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The current state of copyright and intellectual property in the IT field

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Oleksandra S. Yavorska *

Vitaliy M. Kosovych **

Ihor Y. Boiko ***

Leonid L. Tarasenko ****

Iryna I. Shpuhanych *****

Abstract

Fast improvement of the IT field requires relevant safety of intellectual assets rights. The legal protection of laptop applications, software programs and foreign legal practices is a contentious issue. With the rapid development of the IT sector within the international context, the issues of copyright safety, patenting and non-disclosure of personal data have gained urgency. The research methodology involved the use of methods of analysis and synthesis, logical and system - structural analysis, control methods, structural and functional analysis in combination with the method of case study and the method of content analysis. The article comprehensively analyses the modern perspective of intellectual belongings proper and copyright in IT outsourcing. The scope of unconventional challenges in the sphere of copyright safety inside the area of IT sphere are exemplified using the case of Ukraine. The case addresses opportunities to enhance the regulatory framework for copyright safety of experts engaged in IT outsourcing. It is stressed that the existing legal procedures and methods are slower in responding to changes in the field of IT outsourcing than the world's quickest trends in this sphere.

* Doctor of Law, Professor, Head of the Department of Intellectual Property, Information and Corporate Law, Faculty of Law, Ivan Franko National University of Lviv, 79000, Lviv, Ukraine. ORCID ID: <https://orcid.org/0000-0002-6938-2057>

** Doctor of Law, Associate Professor, Head of the Department of Theory and Philosophy of Law, Faculty of Law, Ivan Franko National University of Lviv, 79000, Lviv, Ukraine. ORCID ID: <https://orcid.org/0000-0002-6551-2686>

*** Doctor of Law, Professor, Head of the Department of History of the State, Law and Political Law Teachings, Faculty of Law, Ivan Franko National University of Lviv, 79000, Lviv, Ukraine. ORCID ID: <https://orcid.org/0000-0003-1377-2328>

**** PhD in Law, Associate Professor, Department of Intellectual Property, Information and Corporate Law, Faculty of Law, Ivan Franko National University of Lviv, 79000, Lviv, Ukraine. ORCID ID: <https://orcid.org/0000-0003-4359-8965>

***** PhD in Law, Associate Professor, Department of Intellectual Property, Information and Corporate Law, Faculty of Law, Ivan Franko National University of Lviv, 79000, Lviv, Ukraine. ORCID ID: <https://orcid.org/0000-0002-4149-8939>

Keywords: IT outsourcing; copyright protection; IT market, IT services; intellectual property.

El estado actual de los derechos de autor y la propiedad intelectual en el campo de las tecnologías de la información

Resumen

Con el desarrollo del sector de las tecnologías de la información TI en el contexto internacional, las cuestiones de la seguridad de los derechos de autor, las patentes y la no divulgación de datos personales han ganado urgencia. La metodología de investigación implicó el uso de métodos de análisis y síntesis, análisis lógico y estructural de sistemas, métodos de control, análisis estructural y funcional en combinación con el método de estudio de caso y el análisis de contenido. El artículo analiza exhaustivamente la perspectiva moderna de la propiedad intelectual y los derechos de autor en la subcontratación de TI. El alcance de los desafíos no convencionales en el ámbito de la seguridad de los derechos de autor dentro del ámbito de la esfera de las tecnologías de la información se ejemplifica utilizando el caso de Ucrania. Además, el trabajo aborda oportunidades para mejorar el marco regulatorio para la seguridad de los derechos de autor de los expertos involucrados en la subcontratación de TI. A modo de conclusión se destaca que los procedimientos y métodos legales existentes responden más lentamente a los cambios en el campo de la subcontratación de TI que las tendencias más rápidas del mundo en esta esfera.

Palabras Clave: outsourcing de TI; protección del derecho de autor; mercado de TI, servicios de TI; propiedad intelectual.

Introduction

An important aspect in the IT industry is the transfer of intellectual property rights from the developer to the purchaser. Within the framework of IT, highbrow assets present a relevant issue to be highlighted. With the speedy improvement of the IT sector on the global scale, we encounter, on the one hand, a big call for offerings within the subject of IT outsourcing, and on the other hand, increasingly unresolved issues associated with copyright safety in this sphere.

The huge economic losses of British Airways in May 2017 due to mistakes made by the IT Department caused many CEOs to rethink their attitude to digital technology in their companies. More than 1,500 flights were cancelled for two days. The problems were brought by IT services and British Airways' efforts to reduce expenditures by following the advice of outsourced Indian IT firm Tata Consultancy Services.

The experienced IT outsourcing businesses usually are expecting the results of positive enterprise decisions and conduct thorough audits. Given the fast growth of the IT outsourcing market, every other urgent issue nowadays is the problem of copyright protection.

The first computer systems and prototypes of computers appeared in the middle of the 20th century, and there were so few that the applications were customized. There was no point in copying them and no need to protect them by copyright. However, overtime statistics data generation has come to be an indispensable part of everyday life, the difficulty of protecting the rights to laptop programs and copyrighted content material came to the foreground.

A computer program is protected by copyright as a literary work within the meaning of Article 2 of the Berne Convention for the Protection of Literary and Artistic Works. In contrast to patent law, copyright in a work has no territorial regulations and applies in all countries which signed the Berne convention without any formalities and has the longest time period of criminal safety. Second, formally a PC software is a textual content written by programmers and such it is like a literary work.

There are numerous options for the safety of a laptop software, and the choice relies upon the scope of its use and the functions of protection. As an instance, with regards to selling software, general regulations stipulate that the source code of a PC program is included as a copyright item as opposed to illegal copying. But if the device that operates on the premise of authentic software program is marketed, it will be more suitable to gain a patent for the invention. In America, it is expedient to guard a laptop application as an invention if it is a part of an object in the world wide web. Provided that each of the standards for obtaining a patent is met, the principle, method, algorithm of the software program may be submitted for registration. The principal advantage of patenting is that it is not the expression of this system in a reliable programming language, but its realistic implementation and the underlying idea.

Ukraine is fighting against the problem of copyright protection for software products. It should be noted that in 2019 Ukraine took a leading position in the ranking of nations that are most likely to violate the rights to intellectual assets. As in the case of Microsoft, there also are almost 85% of products manufactured with the help thereof and used by Ukrainian authorities in 2018.

The findings of the studies addressing IT outsourcing development problems in Ukraine are covered in the works of domestic researchers: Chizhov (2016), Koval (2019), Yaremchuk and Kolomiets (2015), etc. The complexity of IT packages and software for the protection of intellectual property and copyright to enhance the applicable countrywide mechanism, the relevant advice for Ukraine's integration strategy are the fundamental principles for the implementation of European integration intentions of Ukraine. The fast improvement of the sphere requires genuine interest to the accurate protection of intellectual assets rights to those products. The issue of global protection of computer programs, software and related products remains topical (Data Unit City, 2019).

Chen *et al.* (2017) are convinced that the ever-increasing complexity of the IT tasks performed by an outsourcing company should be associated with a more comprehensive exchange of intellectual property rights with suppliers. Outsourcing providers are more likely to gain know-how redistribution rights if they conclude agreements for super innovative software development projects. Another group of scholars, Hafidi *et al.* (2017), believe that the most important thing in the provision of services is the correctness of drafting contractor's agreements, copyright issues are not relevant enough for them.

According to Ramasubbu and Kemerer (2021), for modern IT outsourcing companies, violation of established standards in the development and subsequent maintenance of corporate systems causes information asymmetry between customers and suppliers. Conversely, balanced manipulation, i. e. periodic adjustment of outsourcing assignment management configurations facilitates mitigation of statistics asymmetry shortcomings. Mazzola *et al.* (2018) emphasize that the challenges associated with technical problems in the later stages of the innovation process are positively related to the growing importance of copyright protection. Traditional content of IT structures is usually no longer associated with a big role of copyright protection. Kotlarsky *et al.* (2018) emphasize the pace of technology changes, thus affecting society. This results in new ways of handling the relationships with suppliers and a deeper understanding of a variety of things. The researcher raises, but does not resolve, the issue of copyright in the sphere of information technology. In their work, Hergueux and Jemielniak (2019) emphasize that in the public sector (including the judiciary and academia), specialists are even more tolerant of online copyright infringement than those in the private sector. Scholars noted the consequences of the copyright reform debate for the country at present, but do not answer all questions. We hold that this subject matter is given sufficient attention in the scholarly publications.

The objective of this review is to address in more detail the challenges of copyright and IT outsourcing, involving interview techniques for managers

of IT companies, attempting to identify recommendations for enhancing regulatory protection of copyright inside the area of IT on the example of Ukraine.

Of course, each creator or rightful owner desires to guard their copyright from infringement to the maximum feasible extent. However, this isn't so easy to do within the Ukrainian context, as the mechanisms for protective and preventing piracy in Ukraine are far from being perfect. Similar to the sale and replication of counterfeit software program, the distribution of software program merchandise over the net is tremendous these days, entailing serious problems in resolving the copyright infringements. The highest court of intellectual belongings is presently starting its operation in Ukraine. It has no longer yet furnished enough case-law for scientific analysis. However, in any case, the life of a specialized court docket in this area is a tremendous and serious step for Ukraine. This demonstrates the relevance of the safety of intellectual property rights, along with the subject of IT (therefore, it is suggested in the article to take a closer look at assessing the case of Ukraine).

1. Methods and Materials

The study method is concerned with the usage of a number of research tools in a logical succession.

The research method draws on the premise of a conceptual evaluation of the issues covered in the article. This allowed figuring out the functionality of IT services and analyzing them on the domestic and global markets. This technique received primary importance with the help of applying the relevant state-of-the-art scientific methods, In particular: analysis and synthesis, generalization, logical and well-established gadget evaluation, management methods, experimental assessment and others were used. Structural and focused, combined with the case study technique (which is a specific author's approach) was used within the framework of observing Ukraine's experience of IT outsourcing and IT offerings as a separate case in the international context of analyzing this issue. The method of content material analysis was applied while considering the criminal offences.

The next level of the research technique was the use of qualitative sociological strategies and quantitative techniques of statistical facts evaluation, collection of empirical information in order to characterize the problematic scenario within the field of copyright safety in IT outsourcing.

Strategies of high-quality processing records (records of IT professionals and the services they provide, special classification methods, differentiation of issues in the field of copyright protection) were completely grounded on certain characteristics of the IT sphere in the case of Ukraine.

The author made ample use of empirical study method that allowed obtaining scientific facts in the IT outsourcing commentary route; analysis of the home and global market; experiment and forecasting of the IT services growth, awareness of specialists as regards copyright protection. Qualitative methodology of sociological surveys using focused in-depth interviews was used. This method allowed obtaining a wide range of opinions to problematize issues related to the research topic. Focused in-depth interviews resulted in transcripts of 10 in-depth interviews.

This method involved individual meetings with representatives of certain target groups (namely: medium-level managers of companies that provide services in the field of IT outsourcing – heads of departments, divisions, units) to study their attitudes to current issues of copyright protection in Ukraine in the field of IT. This interview was conducted using open-ended questions and was not clearly structured. At the same time, it allowed to reveal the deep attitude of the target audience to the problematic issues, to hear real thoughts, ideas, views of the respondents.

The procedure for arranging and conducting an in-depth interview included the following stages: designing an in-depth interview plan for each of the identified target groups; the process of planning and preparing for the interview; organizing and conducting interviews; processing and analysis of transcripts; preparation of the report.

The main criteria for selecting respondents for in-depth interviews were as follows: 1) belonging to one of the target groups; 2) the ability to provide quality and reliable information on problematic issues of copyright protection in the field of IT outsourcing in Ukraine (based on the results of a previous interview); 3) maintaining the balance of the geographical sample in the selection of participants – the emphasis was on the cities of Ukraine with a population of over one million.

The guiding questions were used while conducting the interviews, including open-ended questions, techniques that helped to reduce emotional tension, establish friendly and partnership relations with respondents, techniques that stimulated the answers or “cut off” side topics that did not relate to the study. There were 3 people trained as interviewers.

2. Results

The Ukrainian IT market shows consistent growth from year to year. In line with an evaluation by way of the international agency percent, the IT market in the entire country market has accelerated 2.5 times. In 2011-2020, it increased by 150%, and is expected to reach \$ 5.7 billion in 2021 (Figure 1). At the same time, 80% of medium-level managers of

IT outsourcing companies in Ukraine interviewed by the author reported insufficient protection of copyright in IT outsourcing as “very important” and “important” problem.

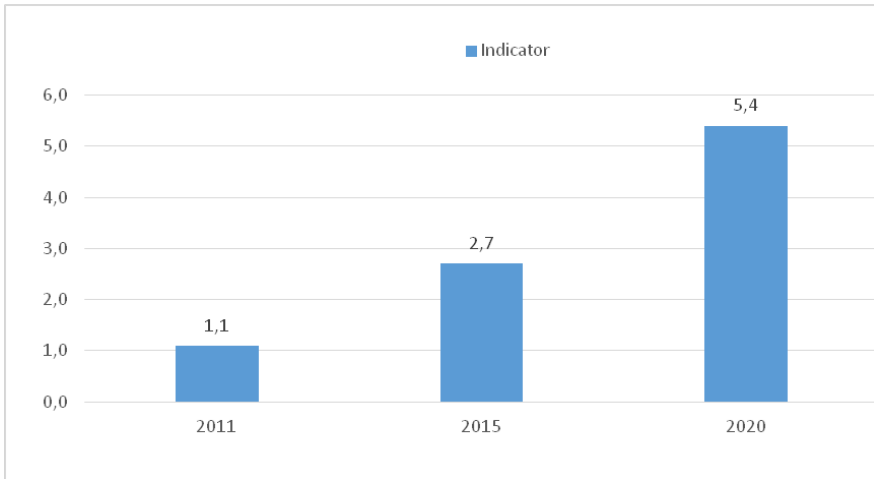


Figure 1: Increase of IT market for 2011-2020

Ukraine is a European leader in the variety of outsourcing agencies. According to Ukrainian experts, 90% of our IT specialists work based on outsourcing and are not developers of their own IT products (Data Unit City, 2019). In the second half of February 2020, the domestic press actively discussed the news that of the 100 best providers of outsourcing services in the world, which were carefully selected by the International Association of Outsourcing Professionals (IAOP) for its annual Global Outsourcing 100 (GO100), 18 places were taken this year by companies with RandD offices in Ukraine (International Association of Outsourcing Professionals, 2020; UNESCO, 2020).

They include 12 Ukrainian employers and six “legionnaires” – global agencies which have their personal development centers in Ukraine. The Ukrainian IT outsourcing industry maintains its position in the global market. Ukrainian providers have already managed to prove themselves as ones of the most socially responsible and, exceptionally, to ensure an overwhelming success. On their initiatives, 94% of customers are satisfied with the Ukrainian level of service, whilst this figure is only 84% with the big foreign businesses. This is determined, in particular, by the fact that 72% of Ukrainian providers are actively engaged in innovation.

In Ukraine, the IT industry ranks second on the market (3% of GDP) and brought in about \$5 billion in 2020. That is just the beginning: the quantity on the Ukrainian market will increase, 10% of the United States of America's gross domestic product will reach \$ 10 billion. IT groups lack criminal experts to protect copyright and propose on legislation. Export of PC technology is turning into one of the predominant sources of sales in Ukraine. According to the macroeconomic studies of the IT Committee of EVA and Pricewaterhouse Coopers, which are subject to a positive scenario of the computer industry in the top countries, the volume of exported information technology could double and attract more than UAH 27 billion to the state budget (Deloitte, 2016).

There were many IT groups in Ukraine that could compete within the world market, but the development of the computer era market is limited by a range of factors, consisting of the risky political and economic situation — existing customers are able to place orders in neighbouring Poland, while actively hiring Ukrainian specialists and offering difficult working conditions and low wages. The second reason is that it's far tougher to attract new clients.

Developing markets in neighbouring countries are making an investment into a whole lot of assets to promote their IT services on the global market. Poland (22% growth), Belarus (12% gain) and Romania (19% increase) are key competing nations. The third reason is that the number of IT experts of the professional stage is reducing. According to average estimates in other countries for 2019-2020, there were about 5,000 specialists, many of whom have a high qualification level (Deloitte, 2016).

Experts are simultaneously working on these issues in several areas. The first problem is incentives for the improvement of the IT industry. In the end, it ought to become the part of the enterprise's improvement strategy. At the same time, tax policy must be consistent and predictable for 5 -10 years. The second problem is the reform of IT education: technology is developing faster than schooling at the colleges, so the curricula should be well tailored to new realities for preparing exceptionally professional IT specialists.

The third problem that's important to be addressed for the safety of intellectual belongings rights is that IT specialists ought to develop the cutting-edge programs to efficiently sell them overseas. Therefore, the safety and respect of highbrow property rights should be one of the vital concerns on the agenda of cooperation between IT agencies and the public.

The extent of offerings inside the IT market multiplied during 2011-2020. In accord with industry forecasts, Ukraine has been estimated to have about 240,000 IT professionals as of 2021. Such speedy growth is explained with the help of the prestige and dynamism of the IT sector in

Ukraine. There are also certain advantages in terms of working conditions: in most offices, advanced technology and a flexible work schedule are available (Table 1).

Table 1. Dynamics of volumes and growth rates of the global IT outsourcing market, 2015–2021 (based on International Association of Outsourcing Professionals (2020)).

Year	Outsourcing market volume, billion \$	% to the previous year
2015	369.3	-5.1%
2016	370.9	2.4%
2017	386.5	3.8%
2018	394.4	4.0%
2019	404.1	4.5%
2020	415.3	5.4%
2021	426.4	5.7%

The increase in the growth rate of IT outsourcing is due to the restoration of the business segment of the market. In 2019 – 2021, the global IT outsourcing market has shown high dynamics due to favorable monetary conditions. During this period, the IT outsourcing market was taken into consideration as one of the quickest growing and promising segments of the IT services market. Next, we present the diagram of the global market for IT offers by segments (Figure 2).

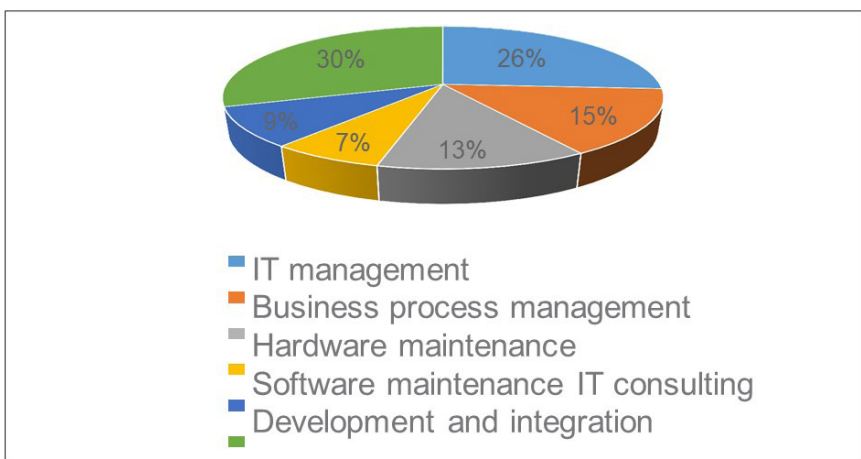


Figure 2: Structure of the global market of IT services by segments, 2020, % (based on International Association of Outsourcing Professionals (2020)).

In 2020, a large share of IT services was provided in the field of development and integration – 30% of the total market. Help and upkeep of hardware and software program in 2020 gave 20% of the market for IT services. Enterprise process control segments accounted for 26% and 15% of the market, respectively. In 2020, net outsourcing accounted for more than a quarter of the global IT market offerings.

The Indian IT market attracts companies around the arena with low value and a large quantity of software builders. As of 2019, the market price of Indian IT offerings has approached the United States with its 2.75 million neighborhood software improvement professionals (the USA has approximately 3.5 million developers). At the end of the previous year, the Indian industry employed approximately 5 million professionals.

The comparison of the Ukrainian and Polish markets of IT services makes it clear that according to the latest indicators, Ukraine is lagging behind in the development of IT outsourcing but is equated to developed countries (Table 2).

Table 2. Comparative characteristics of the Ukrainian and Polish markets of IT services (based on International Association of Outsourcing Professionals (2020))

Indicator	Ukraine	Poland
Number of developers	166,000	160,000
Number of IT companies	11,932	60,700
The cost of the industry	\$ 1.256 billion	\$9.457 billion
The focus market	USA	Western Europe
The average cost of software development	\$25-149 per hour for the development of applications	\$40-77 per hour
Number of new IT specialists	+ 27,000	+15,000
English language proficiency	40% of specialists	90% of specialists
The first three programming languages	Java, JavaScript, C#	PHP, JavaScript, RUBY

Having compared the data of the Ukrainian and Polish markets of IT services, it can be argued that Poland, in terms of aggressive education and migration policy, has every chance to become a leader not only in IT but also in other areas. Poland has already taken up the global struggle for talents. Unfortunately, Ukraine is still out of this process (Business.ua, 2019). The level of Polish programmers is no worse than Ukrainian programmers in terms of price or quality of work. Our domestic IT products are similar to Estonian in their innovations and results. Of course, it is inappropriate to

compare Estonia with Ukraine, which is 6 times larger in territory and 30 times larger in population. Ukrainian IT companies have revenues of \$ 3.6 billion, and India earns \$ 150 billion, ranking 1st in the Global Services Location Index with a huge number of young specialists (A.T. Kearney Global Services, 2019).

In 2021, international analytical forecasts are quite positive. The principal driving force of marketplace development will be 'cloud' technology. In keeping with forecasts, approximately 80% of corporations will function within the "clouds" for approximately 5 years. This opens up a lot of possibilities for remote work, including overseas contractors and connecting them to the control and coordination of all activities. Artificial intelligence is increasingly gaining popularity. At the same time, many specialists have to broaden individual solutions.

Presently, the development of cybersecurity isn't always a legally fast technological solution. It's essential to have additional experts within the corporation of effective records protection. Similarly, the connection among outsourcing agencies and customers will alter in future. These aren't any striking statistics yet, but rather better work ethics and the rising relevance of professional abilities that have been evaluated in recent years. Organizations have begun to recognize the importance of outsourcing business, and this means that there's big room for development.

Currently, there are more than 140,000 programmers in Ukraine, and this range is growing approximately 20% due to the influx of programmers recently who form a strong innovative enterprise. Our domestic intellectual ability and the advent of innovations create a new perception. IT enterprise in Ukraine is progressively turning into consulting in the area of services. IT creates additional jobs in the related industries (the programmer creates two or four extra jobs). The state budget revenues for 2018 - 2020 increased annually by 27% and reached UAH 4.1 billion (Businessviews, 2017).

A great proportion of taxes paid by IT businesses has increased because of the considerable amount of salaries of IT specialists (as of 2020, the legal profits in the IT field became 69% higher than the countrywide average).

Among the primary constraints to the improvement of the IT enterprise in Ukraine is the lack of regular payment of taxes; low safety of intellectual property rights of IT specialists; unstable development of the IT business, in addition to weak investor safety at the legislative stage. Every other feature proves that the IT market industry is difficult to investigate due to the lifestyle in Ukraine of particularly quasi-product companies, whilst the organization's headquarters and market are placed overseas, and the manufacturing itself – in Ukraine.

The evaluation of the facts in the field of IT revealed the principal issues associated with the improvement of methodological techniques and the formation of the market of IT services in Ukraine:

- a) restrained set of statistics at the IT market (together with problems in collecting information to investigate the scenario of copyright infringement inside the IT subject), the duties inside the IT region are not tailored to global standards.
- b) methodological issues related to the development of statistical analysis of the application of IT technologies in numerous fields according to international practice have now not been developed.
- c) there is a need for continuous tracking of the IT area, which helps the consistent implementation of the national software for the improvement of ICT.

The role of the IT market and IT technologies is constantly growing, but Ukrainian researchers poorly study the ICT exports, which is in some way related to copyright. After all, the volume of the domestic market of IT products is the most important economic indicator that shows our development of IT in relation to other countries and their indicators. The IT sphere has a significant potential to attract educated young people aged 22-33, which has a positive effect on the formation of the middle class.

The object of copyright safety inside the IT discipline are specially PC programs (software program), it can additionally be part of a PC software (if it can be used independently), layout materials acquired in the course of the improvement of a laptop software however now not included in it, different kinds of objects disguised in the laptop software (audio-video materials, images). Generally, copyright safety applies to all styles of laptop packages that can be expressed in any language, including supply code and item code. It ought to be remembered that new ideas, software algorithms, innovations used to expand this system aren't disguised by means of copyright.

Copyright may be divided into categories: non-public non-property rights and assets rights. Non-public non-assets rights include the author's right to a name, the property to post, which cannot be transferred to others in any way. Personal non-property rights belong to the author. The author is a person who created the PC application. Only the author can allow other people to use the work: publish the program; remodel, adapt and make modifications; use part of an application or its element to another program; distribute (through sale, lease, subscription, etc.); import copies.

Property rights (the right to apply, distribute, alienate) can be transferred (for instance, under a license agreement, under a software improvement settlement). Property rights may be transferred by using the author to any other character(s) (individuals and criminal groups).

Under the license settlement, one party — the right holder (licensor) — grants the other party — the user (licensee) — the permission to use the item of copyright. The license may be extraordinary or non-special. Under

the special license agreement, the licensor has the right to apply the item of copyright effectively within the manner and within the scope supplied by means of the agreement. In this case, the right holder (licensor) has no right to use and allow other people to apply this copyright item within the part provided to the licensee.

Under a license agreement other than a non-one kind (easy license), the proper holder (licensor) presents the licensee the right to apply the item of copyright whilst maintaining the proper to apply the object of copyright and the proper to oppose a license to other people. The license settlement ought to specify the following obligatory conditions: the item of copyright in recognition of which the use is authorized; remuneration transferred below the license settlement, or the situation of loose settlement; license type; license validity duration; the authorized territory for the use of the item of copyright.

A copyright settlement is a form of license settlement, applicable inside the copyright agreement the author of the item is the licensor. Under the mission settlement for the special proper to the object of copyright, one party (the right holder) alienates the one-of-a-kind property to the object of copyright in full to the other party. The mission settlement must contain a circumstance on the quantity of remuneration or on the technique for its determination, or an instantaneous indication of being free.

In the IT sphere, the realization of an agreement for the improvement of laptop programs is common (in line with the effects of the writer's survey of managers of IT outsourcing agencies, this is 70% of all agreements). This agreement governs copyright issues. The developer is a legal entity in the event of agreements for the creation of computer programs. These are mixed contracts which could include the following factors of contractor's agreement (appearing work to create a computer software, its installation and edition); carrier agreement (training the customer's personnel on the use of the advanced laptop software, provision of consulting offerings); license settlement or project agreement (in terms of transfer of unique rights to use the created computer application to the client). Therefore, such contracts need to incorporate all the vital situations for each of the abovementioned forms of agreements. In such agreements it is necessary to specify the scope of the contract, in addition to the technical characteristics of the developed program.

Most often, Ukrainian entities are not organizations in their classical sense, however marketers who work under a civil agreement. The transfer of intellectual property rights is one of the most important aspects of such an agreement. According to Ukraine's Copyright and Related Rights Law, Art. 31 (Verkhovna Rada of Ukraine, 1993), property rights transferred under a copyright agreement must be defined in it. Property rights not specified in the copyright agreement as alienable are taken into consideration are not transferred.

This means that the phrase within the agreement “all intellectual property rights belong to the purchaser” has no practical meaning. Because Ukrainian developers frequently work for European or American clients, it is critical to specify the extent of rights and the law under which they are transferred. For instance, non-public non-assets rights cannot be *a priori* alienated in Ukraine. In this example, the scope of rights that may be transferred under the regulation and which the purchaser desires to receive is compared, the full scope will be listed in the settlement, but it is possible to provide a reservation that an indefinite license can be issued for the rights that cannot be transferred, or a responsibility not to assert such rights to the consumer’s detriment.

It’s important to collect all copyrights from each developer in the company, and only then transfer them to the consumer. Switching copyright clause also can be used as a mechanism to manage the client. For example, it can be stipulated that each intellectual assets rights may be transferred only after complete payment of the supplier.

As part of copyright activity, there may be a method for identifying complex nature of a video game, which includes a PC application, a literary work, and an audiovisual picture.

On the market of computer video games, a very commonplace phenomenon is copycat games — those are clone games that are very just like each other and the average consumer cannot distinguish them. They typically create a “twin” of the famous arena for the countrywide market. For instance, in 2013, Wargaming filed a copyright lawsuit to Chinese developers Chang you and Games, who created a twin of globally well-known Tanks. The maximum exciting aspect is that the plagiarists not only copied the sport space, plot, dialogues, also reproduced all the historical inaccuracies and fictional tanks in their game.

There is an exception for the concept of “*scenes à faire*”, in keeping with which there are obligatory elements for certain genres. For example, if the studio creates a computer recreation approximately the world of myth, it’s going to make sure to have orcs, elves, gnomes, to have certain traits which might be repeated by means of different agencies.

To counter infringers within the U.S., direct claims can be filed, or infringing content material can block the use of the take down notice technique. This device is provided via US regulation, namely the digital Millennium Copyright Act (DMCA). It increases the duty for copyright infringement inside the virtual age, and additionally permits to speedy eliminate irrelevant content material without going to court. Under this system, the issuer shall, upon the right holder’s demand, in keeping with the DMCA, remove the infringing object by using notifying the individual that published it if you want to avoid legal responsibility, or in case of refusal

shall be responsible for infringement. If the internet site does no longer have a DMCA utility form, a demand about copyright infringement may be filed with the sellers that ensure the operation of this internet site at the net.

With the help of intellectual assets, you may consolidate leadership in the market and gain user loyalty. Informing customers that the product contains copyrighted materials reflects well on the firm and is a big competitive advantage.

During an in-depth interview with managers of IT outsourcing organizations, we identified the following most common examples of copyright infringement. These are actions committed without a relevant agreement (authority), which gives the right to commit them, namely: making a copy and transferring it to a third party (both paid and free of charge); processing; reproduction of a computer program; dissection (hacking) of the program security, etc.

The performance of these acts by people who do not have rights to the program permits the program's owners to seek protection for their rights that have been infringed. To defend their violated rights, the proper holder can also: apply to a notary to attract up a protocol of overview of written evidence to record the offense. This can be appropriate if there may be a need to report copyright infringement on the internet; ship a claim to the perpetrator; record a copyright infringement file with law enforcement agencies.

Relying on the character of the copyright infringement, the right holder has the right to call for the following: cessation of actions that infringe the proper or create a hazard of its infringement; restoration of the scenario that existed earlier than the infringement (for instance, elimination of adjustments made in a laptop software without the consent of the copyright holder); reimbursement for non-pecuniary damage (best an character can declare it); compensation for damages or fee of reimbursement; seizure of items by using which the unique property is violated, and material objects created as a result of such violation. However, only every second manager of IT outsourcing companies in Ukraine we interviewed was able to name most of the actions they can take from the list below. This indicates a low legal awareness of IT outsourcing specialists in the field of copyright in Ukraine.

3. Discussion

Yaremchuk and Kolomiets (2015) believe that the legal protection and protection of computer programs in the legal practice of foreign countries is a controversial issue.

That is due to the truth that the prevailing mechanisms and methods of legal law are slower to reply to modifications associated with rapidly growing volumes of software program improvement.

The problem of copyright and related rights is regulated the law of Ukraine on Copyright and Related Rights. In keeping with this regulation, the non-public assets proper is difficult to protect – copyright and rights of contractors, producers of phonograms, broadcasting organizations, which might be related rights. The regulation stipulates that software program, creation of websites, databases is recognized as works inside the area of technological know-how, literature and artwork which have a scientific-and-technical, technical, or different nature. This means that the finished software product is covered by way of regulation as a literary work. However, this does not apply to the technological manner of statistics processing, the algorithm itself, that's frequently a critical made of intellectual interest. This is a practice is applicable not only in Ukraine, but all over the world (Verkhovna Rada of Ukraine, 1993).

Chizhov (2016) suggested that it is necessary to consider the industrial process approach to software development, which requires clear and complete protection of these products. The level of software copyright safety ought to correspond to the complexity of making this type of product. The very concept, technique or method of a product have to be protected in a well-timed manner (due to the fast lifestyles cycle of this type of product).

In our opinion, all thoughts may be covered not simplest as a form of expression, but also as inventions of products or software fashions, a technical solution, that should solve any hassle. According to The Law of Ukraine on Copyright and Related Rights (Verkhovna Rada of Ukraine, 1993), copyrights are divided into personal non-property and property rights.

Personal non-property rights include, among other things, the right to demand that the work's integrity be preserved and to resist any distortion or other change of the work, as well as any other infringement on the work that would harm the author's honor and reputation. For example, a programmer created an authentic script this is used on web sites to create the illusion of moving slides, after which saw the same animation on every other internet site that promotes terrorism. This will damage the dignity and popularity of the writer.

In keeping with Ukrainian regulation, most effective a man or woman may be the holder of private non-belongings rights, and that they cannot be alienated. Inside the USA, the situation is particularly special. Those (moral) rights have been identified recently, and special regulations governing their felony safety have not yet been advanced. As a result, copyright in the United States only covers the property aspect of the work; but, when the

author's property rights to the work are alienated, he may decline to include his name when the work is used.

The assets rights of the author consist of an exclusive right to use the paintings; a unique right to authorize or prohibit using the work via different humans.

It is important to highlight that only the author can be the original subject to whom the copyright belongs, although the rights might be held by a legal body.

As for the validity period, private non-belongings rights are indefinite, whilst assets rights are constrained in time. In Ukraine, non-public assets rights are valid at some point of the life of the writer and 70 years after his death, however in different countries this time can be exclusive.

In case your software is so modern that it has no analogues at the time of guide, it makes sense to test whether or not it can be patented.

Since that the patent presents a monopoly at the manufacture and sale of such programs from experts, it is hard to obtain, it has a shorter safety length and it have to be cautiously prepared for state registration. A patent to an invention that comprise a software program and a software copyright are specific cases. You may be the holder of a copyright of this system and/or the patent holder, both concurrently and one after the other. As a preferred mode, copyright protects a certain embodiment of a certain idea (as an instance, a set of rules written in code). If you want to protect a particular technical solution that underlies the software, it is expedient to do so through a patent. The patent comes into action upon country registration and is restrained by way of the country of registration. Copyright arises routinely from the moment the idea is implemented in a greater or less fixed form, without the need for country of registration.

Unlike patent regulation, copyright arises from the moment a piece is created and does now not require any formalities of registration. Registration of a work is performed in Ukraine and in other countries. The author's certificate confirms that the object was created on a certain date, and is also a good cause to apply to court in case of violation of rights.

For example, copyright registration also exists within the USA it is executed by using a state body – the Copyright workplace as part of the Library of Congress. They sign both published and unpublished paintings, however, not like the registration of literary works, the PC software is going through a positive process in particular to verify area of expertise: whether or not the source code submitted for copyright registration includes elements of other rights holders. It's believed that through depositing you've got automatically notified every person of your copyright, and in case of violation it will likely be less complicated with the intention to protect your

function in court. It must be taken into account that by way of depositing this system in the Library of Congress, you are making the supply code public, however it is also feasible to put the source code for registration by means of hiding some records that contain a trade secret.

According to The Law of Ukraine on Copyright and Related Rights (Article 21), there are several ways to use the work without the consent of the copyright holder, but with mandatory reference to the author's name and source (Verkhovna Rada of Ukraine, 1993). There could be amendments to the code to execute certain technical works, making a duplicate for archival purposes or to replace the legally obtained uniqueness in case of failure of utilization or loss. Such techniques also include observing the software for scientific purposes.

Any country that is a signatory to the Berne Agreement can benefit from copyright protection. Ukraine, like most countries in the world, is a member to this agreement. However, granting patents for PC applications isn't a cutting-edge practice in Ukraine. The Civil Code of Ukraine presents the safety of laptop packages as literary works, and the law of Ukraine "On safety of Rights to inventions and utility fashions" no longer specifies anything about the patentability of software program. Consequently, it's the software program copyright this is specifically disguised.

It is frequently possible to guard software that is used in the agency and was developed independently to keep change secret. Most outsourcing agencies in Ukraine are non-citizens of Ukraine. They provide their personnel to signal a non-disclosure settlement (NDA), that's drawn up according with the regulation of the USA of a in which those groups are registered. In view of this, the NDAs may additionally contain provisions that are not simply peculiar for Ukrainian law, but which are invalid in any respect, that is those who cannot be implemented in Ukraine.

In our opinion, for cases where there may be no choice to transfer the right, the NDA could be a method to protect copyright. The usual method under the NDA practices is the "automated" transfer of rights to the created software program to the organization.

The developer can assign copyright to the following items: software; personal factors of the system; pictures on display presentations; menu and person interface layouts; databases; command lines.

Programming languages and targeted codecs, as well as the codecs for recording documents, are do not present a problem to copyright safety (as evidenced through the choice in the case of SAS Institute Inc. vs global Programming Ltd. (C-406/10). As already mentioned, copyright arises automatically through the appearance of the work itself. Any registration, printing of the code or transfer to the depository is the most expedient consequence of the authorship and does not necessarily entail an obligatory

situation. In Ukraine, registration of a software in a high-level asset department basically requires a record on a tangible instrument. However, copyright isn't always tied to the time the computer application that is provided on paper.

In Ukraine, illegal storage of a copy of a PC program in computer memory is a violation of copyright property. But in Ukraine, judges hardly ever have a look at copies of PC applications. Properly certified experts generally cope with it at the request of a party and/or by a court order. This is not an unusual legislative practice in Ukraine to limit the ability to create the multiple copies of software program for private use, since it is allowed for copies of books or paintings.

Copyright does not shield thoughts of: the introduction of a program that performs the identical function as a formerly launched comparable software, without different "suspicious" factors, have to no longer be taken into consideration an infringement of intellectual property rights.

Having analyzed the records obtained, we are able to make the subsequent generalizations. In present day Ukraine, the hassle of copyright safety within the IT discipline remains very pressing. In 2016, Ukraine still ranked 4th many of the pinnacle 10 nations for the usage of pirated web sites. The Ukrainian authorities is trying to implement sure measures, but Ukrainians are still seeking out opportunity ways now not to pay for content and software. A unique cyberpolice unit has been installation in Ukraine to cope with these problems. Best while the hassle of protection of intellectual belongings rights is solved in Ukraine it is going to be feasible to anticipate investments and the preference to increase intellectually in-depth spheres. Ukrainian IT experts ought to be assured of their copyright when working on their new projects.

Conclusion

Laptop applications are disguised as literary works. However, this does not allow to fully protect technical solutions, algorithms and ideas, venture designs, information about the programs that are being developed. In this case, the answer can be the trade secret of security procedure. Additional measures need to be taken to ensure the security in Ukraine, there is the best operating mechanism for including the said information into the listing of records constituting an industrial mystery. Further measures should be taken to ensure the confidentiality of these facts (identifying who will get right of access, concluding non-disclosure agreements with developers in relation to change secrets, improving the guidelines for sharing secrets and techniques). It is possible to register the name of the computer software as a trademark. The software product's legal protection will be strengthened

because of this. In this situation, a registered brand of the Windows operating system can be an example.

The reality and moment of introduction of the PC program may be registered. The registration of a PC software may be one of the proofs that the laptop software existed at that time, and the author of the program was the man or woman indicated in the registration certificates.

Further improvement of IT outsourcing in Ukraine is feasible provided the assistance of the inner market, strengthening of the regulatory mechanism of public administration within the discipline of intellectual property protection, granting proper rights to customers, improving a reasonably good tax structure and relevant rules for IT enterprise.

The analysis of copyright protection in Ukraine should pay more attention to the shortcomings of security mechanisms for PC packages. Implementation of copyright protection for PC packages with individual patent elements must be properly exercised. The Law of Ukraine on Copyright and Related Rights (Verkhovna Rada of Ukraine, 1993) should be detailed. An essential element of ensuring copyright in Ukraine in IT outsourcing can be the adoption of a special law “On Protection of Rights to Computer Programs”. In such documents it is vital to address and outline the concept of “laptop software” and its related characteristics.

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