

SUMMARY OF EXHAUST QUALIFICATION WORK

Theme of the final qualifying work: Mathematical models and means of protecting confidential information in Wi-Fi networks, using the example of FGBOU VO "PGU"

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Information about the contracting authority: Pyatigorsk State University is one of the largest educational institutions, implementing programs of secondary professional and higher education. The university is working on a variety of areas, such as providing continuous innovative educational activities, conducting research and development, as well as innovation. To date, more than 7,000 students are enrolled in higher education institutions and branches, and training is provided for more than 30 educational programs.

The relevance of the research topic: Problems related to the protection of information in recent years have acquired significant relevance. Wide application of wireless data transmission networks based on IEEE 802.11 technology, better known as Wi-Fi, can not but attract attention of information security experts.

The urgency of providing security in Wi-Fi networks is due to the fact that in wireless networks, access to information is sufficient for a conventional receiver installed within the range of such a network.

A modern specialist working in the field of information protection must know not only well-known algorithms, models and methods of information protection, but also be able to use modern integrated information security systems in their development.

The purpose of the work: application of theoretical knowledge in practice and development of professional skills and skills in the field of organization and technology of remote authentication protocols when solving practical problems of information protection in this institution.

Tasks:

- familiarization with the appointment and activities of the educational institution and evaluation of its material and technical support in the areas related to information security;
- study of information and communication, technical and software of information protection on the object under study;
- study of mathematical models and means of protecting confidential information in Wi-Fi networks;
- setting the task of improving the information and communication and technical support for information protection within this educational institution.

Theoretical and practical significance of the research The theoretical significance of this scientific research is as follows:

- analyzed laws and regulations in the field of information security of wireless WiFi networks;
- Technical and normative reference sources were studied, the market of hardware and software products in this field of technical achievements was studied;
- Existing systems and means of information protection in the educational institution of Pyatigorsk State University;
- Defined the problems and shortcomings in the organization of comprehensive protection of information on wireless technologies in this organization.

Practical significance of the results:

A special algorithm for information security in wireless communication channels is proposed, based on a hybrid probabilistic model of cryptographic transformations.

Results of the research: The conclusion summarizes the work done and describes the proposals for improving the information security system in Wi-Fi networks, within the framework of this educational institution.

Recommendations: Improve the existing system of information security in Wi-fi networks.