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PROBLEMS OF THE DIGITAL EVIDENCE USAGE DURING THE INVESTIGATION
OF TRAFFIC INCIDENTS

ПРОБЛЕМИ ВИКОРИСТАННЯ ЦИФРОВИХ ДОКАЗІВ ПІД ЧАС РОЗСЛІДУВАННЯ
ДОРОЖНЬО-ТРАНСПОРТНИХ ПОДІЙ

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ABSTRACT: *The purpose of the article is to highlight the problems of using digital evidence during the investigation of traffic accidents by summarizing 54 decisions of Ukrainian courts that considered the problems of admissibility of digital evidence. It has been established that in Ukraine, during the consideration of cases of violations of traffic safety rules in courts of various jurisdictions, certain difficulties arise regarding the recognition of information in digital form as admissible evidence. Under the same conditions, judges make opposite decisions.*

The analysis of the publications of scientists of Ukraine and the USA showed that investigators, judges, prosecutors, employees of investigative bodies and forensic experts of both countries experience certain difficulties when working with digital evidence due to the rapid development and change of digital device technologies and, as a result, due to changes of detection technologies, extraction, fixation and research of digital information. Therefore, it is recommended to develop appropriate methodical and reference literature and include it in professional development programs separately for each category of such employees.

A comparison of the legislation of Ukraine and the USA regarding the use of digital information in the judiciary showed that the judiciary of the USA has more opportunities for the effective use of digital evidence than the judiciary of Ukraine. It is desirable to supplement the Criminal Procedure Code of Ukraine with the following changes: definition of the concept of «digital evidence» and its procedural media; a detailed procedure for extracting digital information, its inspection, recording and storage (with a list of mandatory information regarding digital evidence that must be procedurally secured); the procedure for assessing the admissibility and reliability of digital evidence.

KEYWORDS: *traffic accident, digital evidence, admissibility of evidence*

АНОТАЦІЯ: *Метою статті є виокремлення проблем використання цифрових доказів під час роз-*

слідкування дорожньо-транспортних подій за допомогою узагальнення 25 постанов Верховного Суду України, 15 рішень місцевих судів м. Харкова, 14 рішень Харківського апеляційного суду, а також - аналізу судової практики судів України різної юрисдикції щодо проблем допустимості цифрових доказів. Встановлено, що в Україні під час розгляду справ про порушення правил безпеки дорожнього руху у судах різних юрисдикцій виникають певні труднощі щодо визнання інформації у цифровій формі допустимими доказами. За однакових умов використання слідчими цифрових доказів судді у справах щодо дорожньо-транспортних подій приймають протилежні рішення з тих самих питань. В одних випадках вони визнають копії цифрових записів недопустимими доказами, в інших – допустимими.

Аналіз публікацій вчених України та США показав, що слідчі, судді, прокурори, співробітники оперативно-розшукових органів і судові експерти обох країн під час роботи із цифровими доказами зазнають певних труднощів через швидкий розвиток і зміну технологій цифрових пристроїв та, як наслідок, - зміну технологій виявлення, вилучення, фіксації й дослідження цифрової інформації. Тому рекомендовано розробити відповідну методичну й довідкову літературу та додати її до програм підвищення кваліфікації окремо для кожної категорії таких співробітників.

Порівняння законодавства України та США щодо використання цифрової інформації в судочинстві показав, що судочинство США має більше можливостей для ефективного використання цифрових доказів, аніж судочинство України. Нормативно-правові акти й методична література щодо використання цифрових доказів, якими послуговуються в судочинстві США, є гідним орієнтиром для реформування законодавства України та розроблення методичних рекомендацій щодо використання цифрових доказів при розслідуванні ДТП.

Кримінальний процесуальний кодекс України бажано доповнити такими новелами: визначенням поняття «цифрові докази» і їх процесуальних носіїв; докладним порядком вилучення цифрової інформації, її огляду, фіксування та зберігання (із зазначенням переліку обов'язкової інформації щодо цифрових доказів, яку слід процесуально закріпити); порядком оцінки допустимості й достовірності цифрового доказу.

КЛЮЧОВІ СЛОВА: дорожньо-транспортна подія, цифрові докази, допустимість доказів

INTRODUCTION. During 2022, more than 18,000 traffic accidents (traffic accidents) took place in Ukraine, as a result of which almost 3,000 people died and about 2,000 were injured. The causes of road accidents were: speeding; violation of the rules of maneuvering, passing through intersections or pedestrian crossings; failure to maintain distance, etc. [1]. More than 4,000 people have been notified of suspicion, more than 3,500 proceedings with an indictment have been sent to court. [2].

During the investigation of traffic accidents, investigators often use evidentiary information in digital form, but Ukrainian courts sometimes do not recognize it as admissible evidence due to the lack of legislative regulation of these issues. The work of US scientists and lawyers on the procedure for working with digital evidence is successfully used only by investigative journalists. That is, the legislation of Ukraine does not keep up with the rapid development of information technologies, and gaps in legal regulation often have to be filled by judicial practice.

Separate issues of the use of electronic (digital) evidence in criminal proceedings were investigated by Ukrainian scientists (M. Gutsalyuk, Yu. Orlov, S. Stolitny, V. Khakhanovsky, D. Tsekhan, V. Shevchuk, etc.), employees of the US National Institute of Justice (Shon E. Goodison, Robert K. Davis, Brian A. Jackson, Gary S. Kesler, Martin Novak) and others. In their publications, they provide guidance on identifying criminal justice needs related to the collection, management, analysis, and use of digital evidence. Despite the considerable number of publications on the problems of using digital evidence in court proceedings, certain issues require further research. In particular, the problems of procedural regulation in Ukraine of the processes of digital evidence extraction, their fixation and storage, taking into account foreign experience, remain unresolved.

The purpose of the study is to generalize the judicial practice of Ukraine in order to highlight the problems that arise during the use of digital evidence in the investigation of traffic accidents, to compare the legislation of Ukraine and the United States regarding the use of digital information in judicial proceedings, to determine ways to increase the effectiveness of the use of digital evidence in the investigation of traffic accidents, and to provide relevant recommendations.

In order to achieve the goals of the research, 25 decisions of the Supreme Court of Ukraine, 15 decisions of local courts of Kharkiv, 14 decisions of the Kharkiv Court of Appeal were analyzed, the judicial practice of Ukrainian courts of different jurisdictions regarding the problems of admissibility of

digital evidence was analyzed, the publications of scientists from Ukraine and the USA and individual works of the Scientific Working Group on the Study of Digital Evidence [3][4] regarding the use of digital evidence in criminal proceedings were analyzed.

CONTENT. The adoption of certain procedural decisions in criminal proceedings regarding criminal offenses against traffic safety and the transport operation (Article 286 of the Criminal Code of Ukraine) depends on the establishment of such facts of violations by a person of the Traffic Rules, which directly caused socially dangerous consequences and are in a causal relationship with them. An important role in establishing these facts is played by digital video recordings made by systems for recording offenses in the field of ensuring road traffic safety, video surveillance cameras, video recorders of vehicles, etc.

In addition to video recordings, other digital information that accompanies the operation of various types of electronic devices is used to establish the truth in the case. An example is Cooperative Intelligent Transport Systems and Services - C-ITS, which consist of communication units between vehicles and transport infrastructure («smart» cars and «smart» roads). An expert study of such blocks allows obtaining information about the speed and direction of movement of the vehicle, the facts of its emergency braking, defects of the car or road surface, etc. Such communication units are integrated into the road infrastructure and inform drivers about traffic light signals, the need to limit speed, road works, existing vehicle collisions or emergency or stationary vehicles, other dangerous situations, traffic jams, etc. [5, p. 154].

For viewing and researching certain types of digital information, ordinary computer equipment with standard software is not enough. This requires special electronic devices and special software. In addition, there are often difficulties in collection and assessment of the admissibility and reliability of digital evidence due to the lack of their definition, procedure for recording and assessment in the legislation of Ukraine. This causes certain difficulties for investigators, judges, prosecutors, lawyers, experts, etc. [6, p. 140].

Digital evidence often serves as objects of research in auto-technical, transport and road examination, examination of audio and video recordings, etc. The most effective are complex examinations, in which a joint task is solved by a group of specialists of various expert specialties. In particular, employees of the Academician Research Institute for the Study of Crime Problems of the National Academy of Sciences of Ukraine named after V. V. Stashis. According to the results of an additional comprehensive study of the nature of the damage to the car's body resulting from an accident, and digital video recordings from its video recorder, Stashis, the National Highway Traffic Safety Administration of Ukraine refuted the conclusions of the primary auto technical examination. They proved that the person who caused the accident was not the driver, but a pedestrian. At the same time, in the initial auto technical examination in this criminal proceeding, the actions of the pedestrian and the digital video recordings from the video recorder of the car were not examined at all, and the expert's opinion stated that the driver's actions did not comply with the Road Traffic Rules and this caused the collision with the pedestrian. [7]. This case confirms the importance of conducting complex examinations, the objects of which are not only vehicles and road conditions, but also digital video recordings, on which the traffic event is recorded.

In the courts of Ukraine, during consideration of cases of violations of road safety rules in courts of various jurisdictions, certain difficulties arise regarding the recognition of information in digital form as admissible and reliable evidence. Often, lawyers file motions for the inadmissibility of digital evidence due to the fact that the information is copied from the recording medium to an optical disc or flash drive, which is subsequently presented to the court as a procedural evidence medium. Defenders believe that such a copy does not correspond to the original because the file format changes when the media is changed. [8]. This is a false statement because one of the main characteristics of information in digital form is that all its copies recorded on different media are identical to the original (completely match in all respects, including the file format). Despite this, the Supreme Court of Ukraine in case No. 404/700/17 recognized a copy of a video recording from a video surveillance camera as inadmissible evidence, since it seems that «it is impossible to establish the technological properties of a videogram from a copy in the absence of the original and the original device.» The conclusion of the auto technical examination, in which the speed of the car was determined, was also recognized as an inadmissible source of evidence, because it was based «on incorrect data obtained from a copy of the video record-

ing.» [9].

Unfortunately, under the same conditions of use of digital evidence by investigators, judges make opposite decisions on the same issues. In some cases, they recognize copies of digital records as inadmissible evidence, in others as admissible. For example, the Supreme Court of Ukraine in case No. 754/2178/18 recognized as proper evidence the copies of video recordings from two video surveillance cameras in the case of violation of traffic safety rules, although the technical characteristics of video recording devices, their certification and the procedure for transferring information to the server were not established. The conclusion of the auto technical examination based on the results of the study of these video recordings was also recognized by the court as a procedural source of evidence. [10].

Judges in Ukraine believe that the use of digital video recordings in judicial proceedings is limited due to the fact that procedural legislation and methodological recommendations regarding the collection and recording of digital evidence by investigators and law enforcement agencies are imperfect. [11]. In the procedural codes of Ukraine, there is no definition of the term «digital evidence», the detailed procedure for their extraction, inspection, fixation and storage is not specified. These shortcomings can lead to errors in working with digital information and not recognizing it as admissible and reliable evidence in court.

Researchers at the US National Institute of Justice, through a survey of law enforcement officers, found that respondents face many problems when working with digital evidence. In particular, they lack knowledge about the technical characteristics of digital information, the rules for its extraction and storage. That is, against the background of the rapid development of technologies of digital devices and methods of extracting digital information from them, significant difficulties arise with the assessment of digital evidence according to the criterion of reliability (its compliance with the Daubert standard) [12, p. 16]. The researchers argue that prosecutors (due to insufficient knowledge of the technical characteristics of digital evidence) try to extract more information than necessary and overload forensic experts with unnecessary work, and some judges lack knowledge about methods of processing and extracting digital evidence. Police and detectives often do not know how to capture and store digital evidence, and forensic experts need modern methods of research. [12, p. 25].

So, investigators, judges, prosecutors, operatives and forensic experts in the USA, when working with digital evidence, to some extent face the same problems that arise for the corresponding employees of all law enforcement agencies in Ukraine. At the same time, in contrast to the Criminal Procedure Code of Ukraine, the US Federal Rules of Evidence (FRE USA)[4] contain an extensive system of amendments that relate to the procedure for the extraction of digital evidence, its fixation, storage, authentication (authenticity verification), assessment of admissibility and authenticity, etc. The authenticity of digital evidence in the US is determined by the Daubert standard. Employees at all levels of US criminal justice in working with digital evidence are guided by the Berkeley Protocol, which contains the principles of conducting an investigation using digital data from open sources [3], and the Guidelines for the Use of Digital Evidence, which provides an algorithm for recording actions with digital evidence and a list of issues that must be recorded in the protocols [13, pp. 15-17].

The above shows that the US judiciary has more opportunities for effective use of digital evidence than the Ukrainian judiciary.

CONCLUSIONS

Investigators, judges, prosecutors, employees of operational investigative bodies and forensic experts of Ukraine and the USA experience certain difficulties when working with digital evidence due to the rapid development and change of digital device technologies and, as a result, changes in the technologies of detection, extraction, fixation and research of digital information.

Courts of criminal jurisdiction of Ukraine in road accident cases sometimes make opposite decisions regarding the recognition of digital information as admissible evidence under the same conditions.

The US judiciary has more opportunities for effective use of digital evidence than the Ukrainian judiciary. Legal acts and methodological literature on the use of digital evidence, which are used in the US judiciary, are a worthy reference point for reforming the legislation of Ukraine and developing methodological recommendations for the use of digital evidence in the investigation of traffic accidents.

Since it depends on the competence and correct decision of law enforcement officers (investigators, judges, prosecutors, operatives) whether a particular piece of digital evidence will play a leading role in a traffic accident case, these officers must know the basic technological characteristics of digital

devices and digital information. Therefore, appropriate methodological and reference literature should be developed and added to training programs separately for each category of such employees.

It is desirable to supplement the Criminal Procedural Code of Ukraine with the following amendments: definition of the concept of «digital evidence» and their procedural media; a detailed procedure for extracting digital information, its review, recording and storage (with an indication of the list of mandatory information regarding digital evidence, which should be procedurally fixed); the procedure for assessing the admissibility and reliability of digital evidence.

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