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Abstract
The experience of project-grant activities at the Stefanyk LNNB of Ukraine is outlined. It is underscored that the successful execution of the project “Repressed Book: (re)presentation of National Cultural Heritage from the Funds of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv” is directly contingent upon the modernization of the institution’s material and technical infrastructure, alongside the adept utilization of cutting-edge information technologies and pertinent computer software by the project team. A comprehensive array of measures envisaged within the project’s scope is discussed, along with a delineation of anticipated outcomes. The cross-sectoral project envisages the development of two electronic products: a comprehensive digital repository of full-text publications from the library’s former special collection, and the digital anthology “Repressed Books (1900–1939): editions from the former Special Collections Department of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv”. These initiatives aim to safeguard and conserve the library’s unique holdings, which constitute not only its historical and cultural legacy but also the national heritage of our country. Furthermore, the availability of these digital resources on the library’s portal for open access will facilitate the integration of these literary works into both domestic and international electronic communication systems. Presently, Ukraine finds itself grappling with renewed threats to its cultural heritage amid the backdrop of existential challenges and armed conflict. In response to these challenges, library institutions are adopting diverse strategies to safeguard the nation’s cultural legacy. It is emphasized that the implementation of this project will play a key role in the effective preservation of cultural infrastructure, including museums, libraries and archives, as well as priceless treasures under martial law. Given the constraints of limited financial and human resources, representatives of these institutions are actively seeking support from potential donors capable of assisting in addressing these urgent tasks of national importance.

Keywords
Ukrainian Cultural Foundation, project, exhibition, cultural heritage, national property, digitization, insurance fund, Special Fund, digital collection, electronic catalog, illustrated catalog

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1. Introduction

Currently, amidst a state of war, Ukraine is suffering irreparable losses. The enemy mercilessly destroys cities and villages, residential buildings, and critical infrastructure. Archives, museums, and library institutions, which store unique, valuable, and rare publications, experience significant losses. The threat of loss and destruction of exceptional publications, which constitute the national and cultural heritage of Ukraine, prompts institutions that are fund holders of material media (books, periodicals, old printed and manuscript publications, archival documents, and materials, etc.) to look for ways to protect and preserve them. V. Stefanyk National Scientific Library of Ukraine in Lviv (hereinafter – Stefanyk LNNB of Ukraine) solves this task by developing various projects, which are implemented thanks to grant support. In 2024, leading specialists and experts developed the project "Repressed Book: (re)presentation of National Cultural Heritage from the Funds of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv", which took part in the competition program "Cultural Heritage" by the Ukrainian Cultural Foundation (UCF). Among the main goals of the program: 1) support of projects aimed at digitization of printed materials; 2) creation of tools and platforms for their presentation and popularization; 3) organization of a wide range of live and online activities; 4) increasing the number of consumers of cultural products by using new forms and approaches [11]. The successful implementation of the project directly depends on the use of a complex of modern software and technical tools, which will provide an opportunity for effective search, collection, accumulation, processing, storage, presentation, and distribution of information, as well as effective project solutions, which will be based on the latest information and communication technologies.

2. Analysis of recent research and publications

The works of such leading domestic researchers as: Varaskina N. [7], Horbenko I. [8], Zhenchenko M. [5], Zatoka L. [10] made a significant contribution to the study of the problems of preservation of library funds due to the introduction of modern digital and electronic technologies. Zubko N. [4; 9], S. Klochok [12], I. Lobuzin [1], K. Lobuzina [2], O. Marina [16], G. Melnyk-Hoha [3; 4; 9], Mudrokhha V. [3; 4], Onyschenko O. [17], Pavlenko T. [18], Popadyuk N. [3; 4], L. Prykhodko [19], N. Senchenko [20], V. Sprinsyan [25], M. Shevchenko [24], O. Shevchenko [25]. The authors examine the peculiarities and specifics of the formation of electronic collections, highlight the experience of Ukrainian and foreign institutions in the digitization of documents (including technical and technological features), and also draw attention to the implementation of the digitization process in library institutions. The source base of the research also includes works that consider the history of the creation and functioning of special storage departments at Ukrainian library institutions, as well as the peculiarities of filling their funds. In particular, it is worth highlighting the works of researchers: Kusiy L. [14], Levchenko Yu. [15], Fedotova O. [22]. Proscriptive lists of prohibited books were the object of study by S. Bilokony [21], O. Fedotova [23], Yu. Shapovala [23].
3. Formulation of article goals

The purpose of the publication is to analyze the complex of modern information technologies and software, which will become the basis for the successful implementation of the project “Repressed Book: (re)presentation of National Cultural Heritage from the Funds of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv”.

4. Presentation of the main provisions

The relevance of the mentioned project is determined by the need to preserve, study and popularize the historical and cultural heritage and national property by creating an insurance fund of digital copies of rare and valuable publications from the former Special Fund of the Stefanyk LNNB of Ukraine and making them available within the digital collection.

It is worth noting that the Special Fund functioned as a separate “closed” service structural unit in the book collection for half a century, from 1940 to 1991. The Vasyl Stefanyk Library (during the years 1940–44 known as the Lviv branch of the Library of the Academy of Sciences of the Ukrainian SSR) was established in May 1940. According to the regulatory "Regulations...", its employees were tasked with ensuring the “ideological purity” of general book collections, maintaining records, processing and storing special preservation funds, as well as fulfilling the duties of censorship bodies in “studying and compiling political annotations on the works of individual authors and evaluating their political activity” [7]. The Special Fund housed literature of various genres deemed “hostile” to the Soviet regime, including fiction, journalism, memoirs, scientific works (primarily historical, especially those related to the Ukrainian Revolution of 1917–1921), primers, reading books, calendars, statutes, and liturgical publications in Ukrainian. According to various estimates by researchers, the Special Fund could have included up to 1,065,000 exemplars over its entire existence, of which 519,562 exemplars were processed, while the remaining 550,000 exemplars remained unprocessed [12].

Technical and software components play a crucial role in the successful implementation of the project. Utilizing grant funds, we plan to modernize the library's infrastructure. This includes the procurement of hardware such as laptops, desktop systems, monitors, scanners, multifunctional devices, an interactive demonstration panel, uninterruptible power supplies, and external drives – necessary tools for data input, processing, output, and storage. To ensure the efficient operation of this equipment, we will employ various software solutions tailored to manage computers, network communications, and support the development and execution of application programs. Additionally, the budget accounts for the acquisition and upkeep of licensed operating systems and office software. These technical and software resources will collectively form automated workstations for project team members.

An important role in solving project tasks will be played by the automated integrated library system available at the Stefanyk LNNB of Ukraine - the Automated Library Expandable program ALEPH-100 (hereinafter – ALEPH), which was implemented in 2007. Its informational, linguistic, organizational and technological capabilities will contribute to
the automation of information activities. A valuable element of this automated integrated library system is the online catalog. Access to full-text copies of digitized editions will be organized from the web page of the library's electronic catalog.

The organization of internal communication and collaboration will be carried out through the use of the Slack corporate messenger, which will provide the opportunity to create a convenient team workspace, help systematize and individualize the work process. Effective project management will be provided by the Microsoft Project program, which allows you to draw up the main goals and smaller tasks with the deadlines for their completion. The plan-schedule can be supplemented with data on the resources (material, human, financial) needed to perform certain tasks. An important working tool in the program is the Gantt chart, which signals the late completion of certain tasks and their impact on the successful implementation of the project.

Using Google Drive software will allow team members to organize joint work on documents, spreadsheets, presentations, store them in the cloud, and also share them with each other online. Other Google services and tools, including Book Search, Scholar, Gmail, etc., will also be used to perform project tasks.

Within the scope of the cross-sectoral project, the creation of two electronic products is foreseen – an insurance fund of full-text digital copies of publications from the former Special Fund of the Stefanyk LNNB of Ukraine and the digital collection "Repressed Books (1900–1939): editions from the former Special Collections Department of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv". This will contribute to:

1. Preserving the originals of unique, rare and valuable publications due to their removal from active use;
2. Disclosure of library funds;
3. Free and convenient access to documents to a wide range of users at the same time;
4. Use of collections for educational, scientific, leisure or other purposes;
5. Popularization of the historical and cultural achievements of our state, their presentation on the world stage, etc. [22].

The formation of an insurance fund of full-text digital copies of publications from the former Special Fund of Stefanyk LNNB of Ukraine involves the team performing a number of technological operations: starting from the discovery of publications and ending with the secure storage of their copies.

First of all, it is planned to study and familiarize with various materials, including:

1. Documents stored in the archive of the library;
2. Source studies publications, where materials related to the banning of publications and their removal from library funds have been published;
3. Lists and indexes of prohibited publications (proscriptions);
4. Biobibliographic manuals of publications of repressed authors;
5. Inventory library books.

This will help to find out which books were banned by the Soviet authorities, and therefore to identify publications that, after the disbandment of the Special Fund, were
poured into the funds of various departments of Stefanyk LNNB of Ukraine. In addition, it is planned to review "de visu" the books in the fund warehouses in order to identify copies with characteristic stamps, inventory numbers, and censors' marks.

The object of digitization, preservation and accessibility will be the publications of the former Special Funds Department of the Stefanyk LNNB of Ukraine for the years 1900–1939. Among them:

- Ukrainian-language and foreign-language books that were published within the modern territory of Ukraine;
- Ukrainian-language publications published outside Ukraine;
- Publications dedicated to Ukraine and published in different countries.

The need to establish the chronological boundaries of the study is due to the large number of publications of the specified period that were included in Special Funds due to their content and authorship, their high degree of rarity, as a result of natural and artificial losses, and the short term of the project. Based on the results of bibliographic searches and selection of books "de visu", a "Register of publications for digitization within the project" (hereinafter – "Register...") will be created with entries of approximately 500 prints. In selecting specific editions, we will take into account a number of criteria determined by the specifics of the project [2]:

- Transition of the work into the public domain (compliance with the requirements of the Law of Ukraine "On Copyright and Related Rights" dated 12.01.2022 No. 2811-IX (as amended in accordance with the Laws);
- User requests;
- Content, artistic, historical, ethnographic and scientific significance;
- Availability of digital copies and their availability in the global information space;
- Rarity due to single preserved copies;
- Physical condition of the original and its suitability for digitization;
- Memorability (publications are associated with the life and work of outstanding personalities, with the work of scientific and creative teams, with important historical events and memorable places);
- Collectability (in particular, belonging to a private or public library);
- Presence of provenances (proprietary signs and inscriptions);
- Presence of censors' marks and other traces of their intervention (removal of pages, notebooks, erasure of names and works, etc.).

As can be seen from Figure 1, at the next stage cataloging specialists will carry out analytical and synthetic processing of selected copies in the Automated Integrated Library System “Aleph” (special module “Cataloging”). Taking into account the fact that the book editions from the former Special Funds department of the Stefanyk LNNB of Ukraine are a specific object of study, it is extremely important to carry out qualified cataloging with the provision of an accurate and detailed description of each copy and its digital copy. This requires catalogers to perform the following actions:
1. Filling in established fields of the MARC 21 bibliographic data format;
2. Objectification of the book (based on the analysis of its content, formulating subject headings and entering them into the bibliographic record);
3. Indicating of the characteristics of each book (presence of an autograph or handwritten inscription; indication of the person or organization with which the described material is associated or the donor’s note);
4. The old code of the Special Fund will be indicated.

Thus, thanks to the painstaking work of catalogers, the electronic catalog will present bibliographic records that will display all the metadata important for the identification of the copy and will reveal the composition of the digital collection as a whole. Each of the described copies will be marked with a barcode. Special wireless scanners will be purchased to read them.

![Diagram of technological processes of forming a digital collection](image)

**Figure 1:** Technological processes of forming a digital collection.

Full-text digital copies will be made of those editions that will be reflected in the electronic catalogs and "Register...". Books will be scanned in their entirety, including the front and back sides of the cover or binding, pastings, tabs, covers, adhesives, blanks (pages without text and images) and other components of the book block, preferably with a resolution of 300 dpi. Production and processing of digital copies will be carried out by a single hardware and software complex. It is planned to purchase computers and scanners that could ensure obtaining high-quality copies, as well as use ABBYY FineReader – a program that, using technologies based on artificial intelligence, promotes optical character recognition and converts documents. In addition, with the help of automatic and manual tools, it provides an opportunity to eliminate distortions, as well as to carry out pre-processing of digital images.

Scanned pages of the publication will be saved as graphic images in *.tiff format. The name of the digitized document will correspond to the code of the storage unit. These
master copies will replenish the insurance fund of Stefanyk LNNB of Ukraine and will be placed on a specially purchased medium and server of the library. Compression algorithms will not be applied to such copies to prevent loss of image quality. They will contain a maximum of information that will allow you to restore the document in case of its loss, create a facsimile or reprint edition, and make digital copies of other types, including custom ones.

Custom copies will be made available within the digital collection on the library’s website in pdf format. In order to improve the quality of the copies, the specialists of the library will perform post-processing of the scanned image. In particular, the pages will align by reducing the angle of inclination; clean, removing unnecessary elements that got into the frame; improve quality by optimizing illumination, brightness, color balance and other parameters. Custom copies will have a lower resolution and volume to match the bandwidth of the Internet gateway, but without compromising the readability of the text and the visibility of the details of the illustrations.

Access to full-text texts of digitized editions will be organized from the “Electronic catalog” page of Stefanyk LNNB of Ukraine. Working with the digital collection, the user will be able to perform a simple and advanced search for publications, taking into account the following fields: author, title, series, subject, place of publication, publisher, etc., as well as limiting the chronological framework of publication. The obtained search results can be sorted by a combination of several parameters: author/year, title/year, year/author, author/title. The reader will choose the format of viewing bibliographic records in the collection, in particular tabular or list (three options with different completeness of data presentation).

The insurance fund of digital copies of original publications from the former Special Fund of the Stefanyk LNNB of Ukraine will be stored on the server of the library and in the network storage. Digital library “Repressed book (1900–1939): editions from the former Special Collections Department of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv” will be available to users 24/7 on the library’s website (https://www.lsl.lviv.ua). URLs (URLs) will be created and added to link the bibliographic records of the digital collection with the electronic catalog. At the final stage, bibliographic records will be additionally edited, digital copies of documents will be accounted for and organized.

An information and promotional campaign will be conducted at all stages of the project implementation, with the aim of familiarizing the target audience and all interested persons with the tasks and results obtained. The messages will concern:

1. The history of creation, operation and liquidation of the Special Fund of the Stefanyk LNNB of Ukraine;
2. Thematic and typological features of publications that were to be withdrawn from the Special Fund;
4. Authorship and publishing personnel involved in the creation of specific books, the fate of these professionals;
Digitization of editions will be accompanied by separate posts designed to “highlight” a specific book, several editions by a certain author or a similar subject, and to announce their online availability.

As communication channels, the working group will use the website of Stefanyk LNNB of Ukraine, pages in social networks Facebook and Instagram, Telegram messenger, online media, etc. on Figure 2. In order to make the materials presented on the Internet recognizable, it is planned to develop a project identity. The visual identity will be formed by the project logo, selected color palette and appropriate font. Adobe Illustrator and Adobe Photoshop programs will be used to obtain an expressive visual product.

**Figure 2: Digital channels of project information dissemination.**

The library's official website will serve as an important communication channel that will perform basic service functions, providing access to the electronic catalog and full-text resources, providing the ability to remotely order documents and their digital copies, etc. Information about the progress and results of the project will be systematically published on the main page of the site, and over time – in the “Event Archive”. Information about the collection and calls for it will be submitted in the “Digital Collections” subsection of the “Resources and Funds” section, which is displayed in the main menu of the site. It will be possible to go to a specific collection from the electronic catalog by selecting it from the list or by pressing a button on the main page, which the user can easily identify thanks to branded elements. This approach was applied to the “Book Heritage of the Shevchenko
Scientific Society" collection, created as a result of a grant project from the Ukrainian Cultural Fund in 2023.

Photo and video materials about the progress and results of the project will be shared on social networks. Posts are designed not only to inform readers, but also to interact with them through various activities (comments, discussions, polls). In order to attract the attention of the youth audience, we intend to use gifs, remixes, and collages that will bring to life individual elements of the digitized collection. Posts will be both static (text, image) and dynamic (audio, video). They will give the user an idea of the content of publications, their structure, artistic design and polygraphic execution, copy features, evaluation by censors. To create attractive content for social networks, the capabilities of the free Canva platform will be used, which allows you to adapt the proposed design templates to your needs or create your own visual materials from an array of available online or self-downloaded graphic elements. This service will be used to prepare multimedia presentations to illustrate reports at online and offline meetings, round tables, seminars, conferences, etc.

Readers will be informed about the creation of a digital collection through direct mailing of information by partner databases of profile e-mail contacts, including executive authorities, institutions of science, culture, education, and registered readers (the database has up to 200 addresses). For different target audiences, the emphasis will be on publications of the relevant subject. For this purpose, the popular and convenient SendPulse service will be used, in which various letter templates are available that can be filled with your own identity, adapted to the tasks, or you can make your own layout from text, image, audiovisual blocks, interactive buttons, etc.

In order to inform about the Project, it is planned to involve mass media of all-Ukrainian and regional importance, as well as media specializing in book and cultural and artistic issues with a wider readership. The active development of the Internet, as well as consumer preferences – hypertextuality, multimedia and interactivity - contributed to their virtualization or the development of an analog and digital version, as, for example, in the information and political newspaper "Ukraina Moloda". Reports, reports, interviews, reviews and essays will be published in the mass media.

Planned scientific publications will be presented in such genres as articles, text and report abstracts. Their publication will make it possible to reflect the results of historical and bibliographic studies of edition from the former Special Fund of the Stefanyk LNNB of Ukraine. Indexing in scientometric and search systems will make it possible to inform Ukrainian and foreign scientists and practitioners about the conducted research and discovered facts.

In order to effectively promote your cross-sectoral product on the Internet and to be able to monitor the effectiveness of the use of grant funds invested by the foundation in library products and services, it is necessary to operate with appropriate metrics. Web analysis tools from Google Analytics are used to collect and interpret data about visits to the Stefanyk LNNB of Ukraine website. In social networks, indicators of interaction with content reflect built-in statistical tools. They record data on audience coverage, priorities in the interests of readers.
5. The book thematic exhibition and publication of an illustrated catalog

An important event of the project and a means of its popularization will be a *book exhibition*, which will once again draw attention to the censorship of the printed word as one of the forms of Bolshevik terror, the fight against "dissent", the destruction of everything that contradicts the ideology of the ruling party (both books and their creators). The exhibition will be opened in the special conference hall of the Stefanyk LNNB of Ukraine. In addition, it is planned to prepare interactive materials, which will be presented on the purchased innovative multifunctional tool, the touch panel of which will allow visitors to the exhibition on the spot to view a digital copy of the publication that interested them, to familiarize themselves with additional documents.

One of the forms of popularization of the project in general and the exhibition in particular will be an illustrated book catalog, which will combine the functions of a scientific publication, an art album, and an advertising guide. Through the prism of historical and bibliographic characteristics of the publications, the catalog will present at least 100 non-periodical editions, grouped into two sections: literary and artistic publications and publications of works of conceptual (scientific, popular, applied, industrial and practical) literature. The main sections will be preceded by an introductory study devoted to the thematic and typological features of the books that were kept in the special purpose fund. The publication will be equipped with an extensive reference apparatus, the components of which are presented in Figure 3. The appendices will include copies of orders, inventory books, and other documents that regulated and documented the removal of "ideologically harmful" works from the Library's main collection to the special collection.

The historical and bibliographic analysis will make it possible to represent the printed editions in the illustrated catalog quite comprehensively and thoroughly. The description will consist of a textual and illustrative block. The text part will present such information modules as an extended bibliographic description; information about the type of frame and other material and constructive features of the publication; the content of the book and its illustrative series; book and accounting marks in a copy, storage codes, etc. The reasons for removal to the Special Funds department will be clarified, with an emphasis on paragraphs and sentences marked by the censor (marks, underlines, strikeouts, strikethroughs, corrections, etc.). Existing mechanical damage and the general condition of the publication will be indicated: torn or damaged pages, cut out authors' surnames. If necessary, additional information about the publication, its author and other persons involved in the creation of the printed product, publishing house, printing house, etc. will be disclosed.

In the process of preparing the catalog, digitalization-determined design, editing, layout and layout practices will be applied. The functionality of the *Adobe InDesign* program is suitable for this. A monomedia interactive edition of the catalog with a fixed layout in interactive pdf format will be available on the website of Stefanyk LNNB of Ukraine.

In order to study the opinions of users about the digital library, the principles of its work, strengths and weaknesses, the organized exhibition and the prepared catalog, a questionnaire will be formed, providing for open and closed questions. Compilation of the questionnaire, conducting the survey, summarizing the answers will be carried out using
the Google Forms service. The distribution of the questionnaire through the website and social networks will make it possible to attract a fairly wide audience to the survey.

Figure 3: Plan-prospectus of the illustrated catalog.

6. Conclusions

The successful implementation of the grant project “Repressed book: (re)presentation of National Cultural Heritage from the Funds of the Vasyl Stefanyk National Scientific Library of Ukraine in Lviv” involves the use of computer, cloud and information technologies. The formation of an insurance fund and the creation of a separate digital collection will provide a long-term beneficial effect, since the use of digital copies will provide an opportunity to
reduce the intensity of use of the original document. In particular, it will protect it from physical wear and tear and ensure the preservation of the book heritage. In addition, the publication of available materials in free access on the website of the library, on the one hand, will contribute to meeting the information needs of readers, and on the other hand, will significantly increase the attractiveness of the library as a scientific and cultural institution.

The war, launched by the Russian Federation on February 24, 2022, significantly affected the work of Ukrainian libraries as multifunctional social institutions, which were forced to adapt scientific, scientific-bibliographic, scientific-organizational, and scientific-information activities to the requirements of wartime. In connection with the temporary limitations of service to physical users, the library staff concentrated their efforts on the development of remote forms and methods of work.

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