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Works done in the field of application of information technologies to libraries. (based on the creation of the technological model of the Azerbaijan University of Architecture and Construction Library)

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Abstract. One of the achievements in the field of education development in recent years is the emergence and development of digital libraries. This term began to be used in the late 80s in foreign publications in connection with the development of Project Gutenberg in 1971. This process is intensively developed and improved to this day. Depending on the level of development of the state (availability of high-speed Internet, financing of institutions, etc.), this process develops at different rates around the world and involves various public and private institutions. Digital libraries have become even more important during the COVID-19 pandemic as researchers and readers have been able to access vast amounts of resources at any time of the day during this challenging period when people have been confined to their homes. To date, the presence of an electronic library in the university has become an indicator of its respectability. There are certain criteria for university libraries, so they must cover scientific, educational and methodological literature in all taught disciplines. The main advantage of digital libraries is the confidence that they will deliver information better than it was in the past. At the same time, the creation and development of electronic libraries encounters a number of problems and difficulties. First of all, at present there is no clear understanding of what an electronic library is, what information systems should be attributed to this class, what are the requirements and evaluation criteria for them. In this article, we will analyze the emergence and development of the digital library, reveal the main obstacles to its development based on the creation of a technological model for the library of the Azerbaijan University of Architecture and Construction and the electronic library of the Mimar Sinan University of Fine Arts in Turkey

Keywords. information storage, electronic library, development paths, digital society

The transition to the digital age has affected all aspects of human life. Qualitative changes in the development of modern information technologies have radically changed the foundations in many areas of human activity. There was a need to create more unique repositories of information resources, as well as changes in the process of their collection, storage and transmission. In a generalized form, such approaches began to be interpreted as the creation of "digital" or "electronic" libraries, the development of which began at the end of the 20th century. [one].

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It should be noted that there is still no generally accepted definition of a digital library, and this issue is relevant and requires further research.

The most clear definition of this wording was given by researcher R. Graham (Rutgers University). In his work, he combined digital information objects in various formats that are available to Internet users and have different characteristics under a common format - an electronic library.

“A digital library is a managed collection of information stored in digital formats and available over the network in conjunction with relevant services” is a characteristic of the author of the first book on digital libraries, American scientist William Arms [2].

As previously noted, the emergence of the digital library dates back to 1971, when Michael Hart, then a graduate student at the University of Illinois (USA) in the materials research laboratory, initiated the Gutenberg project, the purpose of which was to digitize books, originally classical English literature. M. Hart named his initiative "Project Gutenberg" in honor of the famous first printer [1].

This project became phenomenal and soon covered all countries. At the same time, this project has come a long and painstaking path, because until 1989 the texts of the books were typed by hand. Only the creation of scanners and text recognition programs has simplified the work. "Project Gutenberg" is active and is used by a non-profit electronic library in the open access mode at the site: http://www.gutenberg.org. Currently, Project Gutenberg has more than 53,000 books in 60 languages, divided into three parts: "easy", "hard" literature and reference books.

Gaining access to electronic catalogs of the largest foreign libraries falls on 1980-1990. This is the period when the catalogs of the US Library of Congress, Harvard University, the National Library of France and a number of others became available.

A weak network, a lack of qualified personnel, and expensive technology have prompted a large-scale search for ways to remove barriers to the transition to the digital age [3]. In the 1990s in the United States and European countries, programs for the development of digital libraries are being actively developed [4]. Initially, such projects were the amateur work of a few specialists, but over time they acquired the status of national programs and international projects. “Examples are the project to create an electronic library for the G7 countries, the DLI program in the USA and the eLib program in the UK. In Japan, work is underway to implement the project "Digital Libraries of the 21st Century". An electronic library "Global-Info" is being created in Germany. These projects have significant state financial support. To solve the problem of creating an ES in these countries, various investments are actively attracted, including funds from various foundations, interested private companies, charitable organizations, and individuals” [5]. In 1992, the US National Science Foundation Conference initiated the use of the concept of "digital library" in the modern context [4]. M. Bangemann's report "Europe and the Global Information Society" in 1994 gave birth to a new era of digital development in Europe. In his work, he showed in detail the ways of introducing information and communication technologies in European countries in the interests of the community. Immediately after the publication of the report, the preparation of national programs for building the information society and electronic libraries began in Europe [6]. In the mid 1990s. in the USA, Japan and Western Europe, national projects for the creation of EBs appeared for the first time [6]. Since that day, the world's libraries have begun to move to the use of web technologies to provide access to their catalogs, this has expanded the range of electronic catalogs, made information more accessible and increased their technical stability in general.

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In 2002, Google starts its own book digitization project. In December 2004, the "Google Print" library project was announced, which was renamed "Google Book Search" in 2005.

On November 20, 2008, the pan-European digital library Europeana began to function.

On April 21, 2009, the official opening of the World Digital Library took place.

Turkey is a country that is also very actively working on the creation of an end-to-end electronic space covering all aspects of the country's life under the program "From electronic databases to electronic Turkey". The Ataturk National Library of Turkey has already digitized most of its collection (30,000 manuscripts and 10,000 periodicals have been digitized and donated for use). This information has become available in the European Digital Library search engine. This system also includes an independent electronic library (Hiper Kitap) or Mersin Universitesi (website) - the first electronic database in Turkish. The director of the electronic portal works with 220 publishing houses. The electronic library has more than 7500 books, which are divided into 28 subject headings. New arrivals are recorded monthly and immediately entered into a preliminary inverse catalog: title, author, date of publication and number in the electronic library (as a cipher). 60 universities are also connected to the system

Many libraries in Turkey, as well as around the world, have also expanded their services beyond the physical walls of the building, providing remote access to their materials during the pandemic.

One of the interesting ones is the library of the Mimar Sinan University of Fine Arts. This library is an exemplary example for showing the development of the electronic library. The creation of the library itself has a long history. The Nefise School of Industry was founded in 1882 by art historian, archaeologist, museum worker and artist Osman Hamdi Bey and began teaching on March 2, 1883. The Academy Library, whose collection began to develop along with the establishment of Sanayi-i Nefise Mekteb-i Alisi, lost most of its collection in a fire in its building in Fundiklı in 1948. It is housed in a building in Fundyklı, renovated in 1953. The Academy Library, with its rich collection of art and architecture, was re-opened on March 2, 2022 and brought to its present state through landscaping, renovation and expansion works as part of a new project based on the original design by Sedad Hakki Eldem. This university has a network of five libraries operating at the same time; Library of the Academy, Library of the Faculty of Arts and Sciences, Library of the Istanbul State Conservatory, Library of the Istanbul Museum of Painting and Sculpture, Library of the Sami Şekeroglu Film and Television Center. The libraries have a total of over 137,000 books, mostly on fine arts and architecture. In addition, there are 93 databases including over 8,500 non-book publications, over 3,500 rare books, 18 Turkish language subscription periodicals, over 4,350 theses, over 950 university alumni publications, and various topics supporting the fields. university education (subscription, additional and open access). The Space @MSGSÜ system digitally stores academic resources such as books, articles, dissertations, bulletins, reports, research data published directly or indirectly by the Mimar Sinan University of Fine Arts in accordance with international standards, helps track the academic performance of the university, ensures long-term conserve resources and make publications available to the public in accordance with their copyright to enhance the effect of publications.

Speaking about the importance of any library, we certainly mean the volume of its resources, as well as the extended range of its users. So, in order to determine this, it is necessary to highlight the Purpose of the functioning of the library.

According to the official data of the university itself, the main reason for creating an electronic library is the ability to provide modern library services to meet the information needs of researchers, providing information resources that support the educational and teaching

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activities of the university. Purpose: to organize and provide resources and services that best meet the information needs of users in the light of modern advances in the field of information services.

Basic material: all kinds of electronic publications, books, magazines, dissertations, and so a big plus is the presence of the rarest ancient works, these are old written, printed works that have a small printed copy, which are difficult to buy or access.

The library is intended for teaching, research and development of university members ensuring the relevance and availability of information needed in its activities; in collaboration with stakeholders; as part of the provision of fast and high-quality services; training-training and provide all kinds of information sources according to their needs to support their research, collection of publications to create, edit, technical operations in accordance with international standards, make education accessible and create the most favorable conditions for its development, thereby contribute to cultural heritage in society. Creation and operation of information technologies necessary for this purpose, in libraries to coordinate educational and methodological and research activities in cooperation with academic departments, provision of printed, electronic and rare works. The university has adopted legislation to digitize rare works in order to preserve and pass on to future generations. The provision of library services at the university within the framework of a centralized library is given a special place and they try to make this process organized and holistic. The users of Mimar Sinan's electronic library are researchers and its readers using the library, who are members of the Academic Library and branch libraries. [7] The emergence and transition to electronic libraries in Azerbaijan is reflected in the ICT section of the National Strategy for 2003-2012, in the State Program for the Development of ICT. The goal of the National Development Strategy on ICT is to influence the further development of democracy, through the large-scale introduction of information and communication technologies, as well as the building of the information society in the country. One of the main tasks of building an information society is the creation of full-text electronic information resources of the information and communication infrastructure and providing access to them through a computer network.

The transition to the s digital ystem has improved the reproduction of the dominant Internet network for the digital library.

The transition to electronic libraries revealed a number of shortcomings in our country. Identifying several aspects to explore how emerging changes affect librarians is useful for developing a technology model.

The first and most important of them is the director of the library. It is clear that library directors are under pressure. Before the technology model was applied, managing a huge library was an in-demand profession, but in recent years the job has changed radically and the responsibility has increased. Library directors do not receive adequate support in reporting from responsible officials and this leads to delays in the development of the technology model.

The second problem lies with specialists, who are ambivalent about new technologies, arguing that digital libraries are both opportunities and challenges. Adapting to technical change is a long journey that requires training and education. It should be noted that this problem is observed only among old specialists, since today educational institutions pay special attention to aspects of the education of young librarians against the background of the development of a technological model.

Like most organizations, university libraries also struggle with management and change. However, universities are a source of continuous innovation. When a technology model is created, the most important process is the preservation of digital materials.

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The information store is a maintenance system, the main function is to maintain digital material for use in the library. In plain language, these are the bookshelves of digital libraries.

Consider the possible requirements associated with the need to create more advanced storage media between the leading digital libraries

- First of all, the information must be hidden. The internal structure of the information storage device must be hidden from the reader's computers and protected from external interference in the information structure, as well as its illegal copying.

- Then objective models should be created. Stores of information stores should support a flexible range of objects with less restrictions on data, metadata, foreign relations and internal relations. New categories of information should not require radical changes in other functions of the digital library.

- The third is to create open protocols and formats. Readers must interact with the storage media using precise protocols, data types, and formats. The retention of information in storage devices should be arranged in such a way that the storage information is updated automatically in the course of development or new discoveries in this area.

The library of the Azerbaijan University of Architecture and Construction is famous for the richest electronic library in Azerbaijan. The total area of libraries located in educational buildings No. 2 and 3 of the Azerbaijan University of Architecture and Construction is 816.14 m2. The library was established in 1977. Currently, the fund has 514,285 copies of literature, journals and abstracts [8]. The main task of the library fund is to assist the teaching staff and students in their educational and research activities. The quality of stock materials meets the requirements for the training of specialists corresponding to the profile of the university. This library is a powerful and rich information center that deals with all kinds of scientific information that can provide quality information services to teachers and students. The main goal is to meet the needs of teachers and students in their teaching and research activities, allowing researchers to consider the library as a starting point for all kinds of scientific information needs, being a scientific center and providing a fast, efficient and universal flow of information for knowledge sharing. The university also operates an electronic library designed for students, teachers and all readers. Azerbaijan University of Architecture and Construction uses research quality methods to obtain several stages and collect information during the creation of a digital library. The first of these is a needs analysis, which in turn needs to be defined. If the needs analysis is held positive, the next step is to define the goal. This goal should be based on the goals and missions of the library. Depending on the conditions of each library, there are different goals.

The electronic library is focused on meeting the information needs of users in the educational process and scientific activities. Here are textbooks and scientific literature on various branches of science and technology, normative-technical and periodicals, abstracts of dissertations, documents on the history of the university and other materials. The resources of the electronic library are part of the main fund of the library. These resources are included in the library's electronic catalogue. But the search results in the electronic catalog may differ somewhat, since the electronic library uses special technologies focused on full-text and multimedia resources. Each electronic resource has its own restrictions on access conditions. As a rule, readers (authorized users) of the university have broader rights to work with the resource. They have the opportunity to use additional services of their personal account, including compiling lists of electronic resources, memorizing search queries, creating notes from fragments of electronic works. You can copy only fragments of works on resources that are allowed to be transferred, that is, they respect copyright.

You can find material using the search functions by community type, collection, author name, release date, institution, type, subject, department, category, language, and availability and closedness of the material.

Conclusion: The emergence of the digital environment has been a remarkable period for the creation of large-scale services in the history of the library. We can express the definition of a digital library as a collection of managed document. This period took place in computers and digital formats, as well as in the process of obtaining information through the network. Thus, users use computers connected via a network and do not need paper format documents. The procedures for organizing information in computers, organizing data collections, organizing archives, and selecting materials on the web have become the basic principles of digital libraries. Technology began to influence the economic and social aspects of information, and digital library technology began to develop at a rapid pace throughout the world.

One of the main reasons for creating digital libraries is the belief that information will be better provided than in the past. We can show traditional libraries as a major part of society. As technology has developed, it has become clear that it is not perfect. Users of digital libraries claim that the library is better imported from individual computers connected to the network, rather than visiting the library. Information that once existed only for scientists is now available to everyone. The horizons of electronic library services are wider, because you can connect to them everywhere, having only a network connection with a personal computer. It is true that library users claim that paper documents are easy to read, but they prefer the digital medium because it takes little time to find information in the second case. The truth is that libraries are full of useful materials, but readers accidentally discover them during a traditional search. Yes, traditional libraries protect a few unique and rare information, they are richer in their arsenal, nevertheless, studies show a preference for the digital environment. The main advantage of digital libraries is its accessibility, the doors of the digital library are never closed, they always maintain up-to-date information. The volume of document collections expands beyond the walls of the library, and the materials in the library are easier to use anywhere in the world. Digital libraries are more profitable than traditional libraries. Because libraries can share digital communities and reduce the need for printed materials. Their use increases electronic access and reduces costs associated with the cost of maintaining and shipping digital collections.

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