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ALGORITHMIZATION OF LAW ENFORCEMENT MANAGEMENT PROCESSES USING ARTIFICIAL INTELLIGENCE

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ABSTRACT

Objective: Despite the opportunities that are opening up due to the development of information support systems and artificial intelligence in law enforcement, unfortunately, the Russian Federation has not yet fully formed a scientifically based legal and organizational framework for their integrated and practical application in activities of law enforcement agencies. The article aims to assess how artificial intelligence may be applied and implemented in Russian Law Enforcement what may contribute to improving the efficiency of management of these bodies.

Methods: To solve this problem the author of the article employed following methodological framework: content analysis of research papers on the theme, survey methodology. The author himself creates a new model of the usage of artificial intelligence. For review the author has selected works from the journals which are indexed in Scopus and WoS. Regarding survey, 457 respondents were interviewed to assess those problems which exist in implementing artificial intelligence in law enforcement agencies.

Results: Respondents supported the use of modern information technologies, including various forms of artificial intelligence, for enhancing law enforcement activities. However, when prompted for specifics about certain technologies and their applications within individual agencies, responses varied. It was offered to use artificial intelligence in the following spheres: in processing of incoming cases and in protecting the private date stored by agencies. The author of the article proposes a new matrix representation of information using artificial intelligence which may contribute to better security of legal status documents.

Conclusion: Artificial Intelligence is the tool which may improve and enhance the activities of official agencies in various spheres. The details of that usage are to be thoroughly processed especially in the field of data security.

Keywords: *Artificial intelligence. Law enforcement. Information support. Big data. Legal regulation. Algorithmization. Public administration.*

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INTRODUCTION

At the present stage of development of the state and society, the issue of developing information technologies and purposeful use of various types of artificial intelligence is acute (Vinichenko et al., 2022), which, according to the President of the Russian Federation, can become the foundation and breakthrough for the entire civilization, and can also make the greatest contribution to the development of society. The activities of law enforcement agencies are aimed not only at the positive development of society, but also at protecting the rights and legitimate interests of all its members, which means that it is no exception.

When developing comprehensive information support for law enforcement agencies using elements of artificial intelligence, it is necessary to take into account a number of features of law enforcement agencies' activities, which are associated with the use of documented source data that have a certain legal status (Ilin, 2024), and then with the design of decisions in the form of documents that give them the necessary legal status and ensure the practical implementation of the legal consequences of decisions made. This raises a number of questions about the extent to which the relevant information technologies and the elements of artificial intelligence used in their composition are adapted to the processing of documented information and ensuring the legal status of intermediate and final results of its processing (Mukhametgaliyeva et al., 2024).

Scientists and specialists in the field of computer science focus on the processing of various types of information in an automated mode, without human intervention. At the same time, scientific research and development of information technologies focused on the processing of legal information is still clearly insufficient. This applies both to the detailed development of those legal problems that need to be solved with the help of tools developed in the framework of informatics, and to the actual information technologies being developed that are intended for processing information that has a legal status.

MATERIALS AND METHODS

The general scientific dialectical method of cognition, the structural and linguistic method of organizing formal informatics languages in relation to law enforcement, the

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system-structural, logical-theoretical, comparative-legal, as well as formal-logical, formal-legal, sociological methods, including the method of questionnaires and statistical, expert assessments, etc., are used as the methodological basis of the research. interviewing and other methods of cognition. The use of these and other methods ensured the reliability, validity and representativeness of the results obtained. The empirical basis of the study is determined by its specific subject and methodology, as well as data collected in the course of the study, statistical data of the Ministry of Internal Affairs of the Russian Federation, the Investigative Committee of the Russian Federation, the Prosecutor General's Office of the Russian Federation, the Judicial Department under the Supreme Court of the Russian Federation, the Federal Customs Service of the Russian Federation for the period from 2014 to 2024 год.

In the course of the study, 457 people were interviewed using a specially developed questionnaire, including 123 employees of the internal affairs bodies (61 of whom are investigators, 62-employees of divisions providing technical support for activities), 103 employees of the Investigative Committee (95 of whom are investigators, 8 technical support specialists), 108 employees of the Prosecutor's Office (prosecutors and their assistants), 47 federal and magistrate judges, 20 employees of Rosfinmonitoring (specialists who ensure technical interaction and operation of information systems), 56 employees of the Federal Penitentiary Service of Russia (specialists in technical support of the activities of divisions).

RESULTS ANALYSIS

Surveys of law enforcement officials have shown that many of them are quite prepared to present the actions that they perform as part of their official duties in the form of algorithms. At the same time, almost all of them were able to formulate their actions with incoming documents in the form of a simple algorithm. Slightly fewer respondents were able to disclose the algorithms of their actions for issuing documents and giving them the legal status provided for by current legislation. Most often, respondents referred to the procedures for approving draft documents in their department, as a result of which the responsibility for the content of the outgoing document is borne by the management representative who signed it, as well as the executor of this document.

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At the same time, this is the part of the surveys that was devoted to studying the attitude of the interviewed law enforcement officers to the use of information technologies for processing documented information. Most of the respondents demonstrated their positive attitude to the use of specialized information technologies for processing information contained in the incoming documents of "ordinary" recipients and a negative attitude to their use for processing high-level incoming documents received from higher management or from representatives of the management of other law enforcement agencies. At the same time, many of them specifically explained that this is not a question of reverence and inattention to the rights and legitimate interests of citizens, but a large flow of such appeals, which contain descriptions of typical situations that also involve the use of standard response measures. Therefore, a significant part of respondents positively reacted to the possibility of using artificial intelligence elements for processing such documents, including computer robots based on neural network algorithms.

As for the use of modern information technologies for preparing outgoing documents, the majority of respondents recognized the need to use only the simplest of them, which are currently used in almost all law enforcement agencies. First of all, we are talking about internal computer networks that are protected from unauthorized access and are used for internal "correspondence" when preparing and approving drafts of outgoing documents, as well as a number of departmental information databases.

At the same time, the overwhelming majority of respondents expressed a negative attitude on issues related to the use of artificial intelligence elements in the framework of information technologies for preparing outgoing documents. Clarification of the reasons for this showed that the matter is not at all in the conservative attitude of law enforcement officials to the introduction of new information technologies that significantly change the usual skills of their professional activities. Most of them said that neither the computer nor the company that developed or sold the relevant computer programs can be held responsible for the content of the prepared documents. And none of the interviewed law enforcement officers agreed to be held responsible for the content of the documents prepared by artificial intelligence.

At the same time, many of the respondents noted that they will have to redo such "automated" work in any case, so instead of using information technologies based on artificial intelligence in this part of their activities, it can lead to a waste of public

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funds and increase the risk of making various types of legal errors. At the same time, they responded positively to questions about the use of such knowledge bases as ConsultantPlus in the preparation of outgoing documents, noting this information system as a well-known element of support for their professional activities and a good help for obtaining reference information.

Based on the results of the analysis of the conducted surveys, the following conclusions were drawn. First of all, law enforcement officials are well aware of the importance of properly organizing the part of their professional activities that is related to the processing of documented information, and their personal responsibility for the results of the work performed. At the same time, there is clearly an asymmetry in their attitude to working with the incoming and outgoing documentation of their law enforcement agency.

With regard to the use of modern information technologies, including those that implement certain elements of artificial intelligence of various types, for comprehensive information support for the activities of law enforcement agencies, all respondents expressed their unequivocally positive attitude. At the same time, when questions on this topic were specified, both in relation to certain types of information technologies and various types of artificial intelligence, and in relation to the specifics of their application in the activities of a particular law enforcement agency, a far less unambiguous attitude towards them was manifested.

When contacting respondents for comments, they received such explanations, the essence of which was that a computer program cannot replace a law enforcement officer. And the point is not only that in the practical activities of law enforcement officers, there are often non-standard situations, in which you have to use not only professional knowledge and skills, but also creativity, as well as human ingenuity. The main emphasis was placed on the fact that we are talking about a service that is associated with the highest level of personal responsibility of each law enforcement officer, which is simply impossible to shift to a computer program, to the company that developed it, or to the sales company.

Thus, the results of the conducted surveys not only confirmed the conclusion about the urgent need to develop basic approaches to creating integrated information support for the activities of law enforcement agencies using elements of artificial intelligence, but also made it possible to specify those most important problems, without solving which it is extremely difficult, if not impossible, to achieve its high efficiency. At the same time, the

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opinion of the majority of respondents actually confirmed the need to develop such measures that provide the possibility of practical organization of control over the preservation of the legal status of documented information at all stages of its processing using information technologies with various types of artificial intelligence elements.

The study of the features of information technologies used by law enforcement agencies to properly support their activities has shown that developments that allow, on the one hand, to significantly increase productivity using artificial intelligence, and on the other – to control the preservation of the legal status of processed documentation, are not given due attention (Akhmetshin, 2024; Cherckesova et al., 2024). The results of the analysis of publications on this issue allowed us to identify only a few works, among which we can mention the development of such information technologies for solving complex economic problems (Pushkarev et al., 2020), including the formation of the taxable base of real estate objects of various types, land plots, as well as the resolution of relevant civil law disputes in court (Prorvich, 1999; Prorvich, 2004; Prorvich, 2006; Prorvich, 2013), control of budget expenditures (Pushkarev et al., 2019; Vysotskaya et al., 2022).

These papers review various approaches to the creation of appropriate expert systems for systematization of existing knowledge of various types and their subsequent application to obtain new knowledge. First of all, it is necessary to pay attention to various ways of preparing "ordinary" and documented information for subsequent processing using the considered information technologies. Here, the mechanism of using frames has shown its high efficiency, which makes it possible to present not only certain information, but also knowledge about how to obtain and process it.

In other words, we are actually talking about the matrix representation of information in the form of certain data and actions with them, which can be divided into several groups: allowed for this type of information, conditionally allowed and prohibited. With a more complex organization of algorithms for processing information that has a legal status, within the framework of interactive expert systems being created, information about possible actions with documented information can be ranked using certain "weight" coefficients or"service marks". This makes it possible to make a decision on whether or not to preserve the legal status of the results of processing such data based on their final value.

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In the general view, each frame is usually formed in the form of slots and fillers. Fillers are values stored in the corresponding fields, and each frame has a special slot that represents the characteristics of the entity it represents. Other slots are filled with a variety of data that characterizes the content features of the processed information. These can also be specific procedures that are activated whenever a given frame is accessed or updated. The main idea of the developers of such a scheme for presenting information for its subsequent processing is that most of the computational operations associated with processing this information are performed in the background when transmitting data to the frame or when extracting data from it.

For processing documented information presented as frames, methods based on the principles of object-oriented programming are best suited. Its main idea is that the program is built on the basis of the use of many objects, each of which has its own set of functions (operations performed). Instead of representing an object as a "passive" set of data, as is done in most information technologies used to inform the activities of law enforcement agencies, an object-oriented system allows each object to interact with another object, exchanging certain data with them using specially developed protocols.

It is important to pay attention to the fact that the data exchange mechanism and corresponding protocols should be hidden from the users of such programs, and in many cases specially protected from unauthorized access to them by third parties. The techniques used to hide this information are commonly referred to as encapsulation. In addition, this type of programming uses operations that involve not only copying information presented in the form of a frame, but also a certain detail of the characteristics of the information presented in the copy. Such a mechanism for processing specially organized information is commonly called inheritance.

To illustrate the features of using the representation of status information in the form of frames when processing it using object-oriented programming, the following example is described. If the abstract concept of "building" is chosen as an item and the characteristics associated with its wear are entered, including their confirmation by appropriate documents, then the quantitative values of wear are calculated for all buildings using the same method, for example, depending on their service life. When copying this frame using the inheritance method, detailing the original abstract concept of "building" for specific types of various buildings, this method for determining the wear of each of them will already be included in each of the new frames.

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If, however, for a certain type of building or even one unique building, such a method turns out to be too simplified and does not reflect all its features, then with a new operation of copying this frame using the inheritance method, this method can be significantly detailed or even "redefined". Here it is important to pay attention to the fact that when using more complex algorithms for copying information using the inheritance method, it is possible to obtain a new frame that is "inherited" not from one original or "parent" frame, but from several. This opens up almost unlimited possibilities for step-by-step detailing of all the functions of those documented information objects that are prepared for processing using the information technologies described above with elements of artificial intelligence, designed to control the preservation of the legal status of documented information of law enforcement agencies of any kind.

Further research allowed us to establish that these approaches to the organization of source data and the processing of information with a legal status were developed in relation to the peculiarities of criminal proceedings for crimes in the field of economics (Bastrykin et al., 2016; Volynsky&Prorvich, 2019), as well as to the creation of modern tools for computer criminology for crimes in the field of digital economy (Volynsky&Prorvich, 2020; Pushkarev&Gaevoy, 2019; Kirillova et al., 2021; Gurinovich et al., 2023). The conducted analysis showed that these approaches to structuring the initial documented information and the principles of constructing algorithms for monitoring the preservation of legal status in the processing of documented information of an economic and legal nature can be developed as scientifically based approaches to the formation of algorithms for processing status information used to ensure the activities of law enforcement agencies (Pushkarev et al., 2022).

To compare the features of processing such complexly organized source information with simpler methods actually used in various law enforcement agencies, an additional analysis of the use of a simplified representation of the original documented information for its processing using the elements of artificial intelligence described above as part of the integrated information support of law enforcement agencies was carried out. Based on its results, it was shown that when using well-known algorithms for processing documented information, even at the initial stages of converting such information, the legal status of the processed information is dissipated, since this concept itself is not always formalized on a strictly scientific and legal basis.

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To ensure control over the preservation of the legal status of documented information of law enforcement agencies using such algorithms for its processing, it is necessary to take measures to control the preservation of the legal status at each step of its transformation. At the same time, even for documented information that is relatively simple in its structure and content, it may be necessary to allocate several dozen intermediate steps in the algorithm for its processing, after each of which the nature of the intermediate result of its processing should be controlled by an authorized employee of this law enforcement agency. And for more complex documented information, several hundred steps may already be required, which makes automated processing of documented information more time-consuming than manual processing. Therefore, the use of such algorithms in the framework of comprehensive information support for the activities of a law enforcement agency generally makes no sense.

In cases where electronic documents are used in the activities of a particular law enforcement agency, which are certified by an electronic signature of an authorized person, the use of the methods described above for presenting source data in the form of frames does not always completely eliminate the risks of losing the legal status of the results of their processing. Therefore, it is necessary to conduct special research together with scientists and specialists in the relevant fields of computer science.

Therefore, in many cases of using the above-described elements of artificial intelligence as part of the integrated information support of law enforcement agencies, it becomes necessary to give appropriate powers to the operator of such an information system from among the employees of a particular law enforcement agency, designed to certify the legal status of the intermediate result of processing documented information at each step. At the same time, as part of the development of appropriate algorithms, it is necessary to optimize a set of such steps, and first of all, their consolidation to significantly reduce the complexity of control, as well as a number of criteria that reduce the level of risks of loss of the legal status of processed information at a certain stage of its transformation.

To specify approaches to the development of appropriate algorithms for processing documented information with means of step-by-step control over the preservation of its legal status, an analysis of the specifics of the activities of inquirers and investigators was carried out as an example of the activities of such authorized persons of law enforcement agencies. In the course of their activities, based on the results of processing information that has a legal status, they organize the

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implementation of new investigative actions, issuing resolutions for this purpose and taking other procedurally regulated actions to collect, verify and evaluate evidence in the form of documented information. In other words, we are actually talking about presenting the original documented information in the form of a frame with an appropriate structure, similar to the one described above, formed manually, and then also manually converted to a new frame with extended properties.

It is important to pay attention to the fact that, despite the obvious similarity of certain investigative actions with the algorithms for processing documented information discussed above, it is impossible to fully automate the process of preliminary investigation or even preliminary investigation of a criminal case in the form of an inquiry. And the point is not that the corresponding algorithms for processing information that has a legal status will turn out to be so cumbersome that it will be impossible to implement them in the form of computer programs.

In accordance with the provisions of the current legislation, both the investigator and the inquirer received not only a number of powers that ensure the ability to perform certain procedurally regulated actions to collect, verify and evaluate evidence in a criminal case. First of all, we must not forget that these individuals have a serious responsibility on behalf of the State to establish the truth in the criminal case under investigation. At the same time, the specific methods of performing many types of procedurally regulated actions in the investigation of a particular criminal case are left to the discretion of the investigator or inquirer.

Here it is enough to pay attention to the specifics of the provisions of Article 17 "Freedom of evaluation of evidence" of the Code of Criminal Procedure formulated by the legislator. This means that the investigator evaluates evidence according to his inner conviction, based on the totality of evidence available in the criminal case, while being guided by the law and conscience. In this definition, many scientists and specialists emphasize the moral qualities of the investigator, which form the features of his inner conviction.

But their opponents draw attention to the fact that these provisions apply to the prosecutor, who oversees the investigation and then represents the prosecution in court, and to the judge, and even to the jury, and the internal beliefs and concepts of conscience of all these persons can differ significantly, often leading to conflicts that prevent them from doing so. proper establishment of the truth in the case. In any case, such approaches have to take into account two other key provisions of the above

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definition, which reveal the features of the formation of an internal belief, which should be based on the totality of evidence available in a criminal case, and the investigator should be guided by the law.

This raises a number of new questions: what is the basis for evaluating the first piece of evidence obtained by the investigator, when there is simply no other evidence that forms their totality yet? And if ten proofs are received at once – is it possible to form an internal belief on the basis of the remaining nine proofs, which have not yet been properly evaluated, when checking one of these proofs? That is, the formation of an investigator's inner conviction in a formal approach to the practical implementation of the provisions of Article 17 of the Code of Criminal Procedure of the Russian Federation occurs on the basis of such evidence, which itself has not yet passed the proper assessment procedure. Attempts to use certain types of evidence as "main" or "supporting" evidence from the point of view of forming an internal belief of the investigator when evaluating other evidence are illegal, since Part 2 of Article 17 explicitly states that no evidence has a pre-established force.

A way out of such a complex, "self-closed" situation can be the construction of such an algorithm for free evaluation of evidence, which provides for repeated comparison of each of the verified evidence with the entire set of other available evidence and fixing the result obtained. After the first assessment cycle is completed, the most questionable evidence can be excluded from the aggregate formed, and the initial investigation plan can be supplemented with such investigative actions that will allow obtaining new evidence, which is evaluated using the same algorithm.

When forming this algorithm for evaluating evidence and its practical application, the second of the above-mentioned provisions is of key importance: when evaluating evidence, the investigator must be guided by the law. The only question is that in Article 17 of the Code of Criminal Procedure of the Russian Federation, the legislator did not specify which law or which laws the investigator should be guided by when evaluating the evidence collected by him in a criminal case. But in the Criminal Procedure Code of the Russian Federation itself there is an answer: we are talking about Article 87 "Verification of evidence" and Article 88 "Rules for evaluating evidence".

87 of the Code of Criminal Procedure of the Russian Federation shows that the legislator indicated three ways to verify evidence: comparison with other evidence available in a criminal case; establishing the source of evidence; obtaining other

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evidence that confirms or refutes the evidence being checked. In fact, there is also a certain algorithm for checking each piece of evidence in a criminal case, which can be distinguished by the following features. First of all, when comparing each verified piece of evidence with other evidence in a particular criminal case, difficulties often arise due to the difference in information formats of information with legal status presented in these proofs. Some proofs can be presented in the form of documents filled with numbers with a certain dimension and a text explanation, others in the form of tables with numerous numbers with different dimensions, others in a planned or planned cartographic form, etc. Therefore, problems often arise not only in selecting evidence for verification in the form of documents of the same information format, but also in the form of and bringing some proofs to a single information format without losing their legal status. Their solution is possible with the involvement of persons with special knowledge, in the order described in detail in the books already mentioned (Volynsky&Prorvich, 2019; Volynsky&Prorvich, 2020).

The second part of the proof verification algorithm is related to establishing the source of this evidence, and its third part is related to obtaining new evidence to confirm or refute it.

Art. 88 of the Code of Criminal Procedure of the Russian Federation, they specify the criteria for evaluating each of the proofs by their relevance, admissibility and reliability, as well as the criterion of sufficiency for evaluating the entire set of evidence collected by the investigator. It is important to pay attention to the fact that the legislator did not disclose the content features of these criteria. This often leads to the fact that some investigators do not pay the necessary attention to evaluating the collected evidence obtained with the help of special knowledge of knowledgeable persons, or they do it purely formally, explaining that they do not have the same special knowledge as the expert. At the same time, they forget that in accordance with Article 58 of the Code of Criminal Procedure of the Russian Federation, it is possible to attract a specialist with the necessary special knowledge to provide explanations on issues within his professional competence, including those that help to evaluate the relevant evidence.

At the same time, one of these three criteria – admissibility – is described in detail in Article 75 of the Code of Criminal Procedure of the Russian Federation, only in the opposite sense, in the form of denial of admissibility. 88 of the Code of Criminal Procedure of the Russian Federation provides detailed explanations regarding the

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establishment of the inadmissibility of specific evidence. At the same time, we are talking about identifying violations of the requirements of this Code upon receipt of the relevant evidence in the case.

All the above-mentioned requirements established by various articles of the Code of Criminal Procedure of the Russian Federation, when considering the entire algorithm of investigative actions during the investigation of a criminal case, can also be considered as certain criteria that allow us to control the preservation of the legal status of those documents that the investigator collects as evidence in the case. To a certain extent, information about these provisions of the criminal procedure legislation, which encourage the investigator to perform legally regulated actions that are mandatory for him, can also be presented in the form of an appropriate frame. At the same time, it becomes quite obvious that the algorithm of investigative actions cannot be built according to simplified rules, since for operations with frames in computer science, the application of the principles of object-oriented programming, which were already described above, is provided. Neglect of these principles creates a high level of risks of making legal errors in the information support of investigative actions.

As another example of processing documented information with the actual use of elements of the information technologies described above in the "manual" processing of documented information, we can cite the activities of prosecutors who, within their official powers, verify the legality of certain individuals ' actions. Based on the study of the relevant documented information, after its processing to establish substantive features that allow us to draw conclusions about the presence or absence of violations of certain requirements of the current legislation, they make their definitions, instructions and other decisions in the form of new documents that receive legal status by virtue of the powers granted to them.

The corresponding system of initial documented data, together with instructions regulating specific actions of the prosecutor for their "manual" verification, can also be presented in the form of a frame. At the same time, the prosecutor's actions to form "outgoing" documents with instructions that encourage certain individuals to take certain actions to correct the identified violations or to take certain measures provided for by current legislation can also be represented as a transition from the initial frame to the final frame. The corresponding algorithm for such a transition can also be built within the framework of the principles of object-oriented programming.

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The above examples show that many of the actual actions performed by employees of various law enforcement agencies are largely formalized not only by specific provisions of legal regulations. We should not forget about the high level of professional knowledge and practical experience accumulated by this employee, his intelligence and even intuition, as well as understanding the features of the actions of his colleagues, which together determine the features of those habitual professional actions that can be described in the form of an algorithm from the point of view of computer science.

Since computer science is a natural science, the typical algorithms for processing information described above by law enforcement officers also have a certain similarity for quite objective reasons. A similar conclusion can be drawn about various ways of describing the processed documented information, including in the form of frames, when the information contained in the document itself is added to the information that determines the specifics of the status of a particular document and the rules for working with it in a particular department.

At the same time, even with such a natural-scientific approach to describing the activities of law enforcement officers in the language of computer science, all its features, especially given the infinite variety of real situations in which such activities are carried out, are almost impossible. Moreover, recently there have been not only rapid and largely unpredictable changes in the system of public relations, a typical example of which is the coronavirus pandemic, but also a very dynamic development of the regulatory framework.

As an example, it is enough to cite the changes that were made to the Civil Code of the Russian Federation related to the introduction of "digital rights" by Federal Law No. 34-FZ of 18.03.2019. It is also necessary to take into account a number of new provisions clarifying the regulation of the activities of law enforcement officers in a number of specific situations, which are regularly introduced by orders of the heads of these bodies. In addition, in many cases, it is important to take into account the specific measures that are taken as a result of operational meetings in the relevant law enforcement agencies and recorded in protocol decisions.

Therefore, we can count on the fact that even with the help of the most modern and progressive tools of computer science, including the use of frames, object-oriented programming, as well as various types of artificial intelligence elements described above, it is possible to perform proper processing of documented information and issue

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a document on behalf of a law enforcement agency that creates certain legal consequences in an automated mode, without human participation, not necessary. At the same time, the formation of detailed algorithms using this toolkit that reflect the most important features of the activities of law enforcement officers regulated by the relevant legal regulations when processing documented information, and then when preparing and issuing an outgoing document, can be of significant benefit to the organization of monitoring the correctness and completeness of actions performed. At the same time, it can be both about self-monitoring by each employee of a particular law enforcement agency of their own actions when working with official documentation, and about monitoring the compliance of employees with the relevant legal requirements on the part of the management of this body. A similar conclusion can be drawn with regard to the interaction algorithms of certain law enforcement agencies, which are regulated by certain provisions of the current legislation.

Thus, based on the results of the conducted research, it can be concluded that the processing of documented information in a fully automated mode without the participation of an authorized person, even with the help of the most modern information technologies using elements of artificial intelligence, inevitably leads to a high level of risks of losing the legal status of the result of such processing. Therefore, there are a number of new tasks associated with the development of such variants of algorithms that allow processing documented information using all the elements of artificial intelligence described above, but in an interactive mode, using modern interactive technologies.

That is, we are talking about developing such approaches to creating algorithms for processing documented information of a law enforcement agency, within which it is possible to periodically monitor the content of the intermediate result of its processing by performing its express analysis and promptly making the necessary decision based on its results. At the same time, it is necessary to form criteria for optimizing the number of intervals for processing documented information, after which an express analysis of the intermediate result of such processing is performed. It was already mentioned above that with excessive control over the content of intermediate results of processing documented information using the simplest algorithms, the complexity of such control makes the use of information processing automation tools meaningless.

Therefore, within the framework of applying more modern and complex algorithms for processing documented information using artificial intelligence

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elements, when optimizing the number of partitioning intervals, it is necessary to take into account the features of each element of such algorithms in terms of possible preservation or "blurring" of the legal status of the intermediate result of such processing. At the same time, it is necessary to perform special studies that allow us to identify the features of using each of the types of artificial intelligence discussed above for working out documented information, including those presented in the form of frames (Dolgopolov et al., 2022; . A detailed discussion of the specifics of setting tasks for such studies and organizing their implementation is beyond the scope of this dissertation.

As for the features of constructing algorithms for the operation of an interactive expert system, within which, when processing documented information, it is possible to control the preservation of the legal status of its intermediate and final results with the participation of an authorized representative of a law enforcement agency, the following options are proposed. First of all, to perform such actions, an operator representing a law enforcement agency and having the appropriate powers should actually apply a "double" algorithm, one branch of which is used to transform the information contained in the document itself, and the other, parallel branch, to form a system of labels that mean maintaining the legal status of intermediate and final results of processing documented information.

CONCLUSIONS

The analysis of the main opportunities for the practical implementation of relevant information technologies shows that automating the process of monitoring the preservation of the legal status of the results of processing documented information leads to an unacceptably high level of risks of uncontrolled loss of such status. As a result, difficult-to-detect legal errors may occur in the activities of law enforcement agencies, which are unacceptable from the point of view of the purpose of these law enforcement agencies in the state power system.

Therefore, it is proposed to implement fundamentally different approaches to creating an appropriate part of integrated information support for law enforcement agencies using the described elements of artificial intelligence. First of all, we are talking about new approaches to the formation of "piecewise discontinuous" algorithms for processing documented information with intermediate control of legal status. For

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this purpose, special control tools are used, which are focused on performing appropriate checks by an authorized operator in semi-automatic mode with recording of its actions in an automatically generated protocol.

There are several problems that need to be solved on a strictly scientific basis within the framework of modern approaches to the application of computer science to strengthen the capabilities of legal sciences. It is clear that if the operator performs control over the preservation of the legal status of the processed documented information, the corresponding procedures will be performed "manually", this may lead to long interruptions in computer processing of information or even its complete stop. Therefore, along with optimizing the intervals of processing documented information between control procedures, it is necessary to optimize the use of certain elements of artificial intelligence within the framework of appropriate information technologies to help the operator increase the efficiency of control checks performed.

In addition, given the high speed of modern computers, in order to optimize the algorithm for monitoring the preservation of the legal status of the documented information being processed, it may be advisable to first conduct a full cycle of its processing within the framework of the general algorithm for processing such information, but with all the intermediate results planned for monitoring recorded in the corresponding protocol. After that, according to a special control algorithm, a sequential analysis of each intermediate processing result is carried out in interactive mode, within which the operator can receive orientation information obtained using artificial intelligence elements. This makes it possible to track successive changes in the legal status of the processed documented information and to assess the degree of its dissipation by specially formulated criteria.

To simplify the control procedures, it is possible to apply a quantitative system of criteria with an assessment of the compliance of each of the intermediate results and certain procedures for constructing a final assessment of the legal status of the obtained result of processing documented information, expressed in points. At the same time, in order to select the optimal options for constructing the final score, it is necessary to conduct several cycles of comparing the results obtained within each of them.

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