

A Research Project for Mapping the Digital Initiatives of Bulgarian Libraries

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Abstract. The paper aims to present a recently started research project with primary objective of conducting scientific research engaging in practical activities related to web socialization, as well as popularizing local history information resources and e-projects created by libraries in Bulgaria. As a results of the project implementation, a website and an e-catalogue showcasing Bulgarian library projects will be developed.

Keywords: Digital Library Projects, GIS, Local History, Libraries, E-catalogue.

1 Introduction

The processes of change in the information society on a global scale and the transformation of libraries in Bulgaria are happening at different rates today. In Bulgaria, transformation is chaotic, uncoordinated, untheorized, and fragmented. Individual libraries are working on different projects that do not follow uniformly accepted policies and strategies, and such an eclectic approach leads to overlap in some activities and divergence in others. This undoubtedly directly affects their work and communication with readers and users of classic and modern library services and resources and is decisive for their place in society (Yancheva, 2021). The policies of the state in relation to education and culture are the basis for the construction of modern, technologically supported and, above all, attractive libraries for readers. The inclusion of Bulgarian libraries in the digital world is tied to state policies relating to digitization in all spheres of public, economic, and cultural life. As noted by Prof. Tsvetanka Pancheva "the investment of national funds and resources to build a single database for access to local history information resources created over several decades by regional libraries (previously retro-converted was of great importance for the preservation of this heritage (*note G. Yancheva: our literary and documentary heritage*) and for its full use by the user." (Pancheva, 2019).

The recommendations of the European Commission from the initiative "i2020: Digital Libraries" from 2005, related to the implementation of consistent policies in the field of digitization and storage of digital works to protect the cultural and documentary

heritage of Europe, even then clearly emphasized the need to the preparation of digitization plans at national and regional level by the Member States, leading to the creation of a European cartography of digitization activities (Todorova, 2010). The creation of a National Strategy for Digitization of Bulgaria's Cultural Heritage is at a standstill due to several political, economic, and social reasons. The strategy could provide a solution to several issues related to the coordination between individual libraries and other cultural institutions regarding the digitization projects of our cultural and documentary heritage. One of the main activities and a step towards realizing the idea of a National "Digital Library" is the collection of statistical information at the national level to reflect the institutions involved in the digitization of our cultural-historical and documentary heritage (BBIA, 2013). In this context, the construction of a website and a geographic information system for Bulgarian digital library projects could cover the currently missing database on the types of projects and the institutions involved in digitalization and cultural heritage preservation activities. Summarizing and presenting information related to the digitization of our cultural heritage will contribute to coordination and avoiding duplication of efforts and costs (Yancheva, 2021).

The presence of Bulgarian library institutions in the online environment through institutional websites, social media profiles and communication channels is not at the necessary level according to the criteria of modern online users. Despite the existence of good examples, it is necessary to optimize most of the websites of libraries, their more active presence in social networks and the timely and continuing professional training of library specialists to be engaged as a priority in building the online connection "library-patron" through the variety of mechanisms and tools offered by ICT. The library today is no different from the library in the Ptolemaic era. Today's technological changes from the point of view of the historical development of human civilization will lead to the preservation of the "library-patron" communication model as a fundamental essential feature of human civilization. From Alexandria to the Internet, the library has maintained its extraordinary resilience to the civilizational changes it has faced. But despite its millennial history, we can point out that it is one of the most flexible and adaptable institutions of "memory". Historical experience shows that for greater efficiency, trends and changes in the information environment need theoretical understanding before their social implementation (Yancheva, 2021).

The implementation of the project will lead to several fundamental results. The final product of the project work is related to the realization of a web portal and a centralized geographic information system that allows users to access Bulgarian digital library projects and local history resources. The outcomes will benefit the distribution of local history information, which would increase interest in the cultural and historical heritage of all regions of the country. The development of the final product will contribute to future training sessions with students, scholars, and library professionals. The project's outcomes could improve different educational programs, events, and initiatives that will help spread local history information and enhance educational practices. The site will increase the visibility and popularity of digital library projects and local history resources and support their preservation and future development. The project will sustain cooperation between libraries, educational institutions, and users.

2 Research Project Framework and Objectives

Currently, there isn't an existing system or web portal that provides access to Digital library projects, Local history bibliographic resources, Local History, and Research library digital projects. The realization of the present project will create a real opportunity for libraries to synchronize and coordinate their existing and future digital projects. In addition, the project could act as an online business card for all existing libraries. At present, the Bulgarian digital library projects are in several scattered e-platforms, which creates difficulties in the communication between library professionals and users:

- subpages of the websites of regional libraries in Bulgaria.
- subordinative websites for local library projects.
- websites with local information created on private initiative.
- several blogs with projects to libraries and blogs that are self-initiative of amateur local historians.
- multimedia presentations shared through electronic platforms for publishing content such as issuu.com (Old City architecture on St. Alexandrovska in Burgas / tourist route); prezi.com (project "The known and the unknown Gabrovo-in focus", Virtual exhibitions, etc.)

A good example of a successful project for digitization of bibliographic information is the project "Digitalization of the Repertoire of the Bulgarian Literature of the Revival (1801-1878)", implemented by a team of scientists at the University of Library Studies and Information Technologies (Zagorov & Encheva, 2017). KNIGOPIS is a portal uniting the digital components developed under the project "Digitalization of the Repertoire of the Bulgarian Literature of the Revival (1801-1878)", funded by the Bulgarian Research Fund under contract. DN 05/2 from 14.12.2016. The project website provides open access to bibliographic information about the Bulgarian national revival printed books in the period from the beginning of the century to the Liberation of Bulgaria (1878). Access to the database is through information-search and geographic systems. The project is already a popular and sought-after tool for research in the field of Bulgarian book history and literary history both in Bulgaria and abroad. This positive experience can also be transferred to the field of local resources. Another notable example of a project integrating Geographic Information Systems (GIS) with library science is the International Federation of Library Associations and Institutions (IFLA) Library Map of the World. This initiative serves as a comprehensive repository of fundamental library statistics and functions as an advanced tool for providing country-level data. Additionally, it facilitates global comparisons of various library performance metrics across different regions (IFLA Library Map of the World, n.d.).

The project for the construction of a "National Geographic Information System for Digital Library Projects Model" combines scientific research, innovation, and social aspects to meet the challenges defined in the National Strategy for Scientific Research in the Republic of Bulgaria 2017–2030, as well as the European priorities under the EU's leading initiative for research and development – "Horizon – Europe" (2021 - 2027). The project aims to create a website with a centralized geographic information system integrated into it, which unites digital library resources and provides easy and convenient access to them through a map interface. The construction of such a website

directly corresponds to the modernization in the field of scientific research laid down in the National Strategy for Scientific Research. The implementation of the project will support the future theoretical and practical training of students from direction 3.5. Public Communications and Information Sciences at the Faculty of Library Science and Cultural Heritage at ULSIT. For example, study disciplines corresponding to the subject of the project, which are currently included in the curricula of bachelor's degree students from this direction, namely disciplines such as "Local History Studies", "Local History Studies Databases", "Information Searching" can be given, "Electronic Information Resources", etc.

The main goal of the project is scientific research and practical activities related to web-based socialization and the promotion of local historical information resources and digital projects created by Regional Libraries in Bulgaria, with the aim of providing broader access to locally relevant information for stakeholders (scholars, researchers, educators, students, teachers, pupils, etc.), both nationally and globally. By implementing such a web platform, a real opportunity could be created for libraries to synchronize and coordinate existing and future digital library and local history projects. Furthermore, such a project would be an online showcase for all active libraries. To achieve this goal, a website will be developed using a Content Management System to integrate a geographic information system (map) with all existing scientific, library, and local history digital projects. According to Dr. Robert Tomlinson, a Canadian geographer and the first to suggest that computers could be used to automate map analysis, the acronym GIS stands for "geographic information systems." He coined the term "GIS" in the early 1960s to refer to "any computer application that performed functions with geospatial data" (Bishop & Mandel, 2010). In everyday language, the term "GIS" is most often associated with map-making, or cartography. GIS is much broader than maps, however, GIS can be used to visualize, analyze, and interpret data with a geographic element. According to (Black et al., 1998) the crucial factor connecting the descriptive details from various data sets is "place." Data is geographically referenced using a standard system like latitude and longitude. The level of this reference can vary depending on the project's goal, ranging from specific addresses, such as those of libraries, to broader locations like cities. Geography is the evident field where GIS technology has been applied most, but research uses have been spread well beyond this discipline to many applied sciences, both social and physical. This includes archeology, religious studies, local history, urban studies, citizen science, as well as the more obvious fields of ecology, forestry, and oceanography (Black et al., 1998).

The planned product of the project presented in the paper is an informational website with an integrated geographic information system – aims to widely disseminate the available information in Bulgarian digital library projects among online users, both at the national and international levels. In the future, the scope of libraries included in the system could be expanded, such as municipal, school, and community libraries in the country that generate local historical resources and projects.

To achieve the set goal of the project, the following research tasks will be performed:

1. Research and analysis of the existing digital library projects in the Bulgarian online space. Compilation of an up-to-date list of web addresses and detailed information for each of the digital library projects.

2. Researching the needs and preferences of users with innovative approaches of the principle of Design thinking to adapt the web site and the geographic information system to their requirements.

3. Development of information infrastructure through the creation of a website, considering the specific needs of different users.

4. Construction of a geographic information system to be integrated into the web site created for the purpose. Development of GIS functionality and interface to allow visualization of digital library projects on the map.

The scientific research tasks presented are interdisciplinary, integrating technical and social aspects with the aim of achieving a comprehensive and successful implementation of the project proposal.

It is planned to use a set of research methods to achieve the objectives and goals of the project proposal: research, analysis, and evaluation of information on existing digital library projects; Design thinking method for researching the needs of online users of library services and resources and research of possible technological approaches for the development of a website and GIS.

The development of a website through a Content Management System that integrates a Geographic Information System (GIS) with all currently existing research, library, and local history digital projects. GIS can be developed through several approaches: through the Google Maps application; through free software products such as MapBox (<https://www.mapbox.com/>); and/or through a GIS creation module in the Web Content Management System. A study will be done to select the most appropriate GIS creation tool (Zagorov & Boyadzhiev, 2013).

The connection between GIS and digital libraries projects in this context is more nuanced than merely displaying locations on a map. The paper presents a project aimed at developing a National Geographic Information System (GIS) for Bulgarian digital library initiatives. This system will not only map the location of information sources but also serve multiple critical functions: it provides single point access to various digital library projects/ initiatives and local history resources across Bulgaria, consolidating fragmented data currently scattered across different platforms and facilitating easier access and coordination. By integrating GIS, the project allows for complex visualization and analysis of spatial data related to cultural and historical resources, identifying geographical patterns, overlaps, and gaps in digitization efforts, which are essential for strategic planning and resource allocation. The system aims to synchronize and coordinate existing and future digital initiatives across libraries, preventing duplication of efforts and ensuring comprehensive coverage, promoting collaboration among libraries and fostering a more integrated and efficient digitization strategy. Furthermore, GIS enhances the user experience by providing intuitive, map-based access to resources, enabling users to visually explore and discover resources relevant to their interests and research needs, making the digital library more interactive and user-friendly. Additionally, the project supports educational initiatives by making local history resources more accessible to students, scholars, and researchers, serving as a valuable tool for educational programs and research activities and promoting deeper engagement with local cultural heritage. Thus, the use of GIS in this project is justified as it provides a robust

framework for managing, visualizing, and analyzing complex geospatial data, enhancing coordination among libraries, and improving access to and engagement with digital library resources.

3 Conclusion

The project's outcomes contribute to the achievement of the crucially needed for the Bulgarian libraries and users National Geographic Information System. The creating of such system will benefit the online environment of the libraries by systemizing and consolidate their projects. The website will also sustain the promotion of the activities of Bulgarian libraries, as they are a relevant part of the contemporary cultural background in the digital world. The sustainability of such a project will be ensured by embedding an e-form for data entry of new research, library and local history digital projects by the team working on them, which could then be reflected on the website and the GIS.

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