

Theme of final qualifying work: Development of mathematical model and algorithm of subsystem of personal data protection for sanatorium "the Valley Narzanov»

Author WRC: Shulga Tikhon Alexandrovich

Research supervisor: V. A. Kozlov, Cand. Techn. Sciences, Assoc. Department of Information technology, mathematics and distance learning

Information about the organization-customer: LLC "Narzanov Valley»

Relevance of the research topic. . Currently, it is impossible to imagine the activities of the sanatorium without working with information about its employees and customers. Organizations such as holiday homes and resorts store and process information about employees, customers, partners and other persons.

The purpose of the work: the application of theoretical knowledge in practice, and the development of professional skills and abilities related to the protection of confidential information and personal information on the object of practical training, as well as the collection, analysis and processing of material for use in writing the final qualifying work (WRC).

Tasks:

- familiarization with the purpose and activities of the enterprise "Sanatorium Narzanov valley»;
- analysis of information and communication support of the enterprise;
- study of the system and methods of protection of confidential information of the enterprise;
- development of algorithmic support to improve the system of information security of personal data in the enterprise;
- analyze the existing information security system of the enterprise, and the reliability of mutual remote authentication procedures using open communication channels.

Theoretical and practical significance of the study.

The theoretical significance of this research is as follows:

- analyzed the law of the Russian Federation "Violation of the legislation of the Russian Federation in the field of personal data", regulations and other documents related to the protection of personal data;
- the special literature is studied and the market of hardware and software products in this area is investigated;
- the existing measures and means of personal data protection at the enterprise "Sanatorium Narzanov valley", Essentuki were studied.

Practical significance of the results:

- the algorithm of depersonalization of personal data, which is based on the models and methods of symmetric cryptographic transformations.

Research result

- the analysis of the structure and subject area of activity of the sanatorium "Narzanov Valley", Essentuki;
- the assessment of material and technical support of this enterprise is given;
- evaluation of the quality of engineering and hardware and software protection of information;

- formulated the problem statement and developed algorithms to improve the universal system of depersonalization of personal data stored in the database;
- substantiation of the possibility of using VPN technologies and probabilistic systems of cryptographic transformations in this enterprise is made.

Recommendations:

As the basic algorithms for depersonalization of PD, high-speed and cryptographic algorithms based on \square - nonlinear cryptographic systems, characterized by high reliability and "crazy" speed, are used.