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CRM TOOLS TO ENSURE THE PROTECTION
OF INTELLECTUAL PROPERTY RIGHTS

Abstract. The article examines the main aspects of using CRM systems in the management of relationships in companies under the condition of ensuring intellectual property rights. It was determined that the protection of intellectual property rights is considered through the prism of the development and implementation of a system of legal norms that require regulation of relations aimed at the need to create and implement intellectual property objects. The need to protect intellectual property rights, which is mediated by the design, development and use of special software, has been proven. Based on the analysis of the essence of the concept of intellectual property and the definition of its main components, the introduction of specially developed software is proposed. The choice of the software environment and tools for the implementation of the visual design of the proposed database is substantiated, which unites all stages of its development and implementation in a single seamless environment for the purpose of ergonomics and optimization of writing code in the appropriate scripting environment, which aims to ensure the generation and reproduction of tables, comparison of databases, synchronization of schemes and data, preparation of reports and optimization of the methodology and technology of their distribution, as well as fast and effective security management in databases. The main areas of implementation of the CRM management strategy and the implementation of software developments in the organization of the company's work, as well as the components of the information support of CRM systems, are presented. The method of implementing the CRM strategy in the company's activities is proposed. An information system for accounting of the company's activities was designed and developed on the basis of the CRM system. The main features, advantages and disadvantages of using CRM systems in the company's activities are determined. The scientific and practical utility of the proposed information management system allows for a step-by-step and component analysis of all business processes, to make management decisions for the purpose of better cooperation and legal protection of intellectual property in the modern information space.

Keywords: CRM, information system, information technologies, design, intellectual property.

Introduction

Thanks to the rapid increase in the capabilities of informatics and new information technologies, the information environment of people's living and life activities is being formed, and an information society is being created. The modern century is characterized by the intensive development and implementation of informatics in all spheres of society. This was manifested in the intensive improvement of computer and communication equipment, in the emergence of new and further improvement of existing information technologies, as well as in the implementation of applied information systems. The achievements of informatics have taken an important place in organizational management, in industry, in conducting scientific research and automated design. Informatization also covered the social sphere: education, science, culture, medicine. Information technologies are gradually, actively and relentlessly integrated into all spheres of human activity and society, becoming a powerful catalyst and a determining source of their objective development. Informatization is an important factor in changing the quality of life in society: because in modern conditions, the level and way of life begins to increasingly depend on the level and quality of services, culture, education, work organization, etc.

The process and content of the informatization of society boils down to the spread of media culture in one or another society, which, in turn, unites society with permanent ties. In the political plane, the transition of society to the informational stage of development provides an opportunity to use democratic institutions as an instrument of social control. Informatization in the field of economy leads to the emergence of new branches of production, changes the very idea of the real sector of the economy, which includes virtual reality in telecommunications networks, and in particular on the Internet. The possibilities and scale of capital movement are growing sharply, financial transactions are carried out with extraordinary speed and ease. Informatization affects all spheres of human life: it contributes to the growth of labor productivity, improvement of economic management, development of knowledge-intensive industries and high technologies, enrichment of spiritual life and further democratization of society, etc. Information technologies open a new page in the development of science and the life of society as a whole.

Analysis of recent research and publications. A number of domestic and foreign researchers constantly pay attention to the problem of designing and developing CRM systems. Modern developers and specialists in the field of IT study the experience of other specialists in the design of information systems. D. Korpusenko investigates CRM methodology and examines the need for their implementation for various types of service provision, in particular examines KeepinCRM, PipeDrive, KeyCRM, asserting the

leading role of those that have mobile as a powerful component [1]. The main functions of the CRM system and classification of CRM systems, batch and individual, analysis of their advantages and disadvantages are considered G. Chubenko, M. Loshytskyi, D. Pavlov, S. Bychkova, O. Yunin [2]. K. Popova studies the problems of implementing CRM systems and analyzes their differences depending on where the information is stored and how the system is protected [3]. A. Hafiyak investigates CRM systems as a component of modern intelligent management technologies [4]. L. Dolgova and H. Yamnenko analyze the importance of using information technologies in the automation of business processes of the enterprise and prove the importance of using software in the field of relations with partners [5–7].

Main part

For the world economy, as well as for developing countries and countries with a transitional economy, including Ukraine, this phenomenon poses certain dangers. First, the countries where the least secured layers of the goal do not have access to information and knowledge to achieve better welfare, have less dynamic development. Secondly, due to the fact that the evidence and methods of increasing the efficiency of production due to the use of ICT are practically unknown in this country, the opportunities for it are not used and are not multiplied there development. In today's world, the level of employment is affected by factors generated by the processes of globalization and regionalization of the world economy, the progress of information technology and methods management and communication

technologies, new management methods and business strategies. The approach to content, content and methods of obtaining knowledge and obtaining information is changing. Labor markets are influenced by technological advances in the areas of computerization, biotechnology, energy, communications, and space research. Another phenomenon of the informatization of modern state life has become the information war, as a result of new reasons for information gathering. The essence of this revolution is not so much in increasing the technical characteristics of weapons and the emergence of new technological solutions as in a new conceptual understanding of the goals and tasks of defense politicians.

Simultaneously with the development and improvement of the legislative framework, Ukraine should stimulate the development of innovative and the creation of new specialized network structures and technologies built on the basis of international standards, as well as organize the development lack of broad social and political support for the process of the country's transition to the information society. This will speed up qualitative changes, ensure high efficiency and speed up the process of informatization in Ukraine, which will accordingly reflect on the quality of the social and political life of the state [1]. The main task of protecting intellectual property rights is to establish a number of legal norms that indicate the processes of support and definition of relations with respect to intellectual property objects. The need for permanent protection of intellectual property rights is determined by the main components presented in Fig. 1.
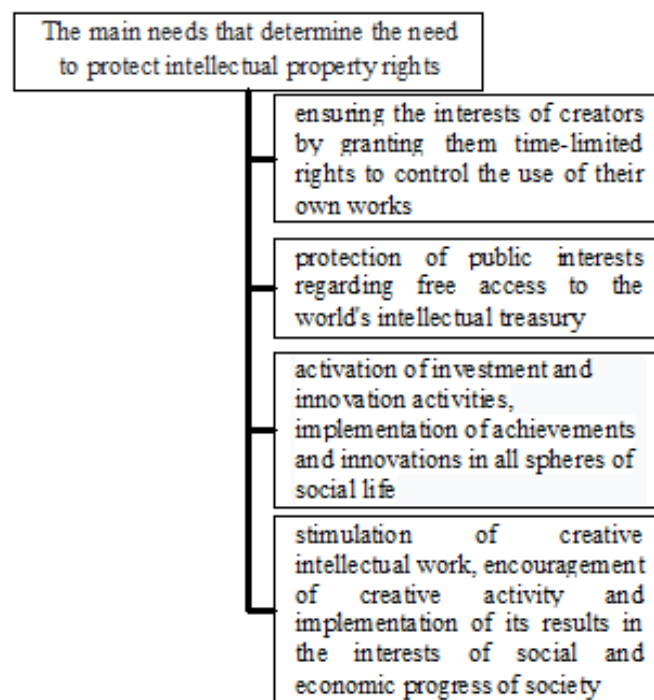

Fig. 1. Basic needs for the protection
of intellectual property rights

The authors chose the MySQL Workbench software environment to perform the task, namely the

design and creation of an information system, the core of which is a database. MySQL Workbench is a

specially designed software tool for visual design, it contains a number of capabilities designed to implement all stages of working with the core of the information system, which includes modeling, development and its implementation in a single seamless environment for MySQL, which is the next step, and namely DBDesigner 4 from FabForce. Among the defining characteristics of MySQL Workbench, it is possible to note the increased speed of writing SQL code in a convenient scripting environment; generation and reproduction of tables; comparison of characteristics, structures and content of databases, synchronization of schemes and data; preparation of reports and automation of their distribution; fast and efficient management of the processes of protection of filling and structure of databases.

The database contains tables specific to the field of legal protection of intellectual property, with columns of certain types of data, namely: "CopyRightOwner" – copyright owner; "Own" - a work that is an object of intellectual property; "License" - work license; "InfringementAct" – an act of offense; "InfringingOwn" - work that violates intellectual property rights; "Infringer" – violator; "CourtVerdict" – court decision; "Liability" – responsibility.

For each database that is planned for permanent use, a series of tests should be conducted, which was performed by the authors of this study. Performance testing of the developed software product is aimed at overcoming potential difficulties in the decision-making process. A CRM was developed for the department of analysis and provision of the intellectual property protection system. CRM "ZOHO" was used for this (Fig. 2).

Fig. 2. CRM "ZOHO"

After completing the registration process, system settings are performed and data is entered in this section with contacts (Fig. 3).

This is worth noting that the functionality of the portal is configured correctly sometimes.

The CRM system helps to automate work and establish employee communication, other specialists, clients. For this, you should use ready-made modules of the CRM system. Note that in context improving the quality of work, you can conduct online testing with further storage results in the knowledge base in the wiki directory. Effective communication between by management subjects, using a single messenger, closed chats, open channels in order to improve the automation of business processes.

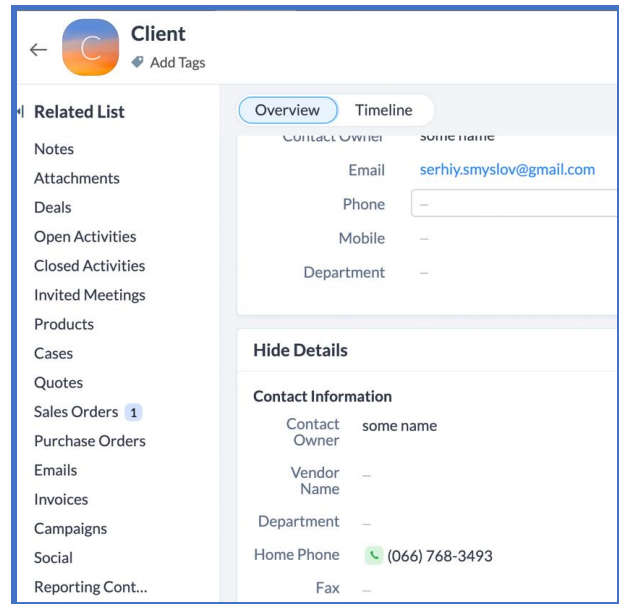Data is entered in the service provision section in the same way as it was done with contacts (Fig. 4).
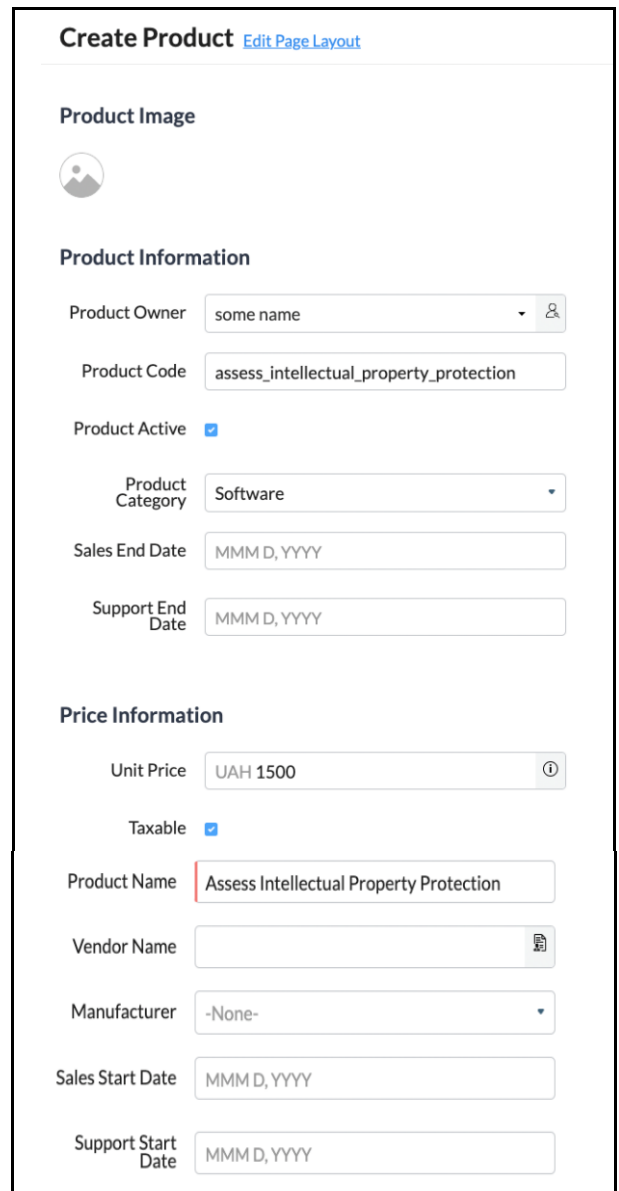

Fig. 3 Information about one of the contacts

Fig. 4. Creating a service

Conclusions

Informatization of society is a process concept, that is, it has stages of implementation.

At the first stage, the anticipatory development of scientific and technical directions is envisaged, which directly ensure the creation and use of new information technologies.

The second stage is characterized by computer development of the information fund, uploading it to databases, which have been integrated into local computer networks. But free access to information stored in such databases has a limited range of users, and the process of forming the information culture of the population is still ongoing.

The third stage of informatization involves ensuring free access to all information accumulated by mankind, the opportunity not only to use, but also to replenish the regional, national and global information fund. The information fund becomes the property of almost every resident of the country, so this stage can be called the stage of socialization and updating of the country's information fund.

In the course of the research, an information system was developed that allows you to conveniently store data on a fairly wide range of aspects of this field, and a CRM for legal protection of intellectual property.

When solving the task, the following actions were performed:

created database table structures, indexes and table expressions;

tables were filled with information;

linked tables using foreign keys (one-to-one, one-to-many and many-to-many);

developed the necessary requests to solve the tasks that were set in the condition;

CRM is configured and all necessary objects for the system are created.

REFERENCES

1. Korpusenko D. The best CRM systems URL: https://dta-ua.site/krashchi-crm-sistemi?gad_source=1&gclid=EAIaIQobChMIoYLXx_PchAMVjICDBx15HgHaEAMYASAAEgLI7_D_BwE
2. Chubenko G., Loshytskyi M., Pavlov D., Bychkova S., Yunin O. Study of the client's financial activities; Business relations. Terminological dictionary on preventing and countering the legalization (laundering) of criminal proceeds. Kyiv, 2018. 219.
3. Popova K. What is a CRM system: a complete guide to choosing a CRM for beginners URL: https://nethunt.ua/blog/shcho-takie-crm-sistiema-povnii-ghid-po-viboru-crm-dlia-pochatkivtsiv/
4. Hafiyak, A. CRM system as a component of modern intelligent management technologies. Intellectual technologies for managing transport processes. Kharkiv, 2020. 44-45.
5. Berestetska, O., Iankovets, T., Orozonova, A., Voitovych, S., Parmanasova, A., & Medvedieva, K. (2023). Using Crm Systems for the Develop ment and Implementation of Communication Strategies for Digital Brand Management and Internet Marketing: eu Experience. *International Journal of Professional Business Review*, *8*(4), e01613, doi: https://doi.org/10.26668/businessreview/2023.v8i4.1613
6. Dotsenko, N., Chumachenko, I., Galkin, A., Kuchuk, H. and Chumachenko, D. (2023), "Modeling the Transformation of Configuration Management Processes in a Multi-Project Environment", *Sustainability (Switzerland)*, Vol. 15(19), 14308, doi: https://doi.org/10.3390/su151914308
7. Dolgova L., Yamnenko H. Use of information system tools for automation of business processes of the enterprise Economic Analysis, Volume 31. No. 2. 2021. 90-97.

**Використання інструментарію CRM
для забезпечення захисту прав інтелектуальної власності**

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Анотація. У статті розглянуто основні аспекти використання CRM-систем в управлінні взаємовідносинами в компаніях за умови забезпечення прав інтелектуальної власності. Визначено, що захист прав інтелектуальної власності розглядають через призму розробки та впровадження системи правових норм, які потребують регулювання відносинами, що мають на меті необхідність створення та впровадження об'єктів інтелектуальної власності. Доведена необхідність захисту прав інтелектуальної власності, що опосередкована проектуванням, розробленням та використанням спеціального програмного забезпечення. На підставі аналізу сутності поняття інтелектуальної власності та визначено основних його складових, запропоновано впровадження спеціально розробленого програмного забезпечення. Обґрунтовано вибір програмного середовища та інструментів для реалізації візуального проектування запропонованої бази даних, що об'єднує всі етапи її розробки та впровадження в єдиному безшовному середовищі з метою ергономічності та оптимізації написання коду у відповідному середовищі сценаріїв, що має на меті забезпечення генерації та відтворення таблиць, порівнянні баз даних, синхронізації схем і даних, підготовки звітів та оптимізації методики та технології їх розсилки, а також швидкого та ефективного управління безпекою в базах даних. Представлено основні напрями реалізації CRM-стратегії управління та впровадження програмних розробок у організації роботи компанії, а також компоненти інформаційного забезпечення CRM-систем. Запропоновано методику впровадження CRM-стратегії у діяльність компанії. Спроектовано та розроблено інформаційну систему обліку діяльності компанії на засадах CRM-системи. Визначено основні особливості, переваги та недоліки використання CRM-систем у діяльності компанії. Наукова та практична корисність запропонованої інформаційної системи управління дозволяє покроково та покомпонентно аналізувати усі бізнес-процеси, приймати управлінські рішення з метою кращого співробітництва та правого забезпечення інтелектуальної власності в сучасному інформаційному просторі.

Ключові слова: CRM, інформаційна система, інформаційні технології, проектування, інтелектуальна власність.