propose innovative interdisciplinary humanities scholarship, by engaging with collections data and investigating collections as data.

Tagging each exhibition with keywords that aid discovery is an endeavor we undertook in 2024, alongside the redesign of the Exhibitions Page. The new feature will allow for filtering Exhibitions by keyword, searching for a word in the titles or subtitles of the exhibitions, adding the writers' name with a timestamp which allows for chronological sorting alongside the alphabetical sorting, which existed already.

People-based exhibitions is an area that is in development too, as it will incorporate recently developed features facilitating Person's discovery in the aggregator, such as search-by-gender and search-by-birthplace or place of death. This is expected to offer new ways to compose narratives and group people that share the same ideas, passions, genres of writing or painting, etc.

Finally, VR and AR technologies could also offer a more dynamic and interactive way to engage with CHOs in the Thematic Exhibitions, and it is a potential direction of development.

3 Crafting Cultural Heritage Narratives

3.1 Editorial and interpretation approach

The strategic editorial approach of the national aggregator SearchCulture.gr aligns closely with that of Europeana, integrating best practices outlined in the Europeana Editorial Guidelines [9] and utilizing digital storytelling techniques recommended by the Europeana Network Association. These techniques include making content personal, blending expertise with an informal tone, uncovering hidden stories, using visual and audio materials, ensuring clear narrative structure, beginning with specific details, and employing evocative imagery.

The writing team comprises various humanities specialists, such as archaeologists, historians, and museologists, yet the tone and style are harmonized by an editor to ensure a consistent and branded curatorial voice. To enrich the narrative, quotes, sayings, and poetry are incorporated, illustrating the era and weaving auxiliary narratives, while famous individuals or works are hyperlinked to other pages on SearchCulture.gr to provide broader context [10], [11].

This editorial strategy is informed by contemporary learning methodologies, such as micro-learning [12] and chunking, which involve breaking down complex information into manageable, easily consumable units. Curators present key concepts in a concise way, including engaging headings and subheadings to structure content and aid navigation and comprehension. The crafty combination of text, links, maps, filters, and cultural heritage objects (CHOs) according to the subject matter and target audience is designed to facilitate cognitive processes related to learning and memory. This approach also draws on traditional curation practices and interpretative techniques, such as introductory interpretative wall panels used in conventional museum exhibitions [13], [14].

3.2 Content strategy

The strategy for content development aims at highlighting the diversity and relevance of cultural heritage in the aggregator.

We have explored various exhibition formats: narrow topics, and wider themes, stand-alone and modular exhibitions, single-type exhibitions, and exhibitions covering whole areas of Cultural Heritage. There are exhibitions which juxtapose two distinct types of content, i.e. proverbs and paintings that share the same geographical location, there are chronological type-based exhibitions following the evolution of a cultural aspect or object, such as the story of the oil-lamp, there are exhibitions telling the story of whole areas relevant to Greek culture, such as Asia Minor and there are exhibitions about typologies of heritage, such as Industrial or Olfactory Heritage.

Overall, the goal is to cover the mainstream and the less visible- both fine arts and crafts, both men and women in history, both eponymous works and anonymous creativity, both power narratives and minority reports. There is intention to be inclusive in our storytelling, covering many eras, media, locations, types, and subjects and mixing main historical events or important aspects of heritage with less known or visible themes.

4 User Feedback, Educational Impact, and Community Integration

4.1 User engagement

Thematic exhibitions serve as a valuable discovery resource, gaining popularity among the educational communities, creatives and craftspeople, and local communities whose heritage is celebrated. The interactive process of discovering stories through searching and filtering engages cognitive functions akin to those stimulated by library research, navigating complex knowledge systems, and an associative fascination with information, epitomizing the spirit of encyclopedism.

Attendance and feedback from three dissemination webinars organized by the SearchCulture.gr team have been overwhelmingly positive. Educators have shared classroom application ideas and expressed enthusiasm for the diverse content available. Furthermore, Google Analytics figures and Social Media reception data underscore the popularity of these exhibitions, particularly those focusing on folklore and intangible heritage themes, with fine arts exhibitions also receiving significant attention. These findings align with the broader trend of thematic exhibitions being highly effective in educational and cultural engagement [15], [16].

4.2 A tool for community building

The Editorial and Content strategy for Thematic Exhibitions prioritizes community-building as a fundamental objective. By crafting narratives that inform, inspire, and connect diverse audiences, these exhibitions enhance engagement and foster community cohesion and social capital [17], [12].

Given this strategic focus, the future direction of Thematic Exhibitions is oriented towards community curation. A pilot project has already been initiated with a PhD student developing an exhibition on the history of the Customs Service in Greece, a topic that often remains obscure.

The subsequent phase involves expanding the exhibition creation feature to allow individuals and communities [16] to craft and share their own stories within their networks. This approach leverages social media platforms to disseminate each exhibition, thereby broadening its reach and impact [18], [19].

5 Conclusions

In the ever-evolving landscape of digital humanities, interactivity is key. The future development of SearchCulture.gr is centered around empowering users to create their own Thematic Exhibitions, transforming passive browsing into active participation in community storytelling- perhaps exploiting AI technologies to enhance interactivity. By allowing users to save and share their query results in the form of a Thematic Exhibition, SearchCulture.gr aims to foster a vibrant community of digital storytellers, each contributing their unique perspectives and narratives to the collective tapestry of Greek culture.

Digital storytelling through linked metadata not only enriches the educational experience but also opens doors to innovative approaches to interdisciplinary humanities scholarship. Through collaborations with individual researchers and pilot programs for community-sourced and user-generated exhibitions, SearchCulture.gr is paving the way for a more inclusive and participatory approach to digital cultural heritage.

In conclusion, every good search tells a story, and SearchCulture.gr is dedicated to ensuring that these stories are not just discovered, but used, shared, and celebrated. By leveraging the power of semantic enrichments, thematic curation, and user engagement, SearchCulture.gr is not just an aggregator of cultural artifacts; it is a platform for storytelling, learning, and discovery, for all.

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