A New Digital Solution for Promoting of the Romanian Literary Patrimony

Lidia Băjenaru, Veronica Gavrilă, Irina Cristescu,
Dragoș-Daniel Iordache, Ciprian Dobre

Introduction

CULTURAL HERITAGE is important because it strongly influences the behavior and sense of identity. Institutions such as archives, libraries, museums, etc. are responsible for preserving and interpreting cultural information. The concern for the preservation and promotion of cultural heritage leads to a wider awareness of the complexity of culture.

The cultural policy promoted by the European Union has its target to respect and promote the cultural identity of a regional nation or community and to foster the dialogue between cultures.

In Romania, the National Strategy for the Digital Agenda contains clear objectives that support the preservation of national cultural heritage and the provision of digitized cultural information to Europeana (Europeana Collections) by 2020. The National Competitiveness Program supports these e-culture objectives for the period 2016–2020, by allocating more than just financial resources. There are several ongoing initiatives in line with the national strategy, including programs supporting the development of digital libraries, and the access to past or current cultural information. The Digital Agenda 2020 has a strategic development line in Romanian culture, regarding the development of digital archives of the Romanian cultural heritage through digital transfer.

Online access to collections held by Europe's libraries, archives of museums, and public archives documents are a huge gain for culture, growth and personal educational development. Digital technology provides unique tools that inspire us to create and communicate more effectively, enriching the creative capital and increasing the global competitive ability.

The European Digital Library (Europeana Collections) is the only European digital library that currently has just over 30 million digitized objects available and it represents

a single access point to millions of books, paintings, films and museum objects, archival documents that have been digitized in whole of Europe. It is also a source of information derived from European cultural and scientific institutions, promoting the preservation of cultural heritage through the transfer of knowledge, innovation and technology. It allows the exchange of knowledge between different entities interested in culture.

The subject presented in this paper responds both to the EU recommendations and to the Romanian policies for the digitization and online accessibility of cultural heritage and its preservation through Information Technology and Communications (ITC).

The access of representative cultural works to a large digital world will support the continuity of Romanian language and traditions, will represent a real pillar of support for education in Romania, and will facilitate the access of future generations to the existing creations of this people. Among the advantages resulting from the digitization of Romania's cultural heritage are the preservation of national cultural creations. A way to highlight and promote the most important and significant components of the national literary heritage is the valorization through Internet-based technologies.

The present paper presents a solution for the preservation and valorization of collections of information from the Romanian literary patrimony using intelligent digital solutions for the extraction and systematization of knowledge.

The online accessibility of cultural heritage in Romania requires good conditions for digitization in order to preserve the cultural content. The G. Călinescu Institute of History and Literary Theory of the Romanian Academy, as the coordinator of the national project, provides cultural material promoted through this platform, respectively the *General Dictionary of Romanian Literature* (*GDLR*) and the *Chronology of Romanian Literary Life* 1944–2000 (*CRLL*) and other structured and unstructured sources (Simion, 2004–2009; Simion 2016–2018; Simion 2010–2017).

The proposed system, the INTELLIT platform, will represent an important communication hub with the general public, academia, research and economic environment regarding information on Romanian literature, such as: exhaustive bibliography, information concerning all editions, manuscripts, digital version of the works of the most important Romanian writers who have emerged from copyright, etc.

Romanian and World Literary Heritage: Platforms, Systems and Projects

AT NATIONAL level, the National Strategy for Research, Development and Innovation 2014–2020 considers the "heritage and cultural identity" domain to which the project is addressed as a public priority area for the strategic cycle.

The following platforms, systems and projects were developed at national level.

– *RoLiNeST National Catalogue*

RoLiNeST National Catalogue (Romanian Library Network in Science & Technology), the largest Romanian collective virtual catalogue, was created in 2005 under the NUSIDOC Research Project (National Unit System for Information and Scientific and Technical

Documentation). The project sought to unify the library systems and it initially included the databases of the country's most important university libraries.

Currently, the RoLiNeST Catalogue is an effective tool for searching and retrieving the existing bibliographic information in 12 libraries in Romania: Carol I Central University Library in Bucharest, Mihai Eminescu Central University Library of Iaşi, Lucian Blaga Central University Library of Cluj-Napoca, Eugen Todoran Central University Library of Timişoara, The Library of the Romanian Academy Bucharest, The Library of Politehnical University of Bucharest, The Library of Politehnical University of Timişoara, the Library of Gh. Asachi Technical University of Iaşi, the Library of the Technical University of Cluj-Napoca, The Library of Lucian Blaga University of Sibiu, The Library of Horia Hulubei National Institute of Nuclear Physics and the Mureş County Library. It also provides bibliographic information about/from foreign libraries, magazines and electronic books (for example ProQuest), ROMDOC.

– *Digital Libraries in Romania*

The online catalogue of the National Library of Romania contains bibliographic information about documents that entered in the library's collections from 1993 onwards: books, periodicals, multimedia documents, articles from periodical literature. The National Digital Library consists of digital collections created by digitizing documents in the special collections of the Romanian National Library, organized by topic or by events. The website of the Romanian National Library provides access to the Manuscriptorium Virtual library that has an online catalog and allows access to full text documents.

– *The OPAC on-line catalog*

The OPAC on-line catalog of the Romanian Academy Library is the nucleus of the library automation system and comprises several databases, thus trying to preserve the complex structure of the files that characterize all catalogs of the Romanian Academy Library. Online cataloging started in 1998 and, at the moment, it includes about 450,000 records. *The ORB database* is the database for special collections, of which the "Old Romanian books" is completed and comprises a number of 8,360 items. Particular importance was given to the description of each individual copy, and the existence of ex-libris and various notes was also specified. *The BIB database* contains contemporary Romanian bibliography (1919–1952) which concludes the Romanian book's retrospective bibliography series. The text-image databases can be consulted under the generic title IMG. The first entry is Eminescu's manuscripts.

The Carol I Central University Library of Bucharest offers information about books, serial publications and other types of documents from all areas of knowledge existing in its inventory.

– *e-Heritage*

e-Heritage (Patrimoniul cultural al României), the National Heritage Institute's site maintained by CIMEC, includes online databases related to various areas such as archaeology, ethnography, architecture, museums, mobile heritage, books etc. The Book database includes the existing incunabula catalogue for the Romanian territory. This database contains the description of the printed books from the invention of the printing press by Johann Gutenberg until the year 1500, and titles of publications subsidized by the Ministry of Culture in the year 1998.

The Digital Library consists of the digital versions of books related to the Romanian heritage in the fields of archaeology, ethnography, ethnology, museology, history, modern books, art, architecture, numismatics, music, theatre, nature sciences.

– *The National Library of Programs (NLP)*

The National Library of Libraries (NLP) is a software digital library developed by The National Institute for Research and Development in Informatics (ICI Bucharest), which provides information and access facilities for software products developed in Romania and other categories of information such as technical and scientific literature: books, magazines etc. (Marinescu et al. 2017).

– *Projects*

Starting with the year 2000, a series of projects having as a general objective the creation of an infinite library (Banciu and Coardoş 2012) have been developed by the ICI Bucharest in partnership with the Romanian Academy Library, the Politehnical University of Bucharest and the University of Bucharest. Many of these projects are already known and have been successfully implemented. Some of these projects are:

- eBiMuz: integrated multimedia system to access the multicultural thesaurus in the areas inhabited by Romanians as an integral part of the European culture;
- DACII: Advanced Technologies for Reconstruction and Access to Sites of the World Cultural Heritage (the influence of Geto-Dacian, Scythian, Greek and Roman civilizations in the formation of European culture).

Among the projects of the Library of the Romanian Academy (Filip 2009–2014) we mention the following national projects:

- SIMBNR: integrated system for the management of the on-line—SIMBNR national bibliography retrospective (1508–1918), project in partnership with ICI Bucharest;
- BYZANTION: Byzantine and post-Byzantine landmarks in manuscript illuminations;
- DACOROMANICA: the digital library of Romania, in partnership with the Bucharest Metropolitan Library;
- valorization of the Byzantine musical heritage from the Romanian Academy Library manuscripts, partnership with Nectarie Protopsaltul Foundation.

From the international projects obtained through competition we mention:

- Europeana Libraries: Aggregating digital content from Europe's libraries;
- STUDITE: Les manuscrits et reliures byzantines.
- *DigiMultiCult*

The prototype system DigiMultiCult was developed by a national consortium coordinated by the National Institute of Research and Development in Informatics (ICI Bucharest), through the research and development project "Integrated System for the Promotion and Highlighting of Multiculturality for the Sustainable Development of Rural Area" (PS research-development plan of MCSI 2011–2014, the Information Society).

The project used multimedia methods and techniques for highlighting and promoting cultural products with relevance at European level, the implementation of rural cultural potential, and popular culture and traditions in rural areas. The project aimed to achieve an integrated system that included a database containing all information on cultural products in representative rural areas of Romania (Marinescu et al. 2014).

– *Multicult*

The Virtual Museum Gallery of Ethnic Minorities in Romania—Multicult was developed by a national consortium coordinated by the National Institute of Heritage, through the Multicult cultural project funded by The National Cultural Fund Administration (August–November 2012). The site provides the layout of museums/public collections in the territory to those interested in a large documentary resource on the culture of ethnic minorities, allowing them to select, using various criteria, the visualization of the objectives and historical monuments in the area, via an interactive map. The information can be browsed using the following criteria: geographical, ethnic, or by profile (mixed, art, ethnographic, local history).

At international level, the European Union's Strategy until 2019 for Culture and Media takes into account the following policy areas:
- supporting the audiovisual sector;
- supporting cultural and creative industries;
- supporting the culture sector.

The support for the culture sector aims to protect and promote European cultural heritage, as well as to support cultural and creative industries, enabling them to act as a factor in stimulating economic growth and creating jobs.

The following platforms, systems and projects were developed at international level.

– *The European Digital Library*

The European Digital Library is a single point of access to millions of books, paintings, films, and museum objects, archive documents that have been digitalized throughout Europe. It is also a source of information derived from the European cultural and scientific institutions, promoting support for cultural heritage conservation through knowledge transfer, innovation and technology. The platform supports the exchange of knowledge between librarians, museographers, archivists and representatives of the creative and cultural industries, while stimulating the creativity of the economy and promoting cultural tourism.

– *The British Library*

The British Library has numerous online catalogs, of which more than 20 specialty ones. Most of the documents belonging to the British Library can be found in these catalogs. Still, some materials, such as early printed materials, are not yet accessible online.

The Main Catalogue contains records for over 56 million items, including 13 million records for books, journals, newspapers, conferences, maps, and 37 million articles in journals, thousands of electronic journals, electronic books and hundreds of databases.

– *The Library of Congress*

The Library of Congress Online catalog consists of 17 million catalog entries for books, serials, manuscripts, maps, music, recordings, images and electronic resources from the Congress Library collections. LC Online Catalog is the main access point for LC Digital Collections.

– *Bibliothèque nationale de France*

Bibliothèque nationale de France contains unique collections such as 15 million books and printed documents, manuscripts, fingerprints, photographs, maps and plans, coins, medals, audio documents, video and multimedia documents. It also has numerous online catalogs. Le Catalogue général had, in 2016, more than 13 million reference refer-

ences, and about 5 million notes of authors (names of people, communities), titles of papers, subjects.

Ressources électroniques offers online more than 160,000 e-books and 80,000 magazines. About 250 databases cover all areas of knowledge and include a wide variety of resources: databases with full-texts, bibliographies, news aggregates, e-book platforms, magazines and journals, market studies, encyclopedias and dictionaries.

Through *the Enrich Project* (Digital Library of Written Cultural Heritage), the European manuscript portal was funded by the eContentPlus program, coordinated by the Czech National Library, with the objective of ensuring unrestricted, distributed access to the European documentary heritage, specialized in manuscripts, incunabula, old and rare books, and other historical documents. The portal is built on the Manuscriptorium platform, which has been able to integrate collections from over 46 representative institutions in Europe, mainly from National Libraries, including the National Library of Romania, to the level of 85%.

Comparative Analysis of the Functionalities and Limitations of the Relevant Online Platforms

INVESTIGATIONS HAVE revealed that at national level Romania has very few cases in which a public or academic institution has exposed the content of its own work through an online platform. An online platform accredited by an institution is the one dedicated to the Catholic Bible developed at the initiative of the Roman Catholic Diocese of Iaşi, the Bible Research department. The project, supported by DCB, provides the online platform with the following features: direct access to books and chapters, finding passages that contain a searchable notion, and a program that can be installed on one's personal computer that also offers results filtering functions

A second representative project is the Digital Encyclopedia *Romania 1918* developed by the SIVECO Foundation in collaboration with cultural institutions and personalities in Romania. The topic of the encyclopedia is Romania during the First World War and the achievement of the Great Union. The content is organized in five categories ordered chronologically and it is available in three foreign languages. The main features are built to deliver interactive content, so the encyclopedia makes it possible for users to access images, videos, 3D objects, interactive maps, 3D game and scaling options, and display adjustment.

There are also some voluntary initiatives, which are not officially accredited.

– *The Bible*

The Bible is accessible through numerous online platforms, the main difference being given by the religious denomination of the volunteers involved in the development and maintenance of these platforms. The following examples are relevant due to the generated traffic and the complexity of the platforms.

The online platform developed by the Orthodox Christian volunteers provides the following features: direct access to books and chapters, finding verses containing certain words or phrases and filtering them according to the book.

The online platform attached to the site offers readers the following functions: direct access to books, chapters and verses with attached comments and verses referred to, finding verses containing certain words or phrases and ordering them according to the chapter, book or verse. The website also offers three encyclopedic dictionaries: mythological, religious and theological, but they only have the alphabetical order of the results.

The online Bible in Romanian platform has the following features: direct access to books and chapters, finding verses containing a specific notion or phrase, the search option can be exact or approximate, results can contain, by user option, all words, exact search phrase or at least one of the words of the expression, the results can be filtered after the Bible, book, and chapter edition.

– Encyclopedias

The voluntary project which had "a cultural and encyclopedic character," *Romanian Encyclopedia* took place between 2008 and 2014 and was aimed at a universal *Encyclopedia of Romania*. The content is generated by the contributors and accessed through the platform. The information is divided into thematic portals and these, in turn, are ordered into categories and subcategories containing pages on different subjects. Searching for a notion is done through all site content, so the found results can be filtered by their type (e.g. Multimedia, content, etc.).

Several examples of online dictionaries are found in the international community. The following examples focus on the way in which the basic functionalities of the dictionaries were implemented. In the end, *Encyclopedia Britannica* is added as a reference paper, whose online portal is much more complex in terms of functionality, highlighting the benefits of using online platforms for the presentation of academic cultural materials.

– The Australian Dictionary of Biographies

The Australian Dictionary of Biographies was developed online at the initiative of the National Centre of Biographies of the National Australian University. It contains the biographies of representative and important people in the Australian history, cultural or scientific fields. The platform allows searches using up to 14 predefined filters, including multi-edition dictionary search, with up to 10 results ordering criteria. To make the user experience more enjoyable, the platform also includes a "Born This Day" section in which a small summary of a personality born on the current day is presented).

– Te Ara Encyclopedia of New Zealand

Te Ara Encyclopedia of New Zealand is a universal encyclopedia in English and Māori developed under the patronage of Manatū Taonga Ministry of Culture and Heritage. The encyclopedia includes also the *Dictionary of New Zealand Biography*, which contains biographies of important personalities in New Zealand society. The information is structured alphabetically, and the "advanced search" feature allows filtering results after 10 predefined criteria.

–Dictionary of Canadian Biography

The Dictionary of Canadian Biography is an online platform initiated by the University of Toronto and Université Laval with the support of the Canadian Government through the Department for the Canadian Patrimony that displays the partial content of the last printed editions. The basic search orders the results according to four predefined criteria while the advanced search allows filtering the results according to five set criteria and the definition of a random number of constraints, according to user preferences.

– *The Dictionary of Irish Architects*

The Dictionary of Irish Architects 1720–1940 is an ongoing online platform coordinated by the Irish Architectural Archive with the support of the Department of Environment, Community and Local Government, and the Department of Arts, Heritage and Gaeltacht. The contents of the dictionary are ordered and grouped alphabetically. The search function allows queries by the names of architects or buildings.

– *The British Encyclopedia*

Encyclopaedia Britannica managed to change its status as a bulky work (the edition of 2010 having over 32 volumes) by using an online platform. The development of the *Encyclopaedia Britannica* is now only digital, and the new opportunities created by the online environment have helped improving the quality of the work, increasing its visibility and popularity. At the moment, the *Encyclopaedia Britannica* includes several online platforms with content adapted to the geographic region (for example, the *Encyclopaedia Britannica* Australia), the area of interest (the content is divided into 20 categories) and age groups for example, *Encyclopaedia Britannica for Kids*). At the level of biography section, the content is ordered in categories and subcategories by field of activity and can be filtered after three pre-defined criteria.

The table below presents the comparative analysis of the functionalities, limitations and opportunities of the abovementioned platforms.

TABLE 1. COMPARATIVE ANALYSIS OF THE FUNCTIONALITIES, LIMITATIONS AND OPPORTUNITIES OF THE NATIONAL/INTERNATIONAL PLATFORMS

| Functionalities | PLATFORMS | | | | | | | | | | | |
| | Romania | | | International | | | | | | | | |
	GDLR	A	B	C	D	E	F	G	H	I	J	K
Official initiative	*	*	*					*	*	*	*	*
Ordered listing	*	*		*	*	*		*	*		*	*
Search	*	*		*	*	*	*	*	*	*	*	*
Ordering	*	*			*			*	*	*	*	*
Pre-defined criteria	*	*			*			*	*	*		*
Custom criteria												
Filter	*				*	*	*	*	*	*	*	*
Annotations					*			*	*	*		*
Extra sections		*	*	*	*	*	*	*	*			*
Extra functions		*	*		*	*	*	*	*			*
Media content			*		*	*	*	*	*	*	*	*
Photo			*				*	*	*	*	*	*
Video			*									*
Audio			*		*	*						
Bilingual content			*						*	*		*

NOTE: The platforms are as follows: A = Catholic Bible; B = Digital Encyclopedia *Romania 1918*; C = Orthodox Bible; D = Christian Orthodox; E = Ebible; F = *Romanian Encyclopedia*; G = *Australian Dictionary of Biographies*; H = *Te Ara Encyclopedia of New Zealand*; I = *Dictionary of Canadian Biography*; J = *Dictionary of Irish Architects*; K = *Encyclopaedia Britannica*.

INTELLIT Platform: Functional Requirements

TAKING INTO consideration the comparative analysis carried out in the previous section and the content that is going to be shared online, we propose the following features for the INTELLIT platform.

• Registration/authentication/permissions system: the platform will be accessible to the public, but certain functionalities and operations will only be available by creating an account.

• The option to upload documents: the documents will be uploaded using a special section in order to simplify the loading of the first materials within the platform and for further developments and required maintenance;

• The option to view documents: all documents within the platform can be viewed (full-format documents and parts of documents resulting from the advanced search filters).

This will enable the following information to be displayed:

– text;
– image;
– footnotes;
– annotation of the terms that have an appearance in the dictionary;
– sorted items using various criteria;

• Advanced search functions—all documents/items in the document that meet the search criteria will be returned. There will be a diversified category of search filters:

– by search object (author, proceeding, institution, book, company, literary society, bibliography, year of birth etc.);
– by filters: writers (name of author, place of birth, place of death, type of writer, year of birth, year of death, written works); magazines (name, magazine type, year of publication, place of publication, number of editions); books (name, type); timeline of literary life (name, period, days, year, edition); literary society (name, place of establishment, year of establishment, members); organization (name, place of establishment, year of establishment).

• Calendar section: an action/occurrence/birthday/event important on that day will be displayed:

– displaying the summary of the activity of a writer/proceedings on the day when he/she was born/died, began/ceased activity (example: displaying a short presentation of the activity of the writer Ion Barbu on 18 March);
– the recommendations of the day: calendar-related sheets (selection by birth dates/establishment/publications/notable events).

• International platform: the possibility to access the platform in both Romanian and English with the possibility of expansion to other languages.

• Possibility of downloading documents in a specific format.

• Optional: contact form to signal problems or concern, display by relevance (ability to note a specific card), filter results by number of views, display by a specific criterion (e.g., sorting sheets by writers who appear in the baccalaureate curriculum), news section (displaywhen new documents are added to the platform), possibility of connecting with social media accounts (e.g., Facebook/Google/Twitter etc.).

Within the platform there will be a very wide range of filters that will give the user the opportunity to view only relevant information for the user without having to manually search for the information one wants. Below we are present a few of these filters.

The platform will provide advanced search features—all documents/items in the document that meet the search criteria will be returned. There will be a varied selection of search filters, as follows: by subject of search (author, magazine, institution, book, society, literary association, bibliography, year of birth, etc.). In this case, all associated categories will be included.

The indexing criteria identified in the *GDRL* for the writer are as follows:

TABLE 2. THE INDEXING CRITERIA IDENTIFIED IN THE GDRL

	Main categories	Attributes / Metadata
	Name	
	First Name	
	Date of Birth	
	Place of Birth	
	Date of Death	
	Place of Death	
	Type of Writer	Author (Verses, Prose, Drama), Bibliographer, Bibliologist, Byzantinologist, Scholar, Classicalist, Comparative, Literary Critic, Dramatist, Folklorist, Diarist, Playwright, Philologist, Folklorist, Journalist, Germanist, Cultural, Historical (Literary, Theatrical), Journalist, Memorialist, Orator, Poet, Prose Writer, Reporter, Semiotician, Scholarist, Stylist, Theatrologist, Translator
Writer	Biography	
	Writings	Author, Book, Volume / Edition, Year, Page
	Bibliographic References	Author, Book, Volume / Edition, Year, Page
	Anthology	Title, Appearance Location, Year
	Translations	Author, Title, Town, Year
	Editions	Title, Appearance Location, Year
	Collections	Title, Appearance Location, Year
	Literary Activity / Publications	
	Comments from other great authors	

The INTELLIT Platform: Main Features

THE PROPOSED solution represents both an open portal to the digital era and a possible answer to the problems of preserving and transforming the globalization process while minimizing its negative effects upon the Romanian people. This solution consists in developing an integrated platform for the preservation and valorization of the Romanian literary patrimony—INTELLIT, a support for the Virtual Library of Romanian Literature (VLRL) that will represent an important communication gateway for the general public, the academic research environment as well as the economic environment, for information regarding Romanian literature.

The INTELLIT platform will be composed of two separate applications, the client application and the server one. This approach ensures higher security, as the server application will not be accessible, it will only communicate with the client application by means of API, thus reducing the risk of malicious attacks. This approach also ensures a high modularity and in the future it will reduce the time dedicated to the maintenance or the modification of the platform by adding new services.

Each application as well as its benefits will be described separately.

The Client Application is a *Single Page Application* type, therefore all pages are based on dynamic components that refresh themselves automatically, without having to refresh the page as in the case of the previously presented applications. As a consequence, all the elements on the page, the transitions, the animations are dynamically and individually changed, without affecting the other elements on the page.

Most often the *SPA* applications are also *PWA* (Progressive Web Applications). In this context the developed application will benefit from all the characteristics of this type of application, namely the native behavior. The platform will be accessible offline via cache, and it will offer the possibility to be installed as a common application on all types of the operating systems (Android/Windows/IOS), the result being the native behavior of the platform. The application also supports the interaction with the native API of the operation system on which it runs.

As far as the design is concerned, the client application will follow the standards imposed by Google Material Design, thus creating an attractive, familiar environment, easy to use even by those who are not familiarized with computers. *Vuetify*, a frame work for *VueJS,* will be used for the interface. This framework was developed in keeping the Material Design standards, keeping a part of the standard components (buttons, lists, menus etc.) and also bringing many new directives and components, specific to the layout (a new grid system, resizing type elements, scrolling, breakpoints, etc.). Using this framework is sufficient for the development of the application as it has all the components that are necessary to the implementation of a modern web application responsive to any resolution, without taking into account the type of device used (PC, tablet, telephone, etc.).

Concerning the server application, this is of REST-full type, all its actions will be achieved via API based on endpoints, which facilitate a possible ulterior development (the addition of just one new endpoint being necessary). On the server side all mechanisms and methods that are necessary for optimal functioning, as well as advanced methods concerning security, synchronization and visualization in real time of data will be implemented. The main technology used for the server application is *NodeJS*.

A distinctive element is the use of technologies that allow Server Side Rendering for SPA applications. This implies rendering the pages, the views on the server side in order to reduce the use of customers resources and to allow changing them when there are modifications. In this case, the server takes over the workload associated to the client.

The final application will be optimized in what concerns the consumed resources and minimized to make difficult possible malicious modification, to secure it against the usual cyber-attack forms and not only. Basically, the application will have a high level of performance due to the modular, complex architecture that allows asynchrony

calls that will avoid blocking it when there are a high number of processing calls, supporting the concurrent connection of thousands of nodes.

A great advantage of the current application, given by the server modular architecture based on micro services and of the used technologies, is the possibility to scale horizontally, that is, each service can be distributed to several nodes to respond to a high number of processing calls, without the application getting blocked or slowing down, if this would be required in the future.

Conclusion

THE DIGITIZATION of the Romanian cultural heritage contributes to the preservation of the national cultural creations. Access to representative cultural works will be a real support for the continuity of the Romanian language and traditions, it will help support education in Romania and it will facilitate the access of future generations to the creations of this people.

In this regard, this paper presents elements that underpin the development of an online platform for collecting and promoting digital cultural resources, namely, valuable information from Romanian literature. The development of a solution for the promotion of the collections of information from the Romanian literary patrimony is proposed, respectively the development of an online platform which offers access to data sources of the content of the *General Dictionary of Romanian Literature*, the *Chronology of Romanian Literary Life, 1944–2000* (CRLL) and other such structured and unstructured sources provided by G. Călinescu Institute of History and Literary Theory of the Romanian Academy.

This study presents the digital libraries/catalogs of existing cultural materials, and features an analysis of their functionalities and services, in order to determine the characteristics of the proposed platform. The analysis allows the extraction of different categories of data. Based on this data the search and filtering of documents will be carried out on the INTELLIT platform, to provide the most relevant results. Also, the INTELLIT platform is described, highlighting its objectives and main features.

❑

References

Banciu, Doina and Dora Coardoş. 2012. Promovarea multiculturalităţii în era digitală în spiritul dezvoltării durabile. *Revista Română de Informatică şi Automatică* 22, 2: 29–48.

Filip, Florin G. 2009–2014. Rapoartele anuale de activitate ale Bibliotecii Academiei Române.

Marinescu, Ion Alexandru, Mihaela Tomescu, Dora Coardoş, and Lidia Băjenaru. 2014. Sistemul integrat DigiMultiCult—Punct unic de acces la informaţia digitală multiculturală. *Revista Română de Informatică şi Automatică* 24, 1: 13–24.

Marinescu, Ion Alexandru, Lidia Băjenaru, Mihaela Tomescu, and Daniel Savu. 2017. National Library of Programs: The Prototype Extension with New and Advanced Services. *Revista Română de Informatică şi Automatică* 27, 2: 31–40.

Simion, Eugen, ed. 2004–2009. *Dicţionarul general al literaturii române*. 7 vols. Bucharest: Univers Enciclopedic.

—. 2010–2017. *Cronologia vieţii literare româneşti: Perioada postbelică*. 13 vols. *Perioada postcomunistă*. 7 vols. Bucharest: Editura Muzeul Literaturii Române.

—. 2016–2017. *Dicţionarul general al literaturii române*. 2nd edition, revised, expanded and updated. 4 vols. Bucharest: Univers Enciclopedic.

Webography

http://adb.anu.edu.au/.

http://www.bcub.ro/.

http://www.biblacad.ro/catonline.html.

http://www.bibliacatolica.ro/.

http://www.bibnat.ro/.

http://www.biographi.ca.

http://cacheprod.bcub.ro/webopac/Vubis.csp.

http://enciclopediaromaniei.ro/.

http://explore.bl.uk/

http://multicult.ro/index.php?lang=ro.

http://rolinest.edu.ro/V/3PU4YY6K1UT9SF651HB3813FY4MM2Q5KBVMT5LVMIYB3DMHM
    KQ-00147?func=quick-1.

https://britannica.com/

https://britannica.com.au/.

https://britannica.com.au/britannica-kids/.

https://catalog.loc.gov/.

https://catalogue.bnf.fr/index.do.

https://digimulticult.ici.ro/.

https://digimulticult.ici.ro/index.php.

https://ec.europa.eu/info/strategy_en.

https://teara.govt.nz/en/biographies.

https://www.bl.uk/.

http://www.bnf.fr/fr/acc/x.accueil.html.

http://www.bnf.fr/fr/collections_et_services/a.ressources_electroniques.html.

https://www.crestinortodox.ro/biblia.

https://www.dia.ie/.

http://www.ebible.ro/biblia/.

https://www.edu.ro/sncdi2014-2020

https://www.europeana.eu/portal/en.

https://www.loc.gov/collections/.

http://www.manuscriptorium.com/.

www.cimec.ro.

Abstract
A New Digital Solution for Promoting the Romanian Literary Patrimony

A way of highlighting and promoting the most important and significant components of the national heritage is to harness them through Internet-based technologies. This paper presents the proposed digital solution for the promotion and preservation of collections of information from the Romanian literary patrimony using intelligent digital solutions for the extraction and systematization of knowledge. This digital solution, a platform, will offer advanced, intelligent semantic search and analysis services and prediction forms concerning Romanian literature. This paper presents several important platforms, systems and projects that are linked to the Literary Heritage. Then, a comparative analysis of the functionality, limitations and opportunities of the most relevant online platforms is presented, followed by the description of the main features of INTELLIT platform.