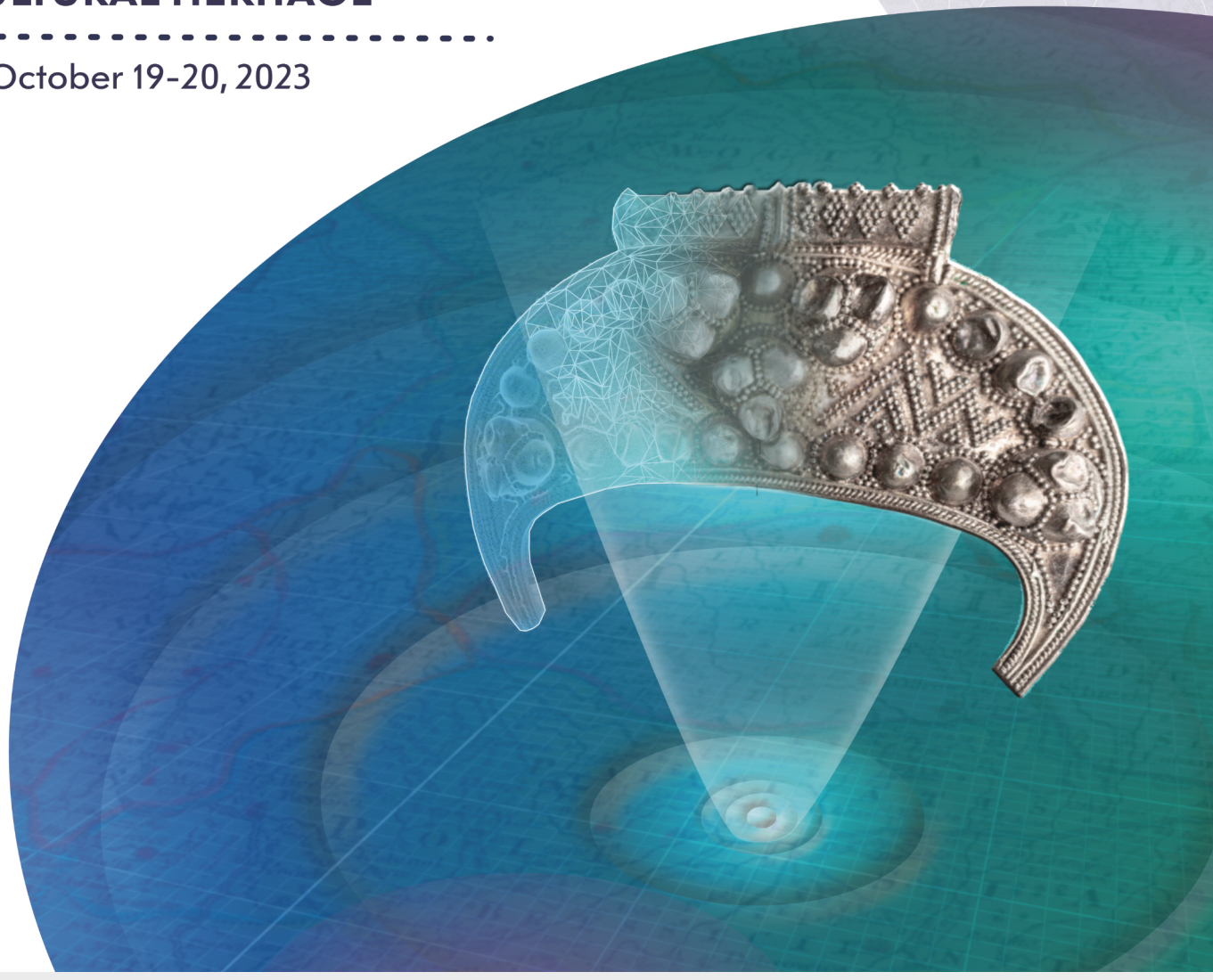
BOOK OF ABSTRACTS

III RD EDITION
Cultural heritage of the eastern lands of the former Republic of Poland

USE OF DIGITAL TECHNOLOGIES IN THE DOCUMENTATION, PROTECTION, MANAGEMENT AND DISSEMINATION OF CULTURAL HERITAGE

Lublin, October 19-20, 2023



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The Conference

The Use of Digital Technologies in the Documentation, Protection, Management and Dissemination of Cultural Heritage

Short Conference Abstracts and Poster Sessions Abstracts

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DIGITAL ASPECTS OF THE PROJECT 'HERITAGE ACCESSIBLE. PROFESSIONALISATION OF CULTURAL WORKERS AND DISSEMINATION OF CULTURAL HERITAGE – AN INTERDISCIPLINARY PARTNERSHIP OF THE NATIONAL MUSEUM IN LUBLIN AND THE MUSEUM OF CULTURAL HISTORY IN OSLO'

Marta Cyran, Aleksandra Sztal
The National Museum in Lublin

From 1 January 2023 to 30 April 2024, the National Museum in Lublin, together with the Museum of Cultural History in Oslo, is carrying out the project Accessible Heritage. Professionalisation of cultural personnel and dissemination of cultural heritage – an interdisciplinary alliance of the National Museum in Lublin and the Museum of Cultural History in Oslo, within the framework of the action: Improving access to culture and the arts. The Culture Programme as part of the Financial Mechanism of the European Economic Area.

Its purpose is cooperation at the level of interdisciplinary cultural heritage management, in particular the production of three-dimensional documentation of selected archaeological artefacts and the use of this documentation for the protection, conservation and promotion of cultural heritage with a view to making it accessible to the public. All museums in the Lublin region with archaeological artefacts in their collections were invited to join the project.

The exchange of experience and cooperation carried out as part of the Polish-Norwegian project shall make it possible to use 3D models in an innovative way for the purpose of increasing the cultural competence of audiences and developing cooperation between the cultural sector and creative industries. Other important results include: digitised artefacts, professionals with improved competences, workshops, debates, educational and cultural events, a conference and exhibitions.

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Introduction

ANALOGUE VERSUS DIGITAL COMMUNICATION IN THE MUSEUM – CHALLENGES AND PERSPECTIVES

Katarzyna Mieczkowska
The National Museum in Lublin

Issues related to digital cultural resources have been the subject of numerous discussions in recent years. Museums today face challenges related to digitization, from dealing with technical problems to solving numerous formal and legal issues. Digital museum catalogues have different levels of preparation and uneven methods of use and sharing. This problem also seems important in the context of communication with an increasingly demanding audience that expects new forms of transmitting and providing knowledge.

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Introduction

ADVANCED TECHNIQUES FOR DIGITAL DOCUMENTATION OF CULTURAL HERITAGE OBJECTS, THEIR PRODUCTS AND FIELDS OF APPLICATION

Eryk Bunsch
Museum of King Jan III's Palace at Wilanów

The past few years have witnessed the rapid development of digital documentation techniques, especially in the field of three-dimensional documentation. Achieving increasingly better results is possible through the creation of ever more specialised digital products, among other things. These products respond to requirements arising from specific fields of application and are most often not interchangeable. In fact, there is no such thing as an 'all-purpose solution'. It is one thing to have to prepare a three-dimensional model whose main task will be visualisation and quite a different thing to have to prepare a model that will be the basis for a physical copy of a historical object. This is why it is necessary to abandon the old type of thinking about digitisation projects in which the starting point was selecting the appropriate equipment. Today, in our thinking, the choice of a particular measuring device (camera, scanner) should be the last decision. First, it is necessary to specify the reason for creating a particular type of documentation and the expected scope of use of the product that will result from the project. From this decision, we will determine the usable features of the documentation we create, and it will be possible to describe the quality parameters that it must meet. At this point, a decision should be made on what documentation technique (or several techniques) we will use, and only at this point should we decide on the choice of specific equipment.

Such 'thinking through the product' not only simplifies the conversation about the digitisation process but also makes it easier to carry out all the formal activities related to the implementation of the project, especially when external entities are involved. Here, we are starting to talk about a system whereby an art historian or conservator working at a cultural institution no longer needs to be an expert in selecting the right type of scanner. They only have to be able to determine what type of historical object they want to document and how they intend to use the documentation thereafter. Of course, for such a system to become operational, it is necessary to develop standards defining how these individual digital products should be created and what minimum quality requirements they should meet so that the ordering person is satisfied with the product received.

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EXPLORING THE IMPACT AND POTENTIAL OF 3D VISUALISATION IN ARCHAEOLOGY: ASSESSING LIMITATIONS AND GENERATING NEW KNOWLEDGE

Nicolò Dell'Unto
University of Oslo

The emergence of three-dimensional (3D) visualisation platforms, along with advancements in querying and analysing 3D information, has opened up new avenues for scholars to explore and interact with archaeological material. Over the past decade, spatial technologies have had a significant impact on archaeological practice, leading to numerous experiments that integrate advanced recording and visualisation techniques. These experiments aim to evaluate the influence of these novel data sources on our understanding of the past. This presentation will critically examine the constraints and possibilities associated with creating 3D models through the integration of various recording methods, as well as explore how these models have contributed to the generation of new insights.

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DIGITAL TECHNIQUES IN RESEARCH, DOCUMENTATION, AND POPULARISATION OF ARCHAEOLOGICAL CULTURAL HERITAGE IN THE CHODELSKA VALLEY

Łukasz Miechowicz, Jakub Stępnik
Polish Academy of Sciences

Archaeological research in the Chodelska Valley has extensively utilised modern digital documentation techniques over the past decade. These techniques play a crucial role in preserving knowledge about monument structures and artifacts, while also providing a basis for scientific inference. Digital orthophotography has been employed since the beginning of excavations as a main form of documentation. In addition, LiDAR technology and aerial reconnaissance using drones have become standard practices during our field surveys. These technologies serve both photographic documentation purposes and the creation of 3D numerical models of monuments, capturing the processes of their deterioration.

Over the past twenty years, three-dimensional documentation has gained widespread acceptance among archaeologists, as anticipated. However, the use of photogrammetry in field research has primarily focused on obtaining orthophotographic plans as a background to regular drawing, replacing traditional colouring methods. While this approach enhances the presentation of data during scientific conferences and on social media, it does not fully exploit the analytical potential required for scientific progress.

By fully leveraging the potential of photogrammetric documentation, a multi-level, digital database resembling a computed tomography of the site can be created.

Photogrammetry captures significantly more spatial data compared to traditional drawings. However, reducing this data back to two-dimensional plans results in the irreversible loss of valuable information. Therefore, maximising the analytical potential requires the comprehensive utilisation of photogrammetric documentation, allowing for the creation of a detailed digital database during field research.

Adopting 3D photogrammetry as the primary documentation method during the research of the burial mound in Kazimierzów, Opole Lubelskie, has led to the gradual construction of a three-dimensional database showcasing the exploration and acquisition of data. This approach enables holistic analysis of monument stratigraphy and planigraphy, while also allowing for re-analysis in subsequent research seasons. It also provides a valuable tool for testing research hypotheses and presenting findings.

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EXAMPLES OF THE USE OF REMOTE SENSING IN THE MANAGEMENT OF ARCHAEOLOGICAL HERITAGE THREATENED BY CONSTRUCTION INVESTMENTS. DETECTION, PLANNING AND RESULTS OF RESCUE RESEARCH

Grzegorz Mączka, Agnieszka Stachyra
The Provincial Office for the Protection of Monuments in Lublin

Since 2020, the Lublin Voivodeship Conservator of Monuments has been presenting and promoting the conservation, restoration and archaeological exploration activities through FB. Information on the reach, analysis of the most popular posts, positive and negative aspects of the information and promotion activities will be presented.

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THE RECORD OF THE PAST OF LUBLIN'S PODZAMCZE

Rafał Niedźwiadek
University of Maria Curie-Skłodowska

Podzamcze occupies a special place in the urban space of Lublin. For centuries, it was a separate part of the city, subject to special laws, including the Magdeburg rights. It was also probably multiethnic from the very beginning. During the Nazi occupation, most of Podzamcze was incorporated into the ghetto. Its inhabitants were murdered or deported by March 1942. In the summer of that year, the Germans began demolition. After the end of the Second World War, the authorities of the Polish People's Republic planned a different organisation of the area around the castle. Various sources are used in reconstructing the history and appearance of Podzamcze. In the most recent times, these are iconography, accounts of the inhabitants (collected, for example, by the 'Grodzka Gate – NN Theatre' Centre in Lublin). For periods earlier than the 19th century, the most important are written documents, cartography. Archaeological research has an important part, but is limited by the supervision model, which results in spotty discoveries. The use of historical cartography poses limitations. The first is the availability of maps, comprising only of sources from the 19th and 18th centuries, which limits retrogression. The second is the accuracy of the depiction, and therefore the placement of ancient documents in a contemporary frame of reference. Modern graphics software has made it possible to successfully incorporate S. J. N. Łącki's 1783 plan into the contemporary grid of the city. Written documents are the primary data source. In the case of Lublin's Podzamcze, an important source is an edition by Henryk Gmiterek entitled Source materials for the history of the Jews in the Lublin town registers. The researcher analysed and published documents concerning the years 1633–1733. This resource, as part of a project carried out by NN Theatre, was processed into a database – BIG DATA. The amount of information collected, amounting to tens of thousands of records, has made it possible to reconstruct the dynamics of change in Podzamcze and its inhabitants in a completely different way. Changes in the population structure have been traced over a period of about 100 years. The created database is the starting point for reconstructing the social topography of Podzamcze – occupations, neighbourhood relations, directions of migration, inflow and outflow to and from Lublin, religious structure, distribution of spatial elements (e.g. shops, baths, etc.).

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THEORETICAL RECONSTRUCTION OF PIDHIRTSI BASTION CASTLE IN 17TH CENTURY AND ITS COMPARISON WITH PERRET MODEL

Olha Tikhonova
The Polish Academy of Sciences

This research proposes a theoretical reconstruction of the former design of Pidhirtsi bastion castle (Ukraine) in the 17th century based on direct observations, a detailed inventory from the 18th century, and an analysis of theoretical models as a background for creating this masterpiece. The first theoretical reconstruction of the Pidhirtsi bastion castle was made by researcher Szyszko Bohusz in 1925 using a hand-drawing theoretical reconstruction technique, visualising the rear side of the bastion castle. The digital reconstruction of the bastion castle in Pidhirtsi and its comparison with a theoretical model of a French treatise made in the 17th century can raise the value of the object on the international level as the best-preserved example that follows models of French architect Jacque Perret. Detailed reconstruction and analysis of the Perret model are also foreseen in the work. The value of the bastion castle in Pidhirtsi should be raised internationally because of its profound and complicated international history and its architectural significance. It is a building built on former Polish lands that belong to Ukraine, with the origin of its cultural theoretical design in France. It is a unique and the most similar example made according to the model of French architect Jacques Perret. It is crucial to raise the question of this monument now, as the object is under significant threat of being destroyed or disappearing due to the devastation of Russian forces. For example, on May 4, 2022, a Russian missile hit the earth fortifications of the Oleksiivsk (Beretsk) fortress located 5 kilometers east of Pervomaiskyi. The fort is the monument of the 18th century. Furthermore, on June 14, 2022, a rocket attack damaged the gate tower of Zolochiv bastion castle, which is only 18 km from Pidhirtsi bastion castle, the main case study of this research.

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LIDAR-DERIVED DATA IN DOCUMENTING THREATENED CULTURAL HERITAGE RESOURCES

Waldemar Kociuba
University of Maria Curie-Skłodowska

Cultural heritage resources bear witness to the interaction of people and the resources of the environment, which they used for their living and manufacturing needs. The state of preservation of these objects varies, so it is important to fully document them using the latest remote sensing techniques. Their undoubted advantage is their non-invasiveness, i.e. the lack of direct contact between the measuring device/sensor and the object being documented.

Among the many remote sensing techniques used in the documentation of cultural heritage sites, Light Detection and Ranging (LiDAR) techniques are increasingly being used. In this group, laser scanning is most commonly used; stationary – from ground-based equipment (Terrestrial Laser Scanning – TLS) or aerial (Airborne Laser Scanning – ALS). For objects with a small area and volume, TLS is usually used. In addition to light measurement techniques, photogrammetric techniques are very popular, in particular Structure from Motion – SfM, which produces a three-dimensional (3D) model of an object from two-dimensional image sequences, e.g. digital photos from any camera. The result of TLS measurements is a point cloud. The data obtained from SfM is also ultimately processed into this form. Therefore, nowadays, both techniques are often used complementarily, and the obtained data are integrated into a single 3D model of the documented object. The generated model is an exact, unscaled copy of the measured object, which is why this method of documentation functions under the term 'digital twin' in Western literature. The use of remote sensing techniques makes it possible to inventory the actual condition of an object and make a complete documentation of it in digital form.

At the Faculty of Earth and Spatial Sciences of the University of Maria Curie-Skłodowska, such measurements are made using two ground-based laser scanners – Leica ScanStation C10 and Leica HDS 7000 – and an DJI Phantom 4 Pro unmanned photogrammetric station. The high precision of the measurements translates into a high-quality target model of cultural heritage sites, and this in turn can form the basis for creating modern documentation of cultural heritage sites, especially those built with perishable materials (such as wood) and remaining in poor condition.

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EXCAVATION WORKS IN LUBLIN – AN EXAMPLE OF USING IT IN THE FIELD

Piotr Zimny
State Archive in Lublin

In my paper, I would like to highlight the benefits of using 3D scanners in the field of archaeology. I will present the results of cooperation with the Department of Programming and Computer Graphics of the Lublin University of Technology, including with PhD Jerzy Montusiewicz, head of the department. I will present the results of scanning – 3D models – which represent a 'new quality' in a general archaeologist's resources and the results of field documentation created during excavations. I will acquaint you with the documentation created during excavations – documentation that will be added to the state archives in the future. The interdisciplinary archaeological research in question was conducted in 2017 in the area between Lubartowska and Swietoduska streets in Lublin (the area of the former ARKAD square). During the research, traces of a very intensive settlement were discovered, which existed long before the foundation of the city.

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RESEARCH, PRESERVATION AND PROMOTION OF THE UNDERWATER ARCHAEOLOGY SIGHT OF VOLYN POLISSIA – THE "MANEVYTSKYI MONOXYL BOAT, 1223–1256."

Petro Khomych
The Manevytskyi Museum of Local Lore

The Manevytsky boat – a monoxyl (one-timbered), 1223-1256, from the territory of Ukraine, is the first monument of underwater archaeology of Volyn, Ukraine, and Europe of such an age, scale and level of preservation. The boat is the only logboat of such dimensions from the modern era in Europe, with a length of 12 m 20 cm. In order to preserve this unique object of underwater archaeological heritage, on September 2, 2015, work was carried out to raise the boat and transport it to Manevichi for storage. Therefore, it is important in order to understand and study the history of Europe.

Formulation of scientific problem and its significance: To reveal the progress and show the results of archaeological, dendrological and radiocarbon studies, conservation and restoration works, and ways of popularising the underwater archaeology of Volyn Polissia.

The purpose of the article: The main goal of the workers of the Manevytskyi Museum of Local Lore is scientific research, urgent conservation and restoration measures, preservation and provision of the proper presentation of the largest and oldest newly discovered historical and cultural object of underwater archaeology in Ukraine - the "Manevytskyi boat – a monoxyl (one-timbered), 1223-1256", a medieval logboat.

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3D DIGITISATION AS A TOOL FOR DOCUMENTING AND POPULARISING TANGIBLE CULTURAL HERITAGE – PRACTICAL EXPERIENCES OF LAB 3D

Jacek Kęsik
Lublin University of Technology

The Lab 3D team at the Department of Computer Science of the Faculty of Electrical Engineering and Computer Science of the Lublin University of Technology has been documenting and popularising material cultural heritage for nearly 10 years. Examples of the implementation of 3D digitisation activities dealing with both small objects and architectural objects were presented. The presented examples include both domestic projects – small utensils – and the chapel in the Zamoyski Museum in Kozłówka, as well as foreign projects in: Europe – wooden monuments of the Carpathians, Asia – monuments and architectural buildings from the Timurid dynasty in Uzbekistan, Kyrgyzstan and Kazakhstan, and North America – cultural heritage of Poles in the USA.

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3D DIGITISATION OF SACRAL WOODEN BUILDINGS FROM THE CARPATHIAN MOUNTAINS

Kamil Żyła
Lublin University of Technology

The Carpathian Mountains are a special place where many monuments of wooden sacral architecture can be found. Due to the location and the nature of materials used for construction, they are constantly exposed to destruction by slow processes (like atmospheric ones) and sudden events (like devastations caused by human activity). This, combined with the unique values of these objects, leads to attempts to preserve them for the purposes of reconstruction and dissemination. Effort at preserving at least some of the monuments of wooden sacral architecture from the Carpathian Mountains was undertaken, as part of their own activities, by the employees of Lab3D at the Department of Computer Science, Faculty of Electrical Engineering and Computer Science, Lublin University of Technology, Poland. It was decided to use 3D digitisation techniques (including 3D scanning) as the most appropriate method for the scale and nature of the project. Works under the supervision of prof. Jerzy Montusiewicz and prof. Marek Miłosz have resulted, among others, in scientific expeditions to Cluj-Napoca (Romania) and to Sanok (Poland). Obtained data and other results of these efforts are published on the website https://carpatia3d.com/, among others. Further dissemination and scientific activities, as well as extension of the scope of this digitisation to the countries of the Visegrad Group, are planned.

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3D DIGITISATION OF POLISH CULTURAL HERITAGE IN THE US

Marek Miłosz
Lublin University of Technology

The project 'Research on the national cultural heritage of the Polish community in the US and the creation of digital memory collections' is being implemented in 2022–2024 by the ECCC Foundation and financed by the program of the Polish Minister of Education and Science: 'Science for Society'. The aim of the project is to acquire and preserve, in the digital space, the cultural heritage of the Polish community in the US (including those threatened with extinction for demographic reasons) and its popularisation. The project envisages undertaking scientific expeditions to the USA to 3D scan at least 15 churches built by the Polish community abroad, as well as the organisation of three photographic exhibitions, the development and maintenance of an Internet portal with the results of the work (including digital memory collections and historical data on objects) and the development and the publication of two scientific monographs (one in each of the areas of computer science and humanities). The results of the project are being published on the website PolishHeritage3d.eu.

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SAVE, SHARE, SEARCH – PROCESS OF DIGITISATION IN THE STATE ARCHIVE IN LUBLIN

Michał Zawada
State Archive in Lublin

The State Archive in Lublin has been digitising its holdings for over 20 years. During that period, the Archive has developed many good practices related to the process of digitisation, which are successfully utilised in everyday work to preserve, protect and popularise the national archival holdings. In executing digitisation standards for the State Archives, the Lublin Archive regularly seeks new ways of improving, which can make the whole process of digitisation more efficient, from selection of archival materials all the way up to publication of their digital copies on the dedicated web service szukajwarchiwach.gov.pl. Good practices of digitisation, mainly related to scanning techniques and presentation of digital copies, are aimed at creating a user-friendly experience when using the digital copies, especially if we consider the limits of digital copies of archival materials compared to their originals. The mission of the State Archives , which is to preserve historical sources and ensure that they are publicly available, is a theme for digitisation and its two main goals: preservation and popularisation.

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THE PRACTICAL USE OF DIGITAL DATABASES AND INFORMATION SYSTEMS IN THE MUSEUM OF KING JAN III'S PALACE AT WILANOW: GIS AND MULTI-SEARCH

Ewa Jakubowska-Smagieł
Museum of King Jan III's Palace at Wilanów

The beginnings of digital databases in the museum date back to the 90s, when the museum maintained databases of negatives, diapositives, documentation and the library collection using the DOS-based CDS/ISIS system. The potential of digital documentation was recognised in the 2000s: in 2000, digital photography was introduced and the digitalisation of analogue documentation started as well. In the next years, the first numeric map of the museum area was made, followed by vector architectural documentation of historic buildings. These data were the basis for the geographic information system (GIS), which was created in 2010 and is still being developed.

The GIS consists of 11 databases concerning: buildings, the inventory of greenery, utilities, environmental and archaeological research, historic maps and decorations located on the elevations and in the interiors of the palace. The system is supplied by photogrammetric documentation, including orthoimages of elevations and walls, and orthomosaics based on UAV aerial photographs. Experts specialising in different fields – landscape architects, art historians, conservators and technical staff – contribute to the system's development. The GIS supports daily management of the museum,collects and integrates multisource data in a structured way, and facilitates map creation and spatial analyses. It also makes it possible to create interactive map applications published online, thus spreading knowledge about the museum.

The museum shares its collections on the inmuseums.pl website. The multi-search provided allows for searching objects by collections and educational paths, provides access to information and notes about them together with high resolution photographs and, in some cases, also 3D models, RTI and Gigapixel documentation. The website is the result of the project 'In museums' carried out in 2019–2022 by a consortium of 5 museums aiming at digitalisation and publication of partners' artefacts with the intention to expand it with other museums' collections in the future.

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THE PRACTICAL USE OF DIGITAL DATABASES AND INFORMATION SYSTEMS IN THE MUSEUM OF KING JAN III'S PALACE AT WILANÓW: IART RECORD DATABASE

Karolina Alkemade
Museum of King Jan III's Palace at Wilanów

The iArt system is a modern and universal tool supporting the recording and management of museum collections, based on the British Spectrum 4.0 standard. It is an intranet solution that works in web browsers without the need to install other programs. Its two basic modules are a digital repository for storing images and managing the museum's digital collections, and an electronic inventory that collects data on museum objects and is used to manage the collection. The system has an extensive set of tools for importing and exporting both data and files, and entering a large number of objects is easy. The powerful search engine allows you to create complex queries and get quick results, even with large amounts of data. A further advantage is the relatively simple integration of the data contained in the system with the website. A particular advantage of the iArt program is the open architecture of the application, which allows program administrators to configure the main components of the program independently, without the participation of a programmer. The system was created in 2014 and has since then been developed with new modules. The first module (for combining digital files and museum collections) was created at the Museum of King Jan III's Palace at Wilanów. In 2018, 6 museums and a software company signed an agreement to create a new version of the system. The leader of the project was the Museum of King Jan III's Palace at Wilanów.a

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DIGITAL DATABASES OF HISTORIC OBJECTS AS BIM MODELS. AN EXAMPLE OF THE USE OF BIM TECHNOLOGY (HERITAGE BIM) ON THE EXAMPLE OF DIGITISATION OF THE SIENIAWSKI CHAPEL IN BRZEŻANY IN UKRAINE AND OTHER MONUMENTS OBJECTS IN POLAND

Anna Marek, Tomasz Pałka
POLONIKA The National Institute of Polish Cultural Heritage Abroad

The authors aim to present the technology of Building Information Modelling/ Management (BIM) and analyse its application. Specific project examples executed by the authors in recent years will be showcased to demonstrate the potential of utilising a database in 3D/BIM models. The examined cases include the Sieniawski Chapel in Brzeżany, wooden structures such as wooden churches like the Church in Brunary, the Wooden Church in Turow, and Żelichów, as well as the application of BIM modelling in the restoration project of registered heritage sites. Collaboration in conservation work concerning the Clock Tower at Wawel Castle will also be discussed.

The contemporary advancements in the IT and construction industries bring about dynamic development and open up new possibilities in terms of the digitalisation and documentation of heritage objects. The technology of BIM, whose intricacies will be discussed in detail during the presentation, has been continuously evolving for many years thanks to the involvement of various organisations and software firms associated with the construction sector. This dynamic progress represents another stage in the evolution of the documentation process and dissemination of knowledge about buildings, both modern and heritage ones. In some countries, IFC-BIM models, serving as a standardised and harmonised database of objects, are becoming a standard in construction investments, including in the formal and legal stages.

The presentation will cover the utilisation of BIM technology in the field of heritage objects, commonly referred to as Heritage BIM (HBIM). Modelling such objects poses a challenge that requires the involvement of qualified and experienced specialists who utilise appropriate software and computer solutions. The process of creating BIM models relies on diverse data sources, including 3D scanning, archival documentation, architectural and conservation studies, and expert assessments. The produced models comply with the guidelines provided by the investor/client, encompass various levels of development and detail (Level of Development – LOD), and provide relevant information on elements essential in the design process.

The presentation will explore the possibilities of utilising BIM technology in the context of a Digital Twin, with a specific focus on objects located in hard-to-reach areas, such as those resulting from war actions, as well as in the modelling of object reconstructions and the archival preservation of their state. Various methods and approaches to leveraging BIM technology for existing/heritage objects will be presented.

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IDEA OF THE ZIEMIEWSCHODNIE.PL PORTAL AS A TOOL FOR PRESENTING THE CULTURAL HERITAGE OF THE BORDERLANDS AND THE ACTIVITIES OF THE MUSEUM OF THE EASTERN LANDS OF THE FORMER REPUBLIC OF POLAND

Marcin Gapski, Jacek Jeremicz, Monika Krzykała
The National Museum in Lublin

The multi-dimensional activity of the Museum of the Eastern Lands of the Former Republic of Poland creates opportunities to present cultural heritage with the help of modern technologies. The ziemiewschodnie.pl portal, currently under development, is intended to be a place where the accumulated artefacts of material and spiritual culture are presented in a way that is accessible and attractive to contemporary recipients. The presentation will feature solutions used to publish the gathered collections, online exhibitions, oral histories and documents assembled during collections led among descendants of borderland families. Solutions employed to present scientific and publishing activities, educational activities and heritage promotion events on the portal will also be showcased.

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THE UN(LOST) HERITAGE OF LVIV ARCHAEOLOGISTS: GLASS NEGATIVES OF THE 1920S–THE 1930S

Natalia Bulyk
The National Academy of Sciences of Ukraine

After February 24, 2022, when Russia started a full-scale war against Ukraine and the first rockets landed in Ukrainian cities, the issue of preserving cultural heritage and enabling its evacuation, if necessary, became acute. During the packing of the archival collection, I found negatives on glass related to the activities of Lviv archaeologists in the interwar period. After conducting a more detailed study of the documents, it was possible to establish that the negatives on glass were hidden from destruction by the Soviet authorities, since their creators were labelled 'bourgeois historians' and even mentioning them was cause to be punished. Officially, according to the documents, the collection was considered confiscated and destroyed.

The collection contains approx. 500 negatives on glass from the interwar period (1920s–1930s), which depicts archaeological excavations, individual finds, and museum exhibits and is related to the activities of archaeologist scientists of the Shevchenko Scientific Society and Lviv University in the 1920s and 30s. These photos have never been published either by the archaeologists themselves or by their successors. Their value for the history of archaeology is indisputable since the photos represent the archaeologists themselves in the process of research and excavations, which is a rare phenomenon for this time; photos from different locations make it possible toreproduce an archaeological map of the monuments discovered in the interwar period and, most importantly, show the methodology of archaeological research of a whole circle of researchers, who stood at the origins of modern archaeology.

On their basis, it is now possible to trace not only the process of field research at a large number of monuments in western Ukraine but also scientific communication with local historians and regional museums in Galicia.

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PHOTOGRAPHS IN THE NATIONAL PRESERVE 'KYIV PECHERSK LAVRA' COLLECTION: PRESERVATION, RESEARCH, AND POPULARISATION DURING THE FULL-SCALE PHASE OF THE RUSSIAN-UKRAINIAN WAR

Anna Yanenko
The National Preserve 'Kyiv Pechersk Lavra'

The full-scale phase (since February 24, 2022) of the Russian-Ukrainian war (since 2014) unleashed by the terrorist country has resulted in the loss of human lives and cultural values. Ukrainian museum and research staff are making every possible effort to preserve, if not the items of history and culture themselves, then at least the information the objects contain. Digitisation of pictorial sources, first of all, flat art items, is significant in this context. Some groups of museum objects are not a priority for evacuation during the war, in particular, these are photographic negatives on glass plates from the end of the 19th through the first half of the 20th century. The National Preserve 'Kyiv-Pechersk Lavra' collection contains more than 70,000 objects. Photographs (negatives and prints) make up almost a third of this collection. The photos are stored in the groups 'Photos', 'Negatives', 'Archives', and 'Graphics'. During the second half of 2022, in conditions of blackouts, air alarms, and Russian airstrikes, the preserve staff continued the digitisation of the photo collection, which had started several years earlier. In parallel with creating the digital copies, clarification of image attributions, dating, and contextualisation of pictorial sources are being carried out. The photographs are used in popular public projects of the 'Kyiv-Pechersk Lavra' museum institution. These photographs primarily reflect the history of museums and architecture of Ukraine in the 20th century.

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'HERITAGE ABROAD. POLONICA DATABASE'. WEB PORTAL AS A RESOURCE AND TOOL FOR RESEARCH

Aleksandra Dąbkowska, Bartłomiej Gutowski
POLONIKA The National Institute of Polish Cultural Heritage Abroad

On March 6, 2023, the National Institute of Polish Cultural Heritage Abroad 'Polonika' launched the online portal 'Heritage Abroad. Database of Polonica'. The purpose of the portal is to care for the material testimony of our history that remains outside the country and to restore and preserve the memory of important people and important historical facts. The portal is gradually making available in one place databases that are a source of knowledge about Polish cultural heritage abroad. The service consists of both documentation cards created since the 1990s, and articles published, among others, as part of the website run by the 'Polonika' Institute entitled 'Polonik of the Week' about Polish monuments, works of art and other important objects abroad. In the future, the portal will also become a repository of conservation, research and popularisation projects carried out by our institute. The database is a scientific and popular science tool, which can be used across a broad area of research, addressed to all those interested in Polish heritage and culture. The speech is based on the presentation and approximation of the research possibilities and acquisition of sources of knowledge that the use of the portal entails.

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USE OF SOCIAL MEDIA TO PRESENT AND POPULARISE CULTURAL HERITAGE ON THE EXAMPLE OF LWKZ ACTIVITIES

Dariusz Kopciowski, Grzegorz Mączka, Agnieszka Stachyra, Dariusz Włodarczyk
The Provincial Office for the Protection of Monuments in Lublin

Since 2020, the Lublin Voivodeship Conservator of Monuments has been presenting and promoting the conservation, restoration and archaeological exploration activities through FB. Information on the reach, analysis of the most popular posts, positive and negative aspects of the information and promotion activities will be presented.

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AN ARCHIVE IN A BIT DIFFERENT A WAY. A SHORT TALE ABOUT HOW AN ARCHIVE WAS LOOKING FOR ITS USER

Marek Krzykała
State Archive in Lublin

The paper will present the context and circumstances of the creation of the online galleries of the State Archives in Lublin. After the success of Galeria Jezuicka 13, which was launched in 2010, the Lublin Archives chose this direction of presenting archival materials in subsequent projects in the WWW space. At that time, it was dictated by the lack of other possibilities to present its resources, because – although it is thriving today – the site Szukajwarchiwach.gov.pl was just 'in its infancy' at that time and did not meet the institution's popularising ambitions. The paper will present the currently existing galleries and portals, their assumptions and goals, ways of implementing and using them to this day – as a good example of popularising archival resources at almost zero cost.The paper will present the context and circumstances of the creation of the online galleries of the State Archives in Lublin. After the success of Galeria Jezuicka 13, which was launched in 2010, the Lublin Archives chose this direction of presenting archival materials in subsequent projects in the WWW space. At that time, it was dictated by the lack of other possibilities to present its resources, because – although it is thriving today – the site Szukajwarchiwach.gov.pl was just 'in its infancy' at that time and did not meet the institution's popularising ambitions. The paper will present the currently existing galleries and portals, their assumptions and goals, ways of implementing and using them to this day – as a good example of popularising archival resources at almost zero cost.

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THE PATINA OF AGE. ON THE NEED TO DIGITISE THE CONTEXT OF MUSEUM COLLECTIONS FROM THE PERSPECTIVE OF THE NATIONAL MUSEUM IN SZCZECIN

Ewa Kmiecińska, Krzysztof Kowalski, Monika Witek
The National Museum in Szczecin

Many of the museum collections have a long and colourful history. Created over decades, even hundreds of years, they are often provided with extensive contextual data in the form of written sources, visual and sometimes audio materials. Such archival documentation may concern both real estate of the institution as well as exhibitions and museum exhibits and may include various contextual information on the origin, provenance, research, changes in condition, or the use of individual pieces of museum collections. It may refer to their pre-museum existence as well as after they have entered the museum.

Of course, this type of data is, to some extent, included in the descriptions of digitised and shared collections. Less often, however, the original context documentation is made available in a digitised form. More often, it is kept in the back rooms of the museum.

The key question is whether its digitisation and sharing can be included in the digitisation goals of the institution. The answer depends on individual museums and factors like the cognitive and exhibition value of the documentation, or the digital development strategy adopted. From the perspective of the National Museum in Szczecin, the need for digitisation of the collected documentation is considerable. The institution collections include large archives having been created since the 1820s, which are a unique source of information about the history of regional museums and about a lot of antiquities, both being part of collections and lost. They constitute a source regularly used by researchers and regionalists.

The digital transformation that has been occurring in Poland in the recent years is also reflected in museums. It manifests itself in the aim of implementing digitisation processes in many areas of the institutions (administration of resources and infrastructure). The experience gained over the last quarter of a century, the development of the museum's own digitisation facilities and the accompanying changes in the employment structure facilitate the development of systematic activities that help to create digital copies of objects. These changes also create favourable conditions for the digitisation of the context documentation, kept in the back rooms of the museum, improving access to objects as well as preliminary research and study, and also providing more possibilities of remote learning and hybrid use of museum space.

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USING GEOSCANNING TECHNOLOGIES TO INCREASE THE ATTRACTIVENESS OF AN INVISIBLE ARCHAEOLOGICAL HERITAGE SITE AND BUILD THE DESIRED EXPERIENCE OF THE RECIPIENT

Olena Zhukova
The National Academy of Sciences of Ukraine

This method of transforming the geoscanned data of archaeological heritage into the attractiveness of the place and the creation of the desired visitor experience was developed based on the archaeological heritage of the village of Zhydychyn in the Volyn region in Ukraine. Here, from a thousand-year history (the Zhydychyn monastery was mentioned in 975 as part of the Moravian diocese), an empty place remained on the hill around the St. Nicholas Church with a bell tower and the metropolitan palace of the 18th-century. A preliminary GPR radar survey of the hill area revealed the presence of underground tunnels, voids, foundations and remains of architectural structures. So, the challenge arose: how can the invisible archaeological heritage be shown without excavation? It is proposed to virtually 'excavate' the object using 3D modelling and visualise the modelled remains in the form of an overall sculptural model. And to launch such a system of interaction with the invisible heritage in order to increase the attractiveness of the place, increase the time spent at the object, and create a unique experience for visitors. The most difficult problem is the transformation of the obtained DWG, DAT, and VOX survey data into a 3D model package of the archaeological remains inside the hill. By involving geophysicists, mathematicians, programmers and 3D modellers, it was possible to theoretically develop a virtual excavation method: 1. scanning the hill area; 2. mathematical processing and conversion of the data into the STL format; 3. refinement of a complex model for a CNC machine by a 3D modeller. A further system of interaction with the heritage involves a directed expositional route-journey between the archaeological remains hidden in the ground visualised on the surface, which will be the result of the collaboration of scientists, IT specialists, artists, and landscape designers. The developed method of visualisation of the heritage hidden in the ground can be used both to strengthen the effects of the archaeological heritage of similar places, and for the conservation of similar objects that may suffer as a result of war.

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GEOPHYSICS FOR ARCHITECTURE: A NEW WAY OF NON-INVASIVELY INVENTORYING THE RELICS OF HISTORIC BUILDINGS USING ADCM (AMPLITUDE DATA COMPARISON METHOD)

Fabian Welc
Warsaw University

Despite its great advantages, the implementation of geophysical methods in the study of sites with relics of old architecture is not yet common. The biggest obstacles are almost always thick layers of rubble (significantly hindering the interpretation of geophysical profiling results), trees or elements of ground infrastructure. Despite these limitations, properly made and interpreted ground-penetrating radar (GPR) and geomagnetic profiling can provide very important data regarding not only the vertical stratigraphy and state of preservation but above all, the layout of the examined architectural structures, especially those preserved as relics in the form of foundations.

The amount of obtained information can be significantly extended by using an innovative method called ADC (Amplitude Data Comparison method), which is based on performing GPR and geomagnetic profiling in the same research area. In the next stage, the GPR measurement results are compiled in special software with the recording of the magnetic amplitude (the so-called magnetic signature). Through this unique method, we obtain precise information about the layout of the examined building remains, their state of preservation, but we can also discern their material structure. The ADC method provides a quick and comprehensive inventory of architectural relics preserved under the ground surface, which is undoubtedly its greatest advantage. In the next stage, the results of geophysical reconnaissance in conjunction with the query of archival materials, especially iconographic data (this requires close cooperation between a geophysicist, archaeologist, and architect/art historian), allows spatial visualisation of a non-existent or fragmentarily preserved architectural object in the form of a 3D model. Visualisations of this kind can be used in materials and publications of a purely scientific nature, as well as in various types of projects and undertakings related to the promotion of the architectural heritage of our country. According to the author, such a comprehensive approach should be a standard in the methodology of non-invasive studies of old architecture, which were referred to here as geophysics for past architecture.

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FROM THE EXPERIENCE OF DIGITISING MONUMENTS OF CULTURAL HERITAGE IN THE TERNOPIL REGION

Volodymyr Czajka
The National Reserve 'Castles of Ternopil'

Ternopil Region occupies a special place among those regions of Ukraine where the largest number of monuments of cultural heritage have been preserved. They include castles, churches, monasteries, and palaces. Most were built in the 16th and 17th centuries, when our lands were under constant threat of attack by steppe nomads, Turks and Tatars. Later, they lost their defensive significance and began to crumble.

At the turn of the 20th century, some of them, those that were preserved, changed to a new quality and became monuments of the past. Some began to be restored and renovated, some continued to collapse. The process of destruction, unfortunately, continues in our time.

In order to preserve the memory of the unique monuments of cultural heritage of Ternopil, which are an integral part of the world cultural heritage, the Ternopil Regional Center of Protection and Scientific Research of Cultural Heritage Monuments, together with the National Reserve 'Castles of Ternopil' initiated a project entitled 'Virtual 3D tours of unique sights of Ternopil Region', which was supported by the Ukrainian Cultural Fund.

Over five months, from June to October, work will be carried out to create virtual 3D models of 20 monuments of Ternopil's defensive architecture: defence-type churches in the settlements of Sydoriv, Zaliztsi, Yazlovets, Losyach, and Bishche; castles in the settlements of Kryvche, Skala Podilska, Zoloty Potik, Yazlovets, Pidzamochok, Sydoriv, Mykulyntsi, and Chortkiv; defence-type churches in the settlements of Pidvyske, Zbruchanske, Yazlovets, Koshylovtsi, Zaluzzhya, and Stizhok; and a defence-type monastery in the village of Pidgora.

The project also envisages the widest possible familiarisation of the public with unique monuments through social networks, drawing the public's attention to the problems of cultural heritage protection, and involving people with limited physical abilities in familiarising themselves with the monuments of the past.

The project will be the first stage on the way to general digitisation of monuments of movable and immovable cultural heritage, which began in Ukraine and will continue in the future.

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FROM A SIMPLE DRAWING IN A 1727 TRAVEL DIARY TO A 3D PRINTED RESIN MODEL. CASE STUDY. REPORT FROM THE RECONSTRUCTION OF A HISTORICAL OBJECT USING 3D PRINTING TECHNOLOGY

Mirosław Pałysiewicz
City Culture Institute

The description of the journey that Christian Fischer made in the company of Nathanael Jacob Gerlach starting from 6/7 September 1727 to 12 October 1731 is an extremely absorbing read for anyone who picks it up, because the author touches on many different topics within the spectrum of his personal interests, which are interesting, beautiful and strange, and for us, living in the 21st century, not obvious. Through his work, we move to the times of the erudite. Christian Fischer's diary is therefore invaluable material for historians, cultural historians, as well as botanists, geologists, philologists and philosophers!

In 2021, together with the 'Cumy' Foundation, we completed the reconstruction of a certain mysterious siege machine during the 3D Printing Festival 3D3M.

From a simple drawing in a 1727 travel diary to a 3D printed resin model. Case study. Report from the reconstruction of a historical object using 3D printing technology.

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FROM DIGITISATION TO A REVIVED MONUMENT. MODERN FORMS OF PRESENTING VIRTUAL HERITAGE RESOURCES

Mateusz Osiadacz
Bevel Studio

The concept of virtual museology has preoccupied researchers and museologists since the 1990s. Its main tenets have been widely discussed theoretically, but the form of a virtual museum is in constant flux along with the evolution of technology and media. According to the Lausanne Chapter, reconstructions (including virtual) are both scientific experiments and interpretations. Through selected works, the digital visualisation's diversity will be shown, along with platforms presenting digital resources for scientific use and heritage promotion. The most important project to be presented is the digitisation and 3D reconstruction of the Neo-Gothic church from the film 'Hruszów – a community above the border'. The interdisciplinarity of the project is manifested via various sources used for the reconstruction, including archival photographs, notes, witness accounts, scientific studies of analogous buildings, and 3D digitisation of the monument. The scan documenting the current state of the building was supposed to be the best basis for its reconstruction, in accordance with Forte's conception of cyberarchaeology. The church's 3D model was shown within the historical Hruszów's reproduction, using a game engine. It will be presented as a separate digital resource, a 3D print, or a spherical panorama through VR goggles – in its current and past state. A reconstruction of the 10th century Gniezno stronghold will be shown, where many practical aspects of the visualisation, such as the form of the embankments, were modified during the model's creation, after consulting specialists. It shows the limits of a purely theoretical, non-visualised reconstruction for large architectural structures. The work on a film about the early medieval treasure from Pińsk made it possible to confront the results of studies, including digitisation, with theoretical assumptions and experiments, leading to a digital animation. The variety of starting forms of heritage digitisation will be highlighted, depending on the target group and the media used to communicate with the recipient.

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CULTURAL HERITAGE IN VR

Stanisław Skulimowski
Lublin University of Technology

Virtual and augmented reality technologies are becoming more and more common and create another interactive medium for the distribution of digital content. The Laboratory for Programming Intelligent Systems and Computer 3D Technologies conducts research on the possibility of using virtual reality technology in the protection and promotion of cultural heritage. Applications for virtual exhibitions and museums, walks around virtual buildings, with the possibility of interacting with elements of the environment and checking one's cross-cultural competence are created for this purpose.

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POLONICUM IN MINECRAFT PROJECT AS A MODERN EDUCATIONAL TOOL

Katarzyna Brzostowska, Agnieszka Chmara-Pokrzywka
POLONIKA The National Institute of Polish Cultural Heritage Abroad

The Polonika Institute launched the 'Polonics in Minecraft' project in 2020/21. Fifteen objects have been created on the game's server – copies of real PoIonics, along with an educational setting designed for 10–18 year olds. Among these are the castle in Podhorce, the Maria Zakrzewska hospital in Boston and the Church of Our Lady of the Angels in Chicago. Work on new objects is still ongoing and the project is evolving to create new elements using historical material. The paper covers issues related to developing interest in history through the creation of storylines and other elements in the content of games.

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INTERACTIVE PRESENTATION OF THE CONSERVATION PROJECT ON THE EXAMPLE OF RESEARCH IN THE SANTO DOMINGO MONASTERY IN LIMA (PERU)

Jacek Martusewicz
Academy of Fine Arts in Warsaw

The basis of the virtual, interactive presentation is a scientific project carried out by a team led by the author of the paper from the Faculty of Conservation and Restoration of Works of Art of the Academy of Fine Arts in Warsaw in cooperation with the Andean Research Center of the University of Warsaw and the Museo del Convento de Santo Domingo en Lima.

It concerned conservation research conducted in the 16th century Santo Domingo monastery in Lima. This monastery is a monument of particular importance due to its location in the historic centre of the capital of Peru, entered on the UNESCO World Heritage List. The collections of the existing museum in the monastery represent high-class works of art from the colonial period.

The main part of the ceramic decoration decorating the cloisters of the cloister was created in the first years of the 17th century in Spanish Seville.

The purpose of the interactive presentation was to create a platform for showing the scientific content to recipients, including those from outside the group of specialists dealing with the conservation of works of art. Tho activities that have been successfully carried out as part of scientific work and conservation have made it possible to collect rich materials that may be of interest to many people. Most of all, modern forms of presentation were chosen, such as a walk in virtual reality through the main cloisters of the monastery cloister, and short discussions of selected issues in the form of videos.

The website presentation was created on based two levels of knowledge – basic entries presenting the issue and broader descriptions with a scientific bibliography and references to conservation studies. As part of virtual reality, the viewer can follow four thematic paths in parallel with almost a hundred interactive access points.

The interactive presentation of the conservation project at the Santo Domingo Monastery in Lima is an attempt to present specialist issues related to the protection of monuments in a virtual form that increases the attractiveness for the recipient.

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DIGITAL REVIVIFICATION: USING DIGITAL TECHNOLOGY TO REAFFIRM THE ONTOLOGY OF THE GJELLESTAD SHIP

Justin J.L. Kimball, Christian Løchsen Rødsrud
Museum of Cultural History, University of Oslo

Gregory Bateson refined a concept by Alfred Korzybski when he wrote 'a map is not the territory mapped, and a name is not the thing named' (p. 30). This thought applies to the digital in that 'the 3D model is not the thing modelled' (Kimball 2016, p. 56). Yet, these statements underscore a fundamental problem with how we view our recreations of the world and its components. Whilst the statements are logically true, the representations that we create – digital or not – are relevant and real.

Archaeology deals with the remnants of the past which are most often highly degraded. As archaeologists, we interpret these indicators (consistency, colour, position, etc.) and describe our observations of the past through archaeological narratives. It therefore can be argued that our interpretations are not the thing being interpreted. In this sense, our interpretations may be no more valid that the 3D objects or maps that we make to describe real-world objects. As an important aside, it is relevant to point out that archaeological excavation results in the destruction of the primary data source itself – leaving only the secondary sources as the de facto source material.

Between 2020 and 2021, the Museum of Cultural History (University of Oslo) excavated the Gjellestad ship. The ship was highly degraded, with the rivets being one of the few archaeological elements readily identifiable. The rivets were removed as soil blocks that could then be scanned with micro-CT and rendered as 3D objects. This paper will demonstrate how the 3D scans help give corporeity to the Gjellestad ship itself and how they can preserve the primary source data. Framed in this light, an argument will be made for how digital 3D objects not only verify the ontology of an archaeological object but are also entities – ontological – in their own right.

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DIGITISING AND CONNECTING ARCHAEOLOGICAL OBJECTS AND DOCUMENTATION

Espen Uleberg, Letizia Bonelli, Alexis Pantos, Hallvard Indgjerd, Steinar Kristensen, Magne Samdal
Museum of Cultural History, University of Oslo

The Norwegian university museums have worked in a series of projects to digitise and publish artefact catalogues and other archaeological documentation. The present cooperation is UniMus:Kultur (https://www.khm.uio.no/english/research/projects/unimus-kultur/), and the goal for the present project period is to create a new version of the CIDOC-CRM-compatible artefact database that has been in use since 2004. Practically all of our archaeological and ethnographic collections are registered in the database, and most of this is also available online.

An important aspect of the cooperation has been the development of common terminology for artefacts, find circumstances and find categories. The museum works to make the collections more available for an international audience, and one step in achieving this has been to map the Norwegian vocabulary to Getty's AAT (Arts and Artefact Thesaurus). This mapping improves international outreach, but some Norwegian artefact names do not have a precise translation to English. The solution has been to map the original term to a word representing a broader category. In such a case, a local translation to a neighbouring language would aid in making the collection better accessible across borders. Neighbouring countries can have shared traditions and similar ecological conditions, and therefore more exact terminology. One example is the Nordic cooperation 'Nomina Rerum Mediaevalium' that has drawings and terminology for mediaeval artefacts in the five Nordic languages (Norwegian, Danish, Swedish, Icelandic and Finnish) – a dataset that we have also mapped to Getty's AAT. Several digital resources are published online under the heading Digitalt Feltmuseum (https://www.khm.uio.no/forskning/digitalt-feltmuseum), including archaeological excavation reports, map based interfaces to the collections and 3D models.

The Unimusportal (unimus.no/portal) provides access to 2 million artefacts and 1.3 million images. Our musuem's archaeological artefacts are also published internationally through ARIADNE Research Infrastructure (https://www.ariadne-research-infrastructure.eu/)

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MAKING IT IN TIME FOR THE ANNIVERSARY - REMOTE SENSING AND NON-INVASIVE SEARCH FOR TRACES OF ARMED CONFLICTS AT THE END OF THE MODERN ERA IN THE LUBLIN REGION AND THE DISSEMINATION OF KNOWLEDGE ABOUT THE LOCAL ARCHAEOLOGICAL HERITAGE

Grzegorz Mączka
The Provincial Office for the Protection of Monuments in Lublin

The subject of the paper is the presentation of the results of remote sensing and non-invasive research focused on the search for archaeological evidence of armed conflicts that took place in the Lublin region at the end of the 18th century (in the years 1790-1794). The author briefly presents selected and previously unknown finds - relics of field fortifications, fortified camps, military burials, movable monuments. The methodology of remote sensing archaeological research and selected problems encountered during exploration work will also be discussed. The presentation of the research results will be accompanied by proposals to suggestions for the popularization and dissemination of knowledge about the archaeological heritage of the Lublin region.

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MONITORING OF UKRAINIAN CULTURAL HERITAGE IN CRIMEA AFTER 2014 BASED ON OPEN DATA

Denys Yashnyi
National Kiev-Pechersk Historical and Cultural Preserve

Since the Russian occupation of Crimea in 2014, one of the emerging problems has been the appropriation, destruction, and illegal use of cultural heritage on the occupied territories. Separate reports in the media, in Russian 'research', and in the materials of the occupying authorities are devoted to the most significant cultural objects and do not reflect the objective state of cultural heritage in Crimea after 2014.

The analysis and documentation of the actions of the Russian Federation towards Ukrainian cultural heritage includes several stages, each of which has its own methodological base of the research of open data.

In the first stage of research, it is important to study Russian information messages about cultural heritage, then to check this information using open data that contains acts, decrees and decisions of the occupying authorities.

The general package of documents of the first stage contains electronic copies of local authority decrees for monuments of regional and local significance on changing their status; copies of permission documents for archaeological excavations; documents on the financing of projects and the results of tenders; reports on historical and cultural expertise; materials of projects and work plans on the territories of cities, historical and cultural preserves, and sites of construction of overpasses and roads.

The second stage of my research is to verify the actions of the Russian authorities, as declared in official documents. To do this, I use academic publications that contain information about work at the facilities, historical satellite images, and photo fixation from open data.

The last stage of my research contains a comprehensive analysis of violations by the Russian occupation authorities, which has led to the loss of Ukrainian cultural heritage sites or their partial destruction.

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DOCUMENTING CRAFT/CRAFTING DOCUMENTATION?

Bjarte Aarseth, Alexis Pantos
Museum of Cultural History, University of Oslo
Aleksandra Sztal
The National Museum in Lublin

The safeguarding of material cultural heritage through documentation has been central to the work of the Museum of Cultural History in Oslo from its beginning nearly 200 years ago. While the aim has remained the same – to secure a reliable resource for future generations to study and enjoy rare and fragile artefacts – the approaches, methods and technologies used to document them have changed beyond recognition. Hand drawing, glass-plate photography and plaster-casts have been replaced by high-accuracy structured light scanning, photogrammetry and CT-scanning, and while these technologies do bring many opportunities the promise of near-perfect replication is yet to be truly realised.

This presentation will take one of the ornately carved Viking Age animal-head posts uncovered during the Oseberg Ship burial excavations as its case study. This artefact is the only one of the five posts to suffer irreparable damage during the second world war and as such primarily survives today only through its earlier documentation, including an intricate hand-carved wooden replica which itself has been the subject of documentation. In exploring this chain of documentation, we will draw on the work of (Jeffrey et al., 2021), (Fredengren and Karlsson, 2019) to explore the complex interconnected relationship between artefact, record and society and contextualise the museum's 3D documentation within a wider theoretical framework. Through this, we hope to take the long view of documentation and discuss the differences, similarities and affordances of the many approaches and how they have contributed to keeping this artefact 'alive' for future generations.

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SOFTWARE AS A REQUISITE LAYER OF HERITAGE: THE CASE OF POLISH CCTLD (1996–2001)

Marcin Wilkowski
Competence Center of The University of Warsaw

The aim of the presentation is to critically analyse the agency of software in acquiring, accessing and interpreting digital heritage using the example of the 'reborn digital' collections of the Polish ccTLD (1996–2001). In the case of Web archives, the process of 'heritage production' is no longer merely discursive, but radically technical. The mediation of software is necessary within it at every stage. What attitude should a researcher, educator and museum adopt towards heritage produced by machines and interpreted solely through the mediation of machines?

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PROJECT-BASED APPROACH ON DIGITISATION AS AN INSTRUMENT OF PRESERVATION FOR CULTURAL HERITAGE OBJECTS AT RISK DURING WAR

Anna Danylchuk, Marta Sydoruk
Lesya Ukrainka Volyn National University,
Non-Governmental Organisation 'Volyn Foundation'

On February 24, 2022, Russia started a full-scale war in Ukraine. On March 1, 2022, we learned that our project 'Digital Transformation for Cultural Heritage Capacity Building in Lithuania, Poland and Ukraine' won the support of the European Commission within the framework of the Creative Europe Program. We prepared our proposal in a totally different environment, but the role of digitisation of both tangible and intangible cultural heritage has only grown with the start of this war.

Constantly analysing the losses of Ukrainian cultural heritage, we also observe the number of important digitisation initiatives. Despite the active war, the concentration of digital cultural production and the platforming of culture is booming in and around Ukraine. Within our research, based on media and expert analysis and field work, we try to re-conceptualise the understanding of cultural heritage digitisation in Ukraine and other countries affected by war zones, demonstrate how digitalisation supports cultural diversity and preserves cultures that are under threat, and how a well-constructed digital environment can become a public space and creative freedom even during times of war. Digital heritage and memory has always been in the centre of our work, but today, when Ukrainian freedom and culture are under threat of destruction, we feel more than ever a need to digitise and share our cultural heritage. We believe that real-life cases, analysis of mistakes and effective initiatives collected in our field study will be useful for the global audience and peace in the world.

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ARTIFACT AND RECIPIENT, NEW RESEARCH SPACES

Liliana Kozak
University of Maria Curie-Skłodowska

Why are spaces of virtual worlds necessary places of contact with cultural heritage? They are a place that allows you to see an object in 3D space, you can turn it in the hands of a virtual glove, enter its structure. The technology allows you to see the inner layers of the object, thanks to infrared or multi-view imaging. Thanks to the LAM Layer Ampification Method, the French researcher Cotte saw successive layers of the painting, which led him to believe that Da Vinci placed a different face under the Mona Lisa, or maybe we can only analyse the stages of the creative process so precisely. They are also a way to explore architectural reconstructions, allowing for suggestive impressions from another time. The technique of media transmission is still being improved to obtain data from the environment in the best possible way and render objects more perfectly, and work is underway to be able to engage all the senses in the future. The transmission process is developing, along with the study of the specificity of reception. Thanks to such technologies as eye-tracking, it is possible to trace the way the viewer's eye follows the image, which differs depending on social groups. You can use various methods to measure the field of attention, sensory reactions, and brain work to allow you to build a contact space with broader sensitivity as carefully as possible.

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