Technology in preservation of the national heritage:
the examples of projects developed by Krakow libraries of various types.

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Abstract:

Digitalisation and presentation of national heritage is a global trend. Entering into this trend and fulfilling their mission, libraries use high-quality modern technology to preserve and make accessible their valuable collections. The examples of projects focused on digitalisation and preservation of specific collections of three Krakow libraries is the topic of this paper.

The discussed institutions represent various types of libraries. The Jagiellonian Library is the second largest library in Poland. Serving as a national library, university library and a part of the Polish library system, it plays an important role in protecting national heritage for future generations. The Jagiellonian Library in cooperation with the Polish National Library have started a project „Patrimonium", which provide digital versions of unique Polish cultural heritage. The second presented project is led by the Franciscan Library. It includes digitalization and sharing of the valuable books belonging to the monastery's collection. The third project is EDT - European Technical Heritage. It is led by the Library of the Cracow University of Technology. Its aim is to digitise and make openly accessible historical and contemporary publications in the field of technical sciences in an innovative IT environment. Special attention will be paid to show general requirements and special tasks completed at individual stages of this project.

Described projects present different approaches not only to preservation but also to popularisation of national heritage, that is possible with modern technology. They may serve as well, as studies for similar activities undertaken in future by other libraries.

Preserving heritage is not just about keeping old places and precious materials from damage, but also about making them available for contemporary society and future generations. Due to advanced technology it is possible to convert of printed or painted objects into digital version, or transform old movies into modern formats. For instance, films colourisation allows to put special effects on objects, modernise black-and-white movies or restore color films[1]. Who does not remember

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[1] Wikipedia: https://en.wikipedia.org/wiki/Film_colorization. Accessed: May 5, 2018

iconic movies such as the *Cassablanca* or the *Fort Apache*? Films which were shot in black-and-white version and which can be screened in color version nowadays. What is more, it is easy to find the enthusiasts of history, who use technology to set up blogs or web pages in order to present images of old places. For example, using the WordPress's plugin 'Before/After' you are able to compare or merge pictures taken in the past and contemporarily[2].
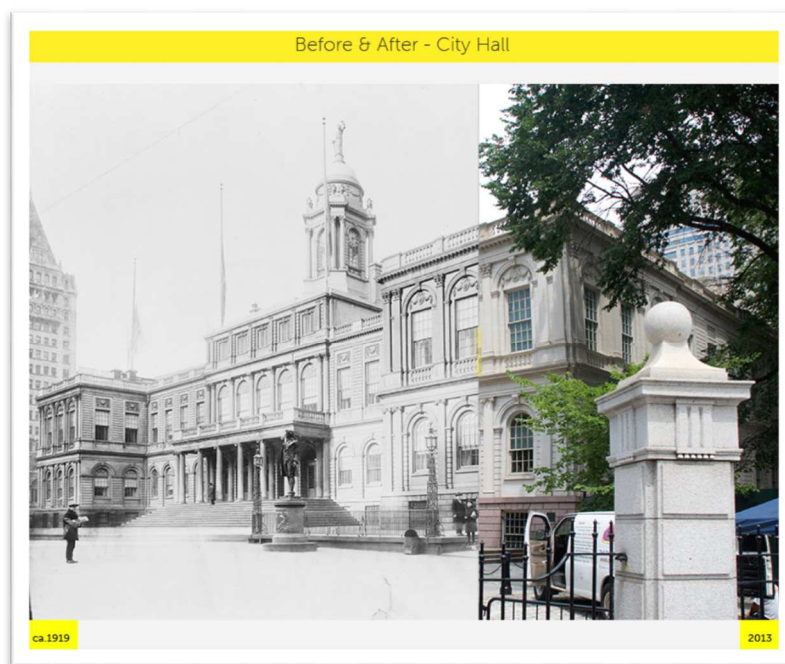
Fot. 1. The City Hall in New York. 'Before & After'.
Source: http://www.nyc-grid.com/home/tag/before-after?currentPage=4

The impact of advanced technology is also noticeable in libraries. Using innovative techniques, institutions implement and enrich various services. The RFID system, RSS format, mobile apps or self-checks are no longer pioneering tools, but standard library services nowadays. Digitalisation fits into the international trends of improving library services and extending access to library collections. In this writing, the author focuses on initiatives connected with preservation and digitalisation of library materials in various Cracow's libraries between 2016-2020. The discussed institutions are the Jagiellonian Library, the Franciscan Library and the Library of the Cracow University of Technology (CUT). Despite representing different types of libraries, they are going to reach the similar goal: due to the process of digitalisation they want to disseminate and enhance an access to their precious materials. Achieving this target, the libraries may encounter various challenges, including human, financial and technical problems, which have implications for planning and the policy of projects. The author of writing will briefly characterize the projects of the first two libraries, and on the example of

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[2] Dawno temu w Krakowie: http://www.dawnotemuwkrakowie.pl/kontakt/ . Accessed: May 5, 2018

the CUT Library will show what steps need to be taken and what challenges might an institution face while preparing similar programmes.
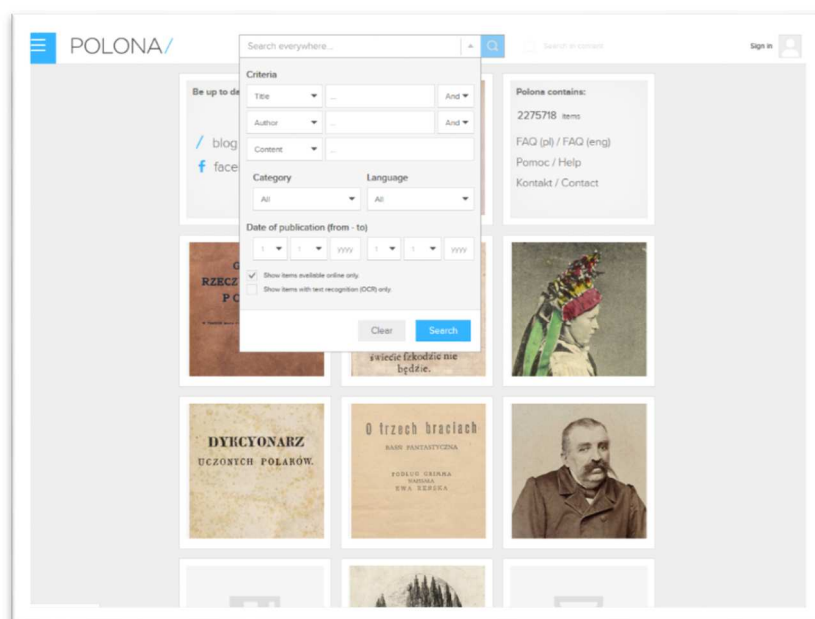
The first described project, titled 'Patrymonium', is launched by the Jagiellonian Library in cooperation with the Polish National Library. The Jagiellonian Library is one of the biggest libraries in Poland. Not only does it play a role of university library, but it also (just as the National Library) archives the legal deposit which has been stored there since 1807. Both libraries can boast about centuries-old collections. Because of that, the objects which are digitalised seem extremely crucial either for the Polish society as the national heritage or for foreign researchers, students or enthusiasts of history as a material for conducting research. The aim of the 'Patrymonium' project is to digitalise precious library items which belong to public domain. This legal status makes the objects easily accessible for users all over the World. Due to digitalisation, library acquisitions, which come from precious cartographic, musical or iconographic stocks and are dated on 18th and 19th century, will come up in the internet. Some parts of collections such as cimelia or manuscripts have never been shown because of their value. Moreover, objects qualified to the project are well-preserved due to the service of the 'Paper Clinic' which was set up in 2005 as a part of the Jagiellonian Library. It is "the first technological hall in Poland with large-scale deacidification systems for paper: printed matter, manuscripts, bound volumes and loose sheets. At the Paper Clinic of the Jagiellonian University mass-scale deacidification occurs through two methods:
• Neschen C900 apparatus in a water environment (only single sheets),
• Bookkeeper III equipment in a non-water environment (bound volumes and single sheets)".[3]
The 'Patrimonium' project will allow to digitalise one million objects: 652,000 from the National Library and 348,000 from the Jagiellonian Library. All of them will be available via the digital library "POLONA"[4] or the Jagiellonian Digital Library. Both of digital platforms can be browsed without any charges or restrictions. However, if you register to the digital libraries, you can have an access to additional functions of the portals: creating your own collections, making notes or putting tabs.

[3] Paper Clinic of the Jagiellonian Library: http://pka.bj.uj.edu.pl/KP/indexen.php . Accessed: May 5, 2018
[4] Digitalizacja w Bibliotece Jagiellońskiej: http://www.bn.org.pl/projekty/patrimonium/digitalizacja-w-bj . Accessed: May 5, 2018
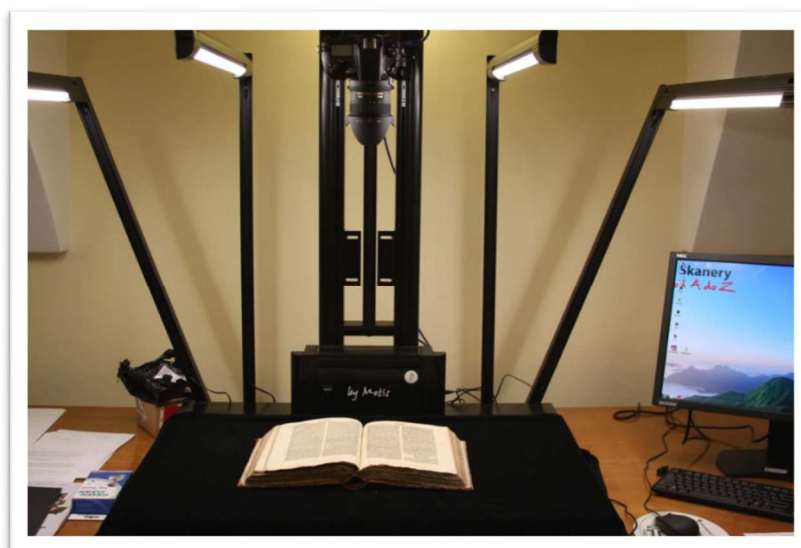
Fot. 2. The digital library "POLONA". Source: https://polona.pl/

There is no doubt that this kind of undertaking would not be possible without any financial support (total value of the project: PLN 99 636 239,00). The project was co-financed under the "Operational Program Digital Poland" - "European Regional Development Fund" UE (the value of co-financing from the EU: PLN 83 473 889,88). The whole venture has been run for three years and it will have been finished by January, 2020. However, it is worth mentioning that the digital library "POLONA" is already primed, so it is possible to browse its collections without any difficulties.

Due to innovative technology, even small institions can boast about their preciouse materials. In "POLONA", next to the National Library materials, you can also find documents of other institutions[5]. The National Library collaborates with various cultural or scientific units. This cooperation allows the Franciscan Library from Krakow to visualize its treasured objects as well. The project, co-financed by the Ministry of Culture and National Heritage, was led between 2016-2017 and was the continuation of the previous project undertaken between 2014-2015. Because of the poor conditions of the books and high value of the collection, the restoration process was deputed to the National Library in Warsaw and the Princes Czartoryski Library. Having renewed the documents, the Franciscan Library could start digitisation works. They were carried out by the use of the Metis EDS Gamma brand scanner[6].

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[5] Wikipedia: https://pl.wikipedia.org/wiki/Polona . Accessed: May 5, 2018
[6] Franciszkanska.pl: http://franciszkanska.pl/digitalizacja-udostepnienie-zabytkowego-ksiegozbioru-biblioteki-zakonu-franciszkanow-krakowie/ . Accessed: May 5, 2018

Fot. 3. Digitization of Franciscans' old books collection.
Source: http://franciszkanska.pl/nasi-darczyncy/digitalizacja-ksiegozbioru/

The next project led in Cracow is titled the "European Technical Heritage" (EdT). The project is run by the Library of the Cracow University of Technology (the beneficiary of the project). The main aim of the project is to digitalise and make accessible historical and contemporary publications from different fields of technical sciences. In order to achieve this goal, the Library has undertaken the cooperation with the Faculty of Computer Science, Electronics and Telecommunications of the AGH University of Science and Technology (AGH) (partner) and the Main Library of AGH (partner). Due to this cooperation, it is possible to prime an innovative online platform where all objects of the EdT collections will be set in. This innovative system, launched by the AGH scientists, will allow to get access either to precious and old items or to modern books. The historical part of EdT collection will consist of literature from 18th-20th centuries. Not only will it contain digitized version of valuable books (5549 items) from the CUT Library stocks but it will also be supplied by the AGH Library with its journals (498 issues). Having a lot of provenances (bookplates, stamps, handwritten signatures, notes or author's dedications), these materials are of a great importance to researchers or enthusiasts of the history of technology. On the one hand, EdT collection reflects the history of the universities and people associated with them. On the other hand, it provides knowledge about historical, cultural and scientific heritage of Poland and Europe. It is also important to mention that the modern part of the EdT collection will contain diverse literature from different fields of technology. This collection will include the CUT researchers works, the CUT Library materials and collections of the CUT Repository. All collections will be combined and set in an online platform. However, before launching this platform, the CUT Library has already had to face few challenges.

Firstly, the workers of the Acquisition and Cataloguing Department of the CUT Library had to choose from the CUT collections valuable materials which could be made public without breaking the copyright. It means that digitised documents should belong to public domain or be qualified as orphaned works. Making sure that the law status of these publications is proper, the CUT librarians browsed various national or international catalogues and archives.

Fot. 4. EdT Logo. Source: the CUT Library. Source: the CUT Library.

Secondly, the librarians selected the books from the CUT library collection which had to be restored. Chosen items, which required the process of deacidification, were transported to the Jagiellonian Library and undergone the „Bookkeeper maintenance process". Furthemore, after conservation and binding processes, the librarians started the stage of digitising the collections. For the purposes of the project, the Library adapted one of the reading rooms as a laboratory of digitalisation. Due to the financial suport from the European Regional Development Fund, not only has this stage of the EdT been accomplished, but the whole project can be maintained. In order to implement the EdT targets, the CUT Library purchased:

1. scanners using a computer with EIZO ColorEdge CX271 27 "monitor:

- Workplace scanner A1 - Bookeye 4V1A - 1 item
- Workplace scanner A2 - Bookeye 4V2 Archive - 1 item
- A4 flatbed scanner - Avision FB2280E - 2 pcs
- A3 flatbed scanner - Avision FB6280E - 2 pcs

2. 4 computers, each equipped with the following programs:

- MS Office ProPlus 2016
- Adobe Photoshop CC
- Adobe Acrobat Pro DC
- Abbyy Fine Reader 12

3. OCR software in server versions

1. Abbyy Recognition Server 4.0
2. Abbyy Recognition Server 4.0 Ghotic / Faktur

4. Software for the training and promotion team needs:

- Studio Camtasia 9 - 1 item

Fot. 5. Laboratory of digitalization of the CUT Library.

The EdT project has been carried out from 1st January, 2016 and it will continue until 30th April, 2019. During this period, the promotion campaign is run by PR group from the CUT Library. Undertaken activities, such as the "EdT Open Day", the "Open Access Week", „digitalisation training" or „intellectual property and copyright law" workshops were dedicated to different groups of the CUT academic society. Nevertheless, the librarians want to reach the EdT goal of having a wider audience. To achieve this aim, not only do they run a blog and organize the facebook campaign, but they also prepare an online film and e-learning course about the project.

There is no doubt that due to innovative technology, promotion of projects and preservation of national heritage are easier now than they were in the past. However, librarians still have to put a great effort to maintain precious materials. They focus on this task because they believe that it can bring outstandings results for society. For instance, an interesting example of the use of digitalised documents is the DORA. This is the department of the Library of the Technical University in Norway, which cooperates with the Regional State Archives in Trondheim. Digitized archives deposited in the DORA were used by the Norwegian television to set up a programme about tracking ancestors. Television engaged some famous people to make the show more interesting. The programme encouraged Norwegian society to become interested in the national heritance. The Norwegian example does not have to be the only solution. The diversity of heritage gathered in libraries gives new opportunities to researchers. In order to find new solutions of digitilised objects, you can browse projects which the author described in the writing.

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