

[HOME](#)[Revista ESPACIOS](#)[ÍNDICES / Index](#)[A LOS AUTORES / To the AUTORS](#)

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# Property rights in the information age

## Derechos de propiedad en la Era de la Información

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### Contents

[1. Introduction](#)[2. Methodology](#)[3. Results](#)[4. Conclusions](#)[Bibliographic references](#)

#### ABSTRACT:

The article is devoted to the concept of property rights in the field of information technology from the legal and economic point of view. The subject of the study is the legislation of different countries of the world and general global economic trends in this area. The authors concluded that intellectual property is by its very nature virtual and, in this capacity, most organically adapted to the new world of information technology.

**Keywords:** property rights, information technology, copyright, virtual objects

#### RESUMEN:

El artículo está dedicado al concepto de derechos de propiedad en el campo de la tecnología de la información desde el punto de vista legal y económico. El tema del estudio son las leyes de diferentes países del mundo y las tendencias económicas globales generales en esta área. Los autores concluyeron que la propiedad intelectual es, por su propia naturaleza, virtual y, en esta capacidad, más adaptada orgánicamente al nuevo mundo de la tecnología de la información.

**Palabras clave:** derechos de propiedad, tecnología de la información, derechos de autor, objetos virtuales

## 1. Introduction

Traditional objects of economic turnover throughout the history of humankind have been material things – objects of nature and the results of material production. The results of creative, intellectual activity were not the object of economic relations, because the realization of such results, despite their great importance for the development of humanity, was very slow. However, at some stage of the development of civilization, the results of intellectual activity, especially in the field of information technology, began to play an increasing role in the life of the community, and their realization made it possible to obtain stable and sufficiently large profits (Tegmark, 2017). Information technology has already had a major positive impact on almost every field of human activity, from science to finance, manufacturing, transport, healthcare, energy, and communications. With their help, a rapid redistribution of funds, financial resources, robotic production, securing transport flows, generating and transmitting energy, improving health care and more were made possible.

Thus, the traditional property market has undergone significant changes: along with its traditional objects, a new part has emerged – the result of ever-increasing intellectual activity. They should be distinguished from objects of property rights, that is, tangible things, objects of the material world, through which they exist and in which they are embodied. The development of Information and communications technology (hereinafter – ICT) has also led to the emergence of new, more utilitarian copyrights: computer programs, databases, multimedia works, online works, and more.

In the virtual environment, as well as in real life, the property can be acquired or created, both movable and immovable, a secondary market is being formed to meet the needs of users, on which digital property or avatars are rotating.

Therefore, in the IT field, we are dealing with real property, intellectual property, and virtual property. It should be about ownership of real things in the real world (including those that technically ensure the existence of the virtual world), ownership of intangible goods, including intellectual property, ownership of virtual things.

There is no problem with "classic" property rights, but the ownership of virtual things and intellectual property rights often overlap.

We can classify the ownership of devices, computers, other computer equipment etc. to the Property rights in the IT-sphere.

Property rights in the virtual world include computer programs, databases (compilations), websites, multimedia works, works of network art, domain names, digital content, that is, information content of the Internet (a published work in digital form and any other information: digital music, video streaming, video games, etc.), virtual objects, a virtual component of IT-assets and more.

The virtual property includes intangible assets and objects of intellectual property rights as well as virtual things that are not objects of intellectual property rights.

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## **2. Methodology**

Due to the goals of the articles, the methodology of the study includes general scientific and special methods of knowledge of legal and economic phenomena. Thus, the dialectical method, the method of system analysis, the system-structural method, the formal-logical method, the formal-legal method, and the method of structural functionalism were used by authors during this study.

First of all, the dialectical method as a general method of scientific knowledge in accordance with the historical method allowed to consider all issues of the property market in dynamics.

Moreover, it should be noted, that the method of system analysis, as well as the system-structural and formal-logical methods, made it possible: to investigate the development of the Property rights in the information.

Furthermore, the formal-legal method helps authors of this study to investigate and compare the legal norms of foreign and domestic legislation governing Property rights relations.

In addition, it should be stated, that the method of structural functionalism was used to analyze the notion Virtual property rights as well as Intellectual property rights as virtual property.

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## **3. Results**

### **3.1. Virtual property. Intellectual property rights as virtual property**

Today, in the age of information technology, we are faced with a new category called "virtual property". Virtual property has emerged thanks to the so-called "virtual reality", which, from the point of view of philosophical science, is technically engineered by interactive means of generating and operating objects similar to real or imaginary, based on their three-dimensional graphical representation, simulation of their physical properties (volume, movement, etc.), simulation of their ability to influence and independent presence in space (Yvanov, 2002).

Speaking of virtual property, it should be assumed that it is intangible by its nature. As a rule, it is the object of copyright and arises in the virtual environment. The notion that virtual property is usually a copyright object indicates that it is possible to divide all virtual property into intellectual property and non-intellectual property.

From the point of view of economists, virtual property and intellectual property do not coincide. The category of virtual property from an economic point of view is justified by the emergence of relations between economic entities regarding the appropriation-alienation of non-real (virtual) objects, which operate mainly in virtual space and indirectly represent real relations regarding tangible and intangible goods. The proposed category is a theoretical reproduction of the development of property relations, in contrast to intellectual property, characterizes intangible objects that are not direct factors and results of intellectual production, and act as a reflection of

the individual properties of tangible or intangible objects and or the possibility of certain actions or abstention from such on these objects (Stepanenko, 2009).

Intellectual property rights are, in their essence, legal fiction, a "virtual" version of "property rights" as a specific object - the results of intellectual, creative activity. Intellectual property rights in virtual space are also virtual.

Virtual in their essence are such objects of intellectual property rights as a computer program, databases (compilation) of data, website, multimedia works, works of network art, domain names. Specific objects include digital content, that is, the information content of the Internet (both published works in digital form and any other information: digital music, video streaming, many custom video games, etc.). Not all of them are intellectual property rights, so digital content can be divided into information that is the object of intellectual property rights and is not.

Speaking of virtual objects, we should single out a virtual property as a special kind of property that originated in the gaming space. Virtual property, like virtual worlds, is a virtual environment that is the origin of gaming. One of the objects of the relationship that arises in the course of the game is the real money that is used to buy virtual items. Yes, individual players and virtual companies can translate their earnings into real money through the mediation of relevant websites. In the future, virtual relationships are increasingly evolving, becoming more inclusive and related not only to games but also to the content of the virtual world itself. Trade relations between users are developing, buying and selling both accounts (accounts) and certain fixed objects - virtual objects, gaming, and non-gaming advantages, etc., becomes more and more massive. Yes, Forbes magazine published an interview with 35-year-old American programmer Yan Panasjuk, who bought most of the Neverdie space resort in the Entropia Universe, including seven bio-buildings, a stadium, a nightclub, and a mall for \$ 335,000. This purchase is considered to be the largest virtual real estate transaction in computer gaming history (Alyzar, 2019).

Because the intellectual property has real value in the real world and its turnover is possible through the licensing of other contracts, the question arises about the legal regime of virtual property. Can players (and others), who create or acquire virtual world objects, have property rights similar to these items?

There are two main points of view about what virtual property is. According to the first, virtual property is only a line of computer code used in a broader program under a license agreement. Therefore, all ownership of these "lines of code" belongs to the game owner. That is, if you bought a digital book or paid for a new album by your favorite artist on iTunes, you own the content. However, we can hardly name the owner because, as a rule, by clicking on the "Accept license agreement" button, the user receives only a license to use the file. In so-called "closed" worlds, where players do not play an active role, the owners of the virtual worlds are their developers, and therefore all relationships can be regulated in an end-user license agreement. The peculiarity of "closed" virtual worlds is that this world is created by the developer and the players cannot create anything on their own, choosing the options offered and the freedom to use the features of which is limited by the license agreement. The agreement usually assumes that everything in this world belongs to the developer, and if the player creates a virtual object of real value, the rights to it are transferred to the developer. The boundary between the virtual and the real world here is a clearly defined license agreement.

Nevertheless, in our opinion, this does not apply to online games in which the user plays an active role. These are the so-called "open" virtual worlds, which are created with a more open border between the virtual and the real world. In "open" worlds, individual players are granted some "real" subjective rights about objects created in the virtual world. They are already different from games that have a specific purpose and result, as users create the content themselves (Dyuranske & Kejn, 2013). For example, the Second Life project, which has about 34 million registered users (Second Life Statistical Charts, 2019), created a special virtual economy, operates its virtual currency that can be exchanged for real money. In October 2012, the European Central Bank released the results of a study of virtual currencies, according to which the total volume of the Second Life virtual assets market in the 10 years of its existence amounted to \$ 3.2 billion (Virtual currency shemes, 2012). In open-world virtual worlds, players create up to 80% of the content, and in such worlds, entrepreneurs and commercial entities operate. Therefore, in the near future, there will be different legal regimes for virtual property rights in open and closed virtual worlds.

According to the second point of view, a domain on the Internet is also a "line of code", but the law recognizes ownership of the domain. A bank account is also a "line of code" but is also owned (Sydorov, 2011).

Thus, it is necessary to talk about the formation of a special type of property - the virtual, which is intangible, can also be the object of intellectual property (if there are signs of creativity), exists in the virtual environment and for which property rights can arise, with all the consequences legal (contracting, inheritance, registration in electronic registers, etc.), or exclusive rights (property and non-property). There is also the issue of virtual property taxation.

It should be noted that there are already attempts to define the concept of virtual property. For example, the virtual property is defined as an information object owned by one or more owners. Establishing the right of ownership and disposal of virtual property is possible in two ways: when creating an information object (copyright or intellectual property); when transferring (in writing, with the conclusion of the relevant contract or with the consent of the user with the user agreement) the right of ownership and disposal of the entire information object or its part, from the creator (author) to the buyer (user). It is also possible to transfer such a right by providing a certificate of ownership of the information object or part of it.

It is also proposed to define virtual property from the point of view of post-industrial society. In the system of property relations of the post-industrial economy, the relations between economic entities regarding appropriation - the alienation of non-real (virtual) objects, functioning mainly in the virtual space and indirectly representing real relations concerning material and intangible goods, on the basis of which the category "virtual property" is substantiated. The proposed category is a theoretical reproduction of the development of property relations and, unlike intellectual property, characterizes intangible objects, which are not direct factors and results of intellectual production, and act as a reflection of the individual properties of tangible or intangible objects and / or the possibility of certain actions or withholding them in relation to these objects (Stepanenko & Yakovenko, 2009).

In addition, the concept of virtual property is shaped by judicial practice. Thus, by a decision of the Bonn Court of the second level, the provider has recognized the right of virtual ownership of the software of the site. According to the facts of the case, the claim was filed by the participant, who was denied further access to chat (chat-rooms). In court, it was about the legality of the provider's decision concerning a user with whom no contract was concluded. The court found possible grounds for exclusion from chat in paragraph 1004 of the German Civil Code, assuming that the provider had a "virtual property right" (virtuelle Hausrecht), which had the right to use the software for the appropriate purposes (to protect its right) hosted on the server (software). The right to use the software as such was qualified by the court as "virtual property" (virtual Eigentum) and granted the claimant adequate protection. According to the court, the plaintiff (the excluded chat member) has bound himself by his obligation by expressing his voluntary consent to the chat. On the other hand, anyone who has allowed it without any additional conditions to use the chat (the provider), may not arbitrarily terminate such use. However, the court distinguished between conditions that could have been established by the provider in advance, thus granting it greater freedom of action and those restrictions the legitimacy of which was related to the reaction of other parties. Thus, "virtual property", as the court ruling implies, is not primarily a right to remedy any violation (as is the case with "classic property") - its structure is directly dependent on the expectations of participants in the open communication process that is, from the outset is related to the right of use of third parties (Vojnykanys & Yakushev, 2004).

As we can see, in this case, the court applied an analogy with the disposal of real property, citing the interpretation of such circumstances when using the right to remedy the violation.

We should talk about the virtual property right that exists in the real world and that which exists in the unreal (virtual) world. Virtual property right in the real world is intellectual property rights (which are not right to things, but right to rights).

Virtual property right in the virtual world is the property right for game items (created or purchased by the player for virtual currency or real money), virtual real estate, and anything that is in the virtual world and maybe the subject of a transaction.

Therefore, as a result, we come to the conclusion that intellectual property is by its very nature virtual and, in this capacity, most organically adapted to the new world of information technology.

The main difference between them is that most of the virtual objects are objects of intellectual property that the participant of the virtual world uses on the basis of a non-exclusive license, however, virtual items are increasingly the subject of sales transactions rather than the assignment of rights under a license agreement.

### **3.2. Copyright for IT objects**

As mentioned, virtual in their essence are such objects of intellectual property rights as a computer program, databases (compilation), a website, multimedia works, network artworks, domain names, digital content, and the one that has signs of creativity.

Thus, in particular, a computer program is a set of instructions in the form of words, numbers, codes, diagrams, symbols, or any other form, expressed in a form readable by the computer, which actuates it for a certain purpose or result. In a market economy, computer programs have acquired the value of commodity products. These products combine the results of intellectual creativity and technical work of high complexity. Computer programs are a relatively new subject of copyright since the mass production of personal computers and therefore the development and distribution of computer programs began only in the late twentieth century.

According to international standards, computer programs are subject to copyright and are subject to the regime of protection of literary works (Berne Convention, EU Directive on the Legal Protection of Computer Programs (On the legal protection of computer programs: Directive of the European Parliament and of the Council of 14 May 1991, 2019), TRIPS Agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights, 2010). This is due to the fact that every computer program has all the necessary characteristics of a work of science, literature, and art. First, the source code of a computer program has the features of a written literary work. Secondly, the algorithms, methods, ideas, theories, formulas used in creating the program give it a feature of scientific work. Finally, animation, graphics, audio-visuals created by a computer program bring it closer to a work of art (Sudarykov, 2011). However, it should be borne in mind that, despite some similarities, computer programs are not identical works, they are only subject to the relevant legal regime. For example, if a literary work requires text capable of causing a specific image to the user, then no such requirement is made to the computer program, this is not a requirement, part of a computer program (computer commands) is not generally perceived by humans (Hohlov, 2008).

The Civil Code of Ukraine also recognizes computer programs as objects of copyright and equates them to literary works in legal terms. Legal protection applies to all types of computer programs, including operating systems and software systems, which can be expressed in any language and any form, including source code and object code. However, the ideas and principles that underpin programs, including the ideas and principles of interface and algorithm organization, as well as programming languages, remain unaffected.

Databases (data compilations) are a set of works, data or any other independent information in any form, including electronic, the selection and arrangement of which components and their arrangement are the results of creative work, and the components of which are individually accessible and may be found using a special search engine based on electronic (computer) or other means. Database refers to the whole set of elements of information that are selected according to the definition of pre-established criteria, systematically processed and stored in the memory of a computer system, which has access to a certain number of users.

The definition of the database is set out in the preamble to Directive 96/9 / EEC, which states that the term "database" should be understood as referring to any collection of literary, artistic, musical or other works and materials, such as texts, sounds, images, figures, facts, and data, and includes elements necessary for the operation or use of some of the databases, such as thesauruses or information systems. Databases are electronic repositories of data and information. These are interconnected electronic filing cabinets, the purpose of which is to provide access to the documentation contained therein to an indefinite number of persons.

They differ from artistic, literary works with a lower level of originality, less creative character. Yes, a computer program is a set of commands (instructions) that are limited in different programming languages.

Multimedia works are complex copyrights that are composed of diverse intellectual activities (a body of textual, graphic information, images, including audio) but are the single object. In the age of information technology, multimedia is becoming more and more diverse: computer games, websites, virtual museums, e-journals, training programs and more.

There are different points of view regarding the legal nature of multimedia works, but the most popular is the understanding of them as interactive works created using computer technology (Karpychev et al., 2006). The peculiarities of this result of creative activity are that it is expressed in electronic (digital) form, as well as the active role of the user in its functioning. Characteristic features of a multimedia work are: 1) its complex nature; 2) the presence of at least two components that are different in character from the results of intellectual creative activity, but create a single object; 3) the presence of such a mandatory element as a computer program; 4)

expressions in digital form; 5) virtually; 6) interactivity (Kotenko, 2013). Difficult is the nature of the relationship between the subjects of multimedia works, which include elements that are expressed differently: with texts, the interface coexists with video and audio clips, graphics. Most important in multimedia products is their ability to modify and exhibit a variety of performance-based on user actions that are often creative (Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions, 1996). Thus, the very nature of the programs under consideration, characterized by a combination of different sources, is a factor in the emergence of "cascading rights". In this case, collaboration on creating a multimedia product does not fall under the co-authorship, since the creative contribution and its character are different among the different contributors.

New objects of copyright are works of online art. Network Art (Net Art) is a new way of creating and operating artworks based on the use of networking technologies. The main purpose of the creation of such works is the focus on communication, communication with the audience, creative dialogue, drawing attention to their creativity.

### **3.3. Copyright and the Internet**

The Internet has now become a major means of disseminating diverse information globally. This information is transmitted by the Internet mainly in the form of works subject to copyright of any of the countries of the Berne Union, along with works entrusted in more traditional forms, subject to compliance with the criteria of protection established by the country's law, regardless of any formalities or fact of publication. The emergence of electronic libraries, which facilitate the access of society to the heritage of culture and science, has led to a sharp increase in the digitalization of copyright and related rights.

So, let us look at the features of copyright in technology and communications.

According to Part 1 of Art. 433 of the Civil Code of Ukraine objects of copyright are works, namely: 1) literary and artistic works, in particular: novels, poems, articles and other written works; lectures, speeches, sermons and other oral works; dramatic, musical-dramatic works, pantomimes, choreographic and other stage works; musical works (with or without text); audiovisual works; works of painting, architecture, sculpture and graphics; photographic works; works of applied arts; illustrations, maps, plans, sketches and plastic works relating to geography, topography, architecture or science; translations, adaptations, arrangements and other alterations of literary or artistic works; collections of works, if the selection or order of their components is the result of intellectual activity; 2) computer programs; 3) compilation of data (databases), if the selection or order of their components is the result of intellectual activity; 4) other works.

To be protected under copyright law, these works must meet certain criteria. First, they must be original in the legal sense, and second, they must be expressed in one objective or another.

Work is a set of ideas, opinions, images, scientific provisions, evaluations, conclusions, suggestions, etc. that emerged in the course of creative activity of the author and reflected in a certain objective form (Sarana, 2007).

Common to the works is that they arose as a result of creative activity or artistic expression of the author. The literature has suggested that there is a similarity between the concepts of "creativity" and "information" since they have a single factor built on the same institutions. Therefore, it is the emergence of the so-called information worldview, in which the concept of information occupies a central, prominent place, and the process of evolution is understood as a creative process, the essence of which is the accumulation of information (Budnyk, 2013).

In this context, creativity is the process of finding, processing, producing and transmitting information. Thus, a work of authorship is also information of a certain kind. This information is not tangible, but it is recorded on tangible media. Prior to the proliferation of digital recording and the Internet, people mainly dealt with works of science, literature, and art that are recorded on ordinary physical media. With the advent of the Web and the ability to digitize, all copyrights are divided into three large groups.

The first one includes those works in which the creative result is initially expressed in the information code and can be fixed on an infinite number of carriers and in their various types, which means a lack of communication with a specific carrier and carrier at all. This group includes literary works, musical works with and without text, audiovisual works, geographical and other maps, plans, phonograms, databases, etc.

The second group includes works that are expressed in the material thing and are inseparable from the physical medium. These are works of sculpture, arts, and crafts, architecture, landscape gardening, town planning, etc.

Finally, the third group of works consists of the results that were initially expressed in the information code, but the author intends to translate them into the material object or the natural form in the future. Such objects include dramatic or dramatic-musical, scripted works, choreographic works, works of architecture, landscape art etc. in the form of plans, drawings, models and more.

The works of the first and third groups are essentially not material things, do not depend on the material carrier and fully display the properties of information (Budnyk, 2013).

Thus, conversion to the information code or format of the objects of the first two groups occurs with the help of digitization technologies, and they practically lose nothing in the content component. Concerning the second group of objects, it should be noted that they can also be translated into the information system, however, during the conversion of material objects of copyright and related rights into the information code, the ability of their tactile, taste and other properties are lost. The communicative component of these objects, which is determined by the properties of translation and multiplicity, on the contrary, is greatly enhanced. This is made possible by the transition to the information system or cyberspace. The list of copyright and related rights that are protected includes objects designed for visual and auditory perception (Budnyk, 2013).

Digitization is a binary language using electronic means using binary characters 1 and 0, any message in the form of texts, words, sounds, static or moving images stored in the memory of computers can be transmitted to any computer, some other place, and then they are transformed into forms accessible to human perception (Kerever, 1998). The digital (or electronic) form has radically changed the stereotypes and perceptions of objectivity of the form of work, along with telecommunication technologies the digital form of works on the network becomes the ideal form for further development of science and culture, education and more. According to the statements on Art. 1 (4) of the WIPO Copyright Treaty and Art. 7, 11, 16 of the Treaty on performance and phonograms, the digitization process is identified with reproduction, and the Green Paper adopted by the EU Commission on 19.07.1995, which was taken into account when developing those Treaties, states that the term "reproduction" should be applied also in the case of digital technologies (Copyright and Related Rights in the Information Space: Green Paper adopted by the Commission of the European Community on 19.07.1995., n.d.).

However, information technology has not changed the concept of the objective form of the work qualitatively, since it is understood in an objective form such a form of the work, which ensures its existence separately from the creator and makes it accessible to others. Changed the quantitative composition of such forms, related to the possibilities of digitization. Although a comprehensive answer to the definition and understanding of the legal nature of the ability to digitize is not yet available, the digital form of existence of work has several positive features. In particular, the volume of digital recording is an order of magnitude greater on equal media; the use of a single binary language to transmit messages allows you to use any channel of information; Digitization allows you to make identical copies, since both the copy and the original are made using the same combination of binary characters and the like (Vashhynecz, 2006).

Digitalization and the emergence of virtual worlds have made copyright protection much more difficult, since they have made it possible to use works in the virtual world: radio stations in the virtual worlds often broadcast music without a license (Van Buskirk, 2006), you can see the full version of the movie in virtual homes, and text documents can be distributed internally. This applies not only to copyright, as it is also widely used in the virtual space of trademarks without proper permission. There are also virtual brands that are registered in the real world.

Photos and other motionless images on your computer screen (maps, charts, diagrams, etc.) are the second category of common works that are transmitted over the Internet. In doing so, these images may be created on the computer screen by special programs designed to facilitate human use of the computer itself (operating systems) and Internet services (web-browsing programs - browsers and other applications) or be posted on the Internet and have a computer-independent character. In the first case, the image on the screen is part of a computer program, its interface and is protected with the whole program, and in the second - the image is a digital photo and is protected as a normal photo (Berne Convention for the Protection of Literary and Artistic Works, 1990), or is the result of a digital photo, another two-dimensional (pictures, figure) or a three-

dimensional (sculpture, building) work and, if the criterion of originality, is protected as a work derived from them.

Musical works, both with and without text, are protected by copyright (Berne Convention for the Protection of Literary and Artistic Works, 1990). The concept of "musical work" should be distinguished from the concept of "phonogram". The latter is also the result of creative work, but secondary, the result of fixation in the material form of the former. The rights to a work of music belong to its author, to the performer - to the performer, and the phonogram - to its producer. In accordance with the provisions of the Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms of 1971, the phonogram is exclusively an audio recording of sounds (Convention for the Protection of the Interests of Phonogram Manufacturers from Unlawful Reproduction of their Phonograms of 10.29.1971, 1972). In the legislation of Ukraine, a phonogram implies a sound recording on a suitable medium (magnetic tape or magnetic disc, turntable, CD, etc.) of performance or any sounds other than sounds in the form of a record included in an audiovisual work (Article 1 of the Law Of Ukraine "On Copyright and Related Rights"). In accordance with the provisions of the WIPO Internet Treaties, authors, performers, and producers of phonograms have the exclusive right to authorize the reproduction of their works, performances, phonograms in the digital environment, as well as to access their works, performances, and phonograms. The right to authorize the reproduction of a work, performance, phonogram, videogram, speech program means the permission to produce one or more copies in any material form, as well as their recording for temporary or permanent storage in electronic (including digital), optical or other a form that can be read by a computer. Access is made public through wired and non-wired means of communication of works, performances, phonograms in such a way that members of the public can access them from anywhere and at any time of their choice. Thus, the legitimate use of copyright and related rights on the Internet requires permission from the subjects of the relevant rights.

Since in the age of information technology intellectual property is a major factor in economic development, given the cross-border nature of the Network, the territorial nature of intellectual property rights is at odds with the global world market and the global virtual space (Internet) (Leanovych, 2009).

The development of technical means has greatly simplified the use of various copyrights and related rights, including without the consent of the copyright holders, causing them considerable damage. This raises a conflict of interest between the right holders who are interested in giving them a broad monopoly on the use of creative, intellectual activity, and users who are interested in facilitating access to intellectual property rights and limiting the monopoly position of creators.

In order to reduce the monopolization of right holders and resolve conflicts of interest, the law introduces restrictions on intellectual property rights. In general terms, the concept of limitation of exclusive intellectual property rights is the allowed free use of the object of intellectual property, which does not require the consent of the rights holder and does not violate the law, provided that it does not harm the normal use of objects and does not interfere with the legitimate interests of the rights holder.

In addition, rights holders themselves limit their rights on the Web by issuing so-called free public licenses.

A free license is a license agreement, the terms of which contain a license from the rights holder to a specific list of ways to use his work, which give him many benefits. In order to be considered free, a license must permit: to use a work for any purpose, to research it, to make and distribute copies of a work, to make changes to works, to publish and to distribute such changed works.

The rights listed in a free license are generally granted to anyone in the world. Free licenses are usually perpetual (copyright term), worldwide, non-exclusive and irrevocable.

The emergence of free public licenses is also related to the movement for copyright restrictions (the so-called "copyleft" movement).

As Yuval Noah Harari points out, it may be time to decisively break with the past and develop a whole new narrative that will rise not only over the old gods and nations but also over the central modern values of freedom and equality? (Harari, 2018)

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## 4. Conclusions

Thus, summarizing the study, we can conclude that the new opportunities and new challenges facing humanity in the post-industrial era, requires a revision of the traditional understanding of property rights and the introduction into legal circulation of new legal categories, such as virtual



property, virtual property rights etc. It is time to revise the concept of intellectual property rights and their protection in the light of the growing role of information technology and information in general.

Therefore, as a result, we come to the conclusion that intellectual property is by its very nature virtual and, in this capacity, most organically adapted to the new world of information technology.

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[Index]

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