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APPROACHES TO THE INTERFACE DEVELOPMENT
FOR THE AUTOMATED INFORMATION SYSTEM OF THE INSPECTION ON THE MATTERS OF THE MINOR,
POLOTSK REGIONAL EXECUTIVE COMMITTEE

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The article presents a practical way to create an interface for working with the commission for minors. The analysis of the technologies most suitable for the development of this system is carried out. Task, implementation of a prototype of an interface are based on windows - form.

Introduction. The automation and creation of information systems are currently one of the most resource-intensive areas of technogenic society. One of the reasons for the active development of this area is that automation serves as the basis for a radical change in management processes that plays an important role in the activities of man and society. Control systems arise, the action of which is aimed at maintaining or improving the operation of an object using a control device (a set of means for collecting, processing, transmitting information and generating control signals or commands) [1].

The automated information system (AIS) is a set of software and hardware designed to automate activities related to the storage, transmission and processing of information.

AIS are, on the one hand, a type of information systems (IP) and, on the other hand, automated systems (AS), as a result of which they are often called IP or AS.

AIS can be defined as a complex of automated information technologies designed for information services – organized continuous technological process of preparation and delivery to consumers of scientific, managerial and other information used for decision-making, in accordance with the needs to maintain effective activities [2].

The choice of interface development technologies. The choice of means for solving the problem proceeded from the kind of software and hardware needed for development. Here the choice was made in favor of the Windows 10 operating system.

Microsoft Visual Studio 2017 was chosen as the development environment for the project due to the following reasons:

1 Flexible support structure for an object-oriented programming approach.

2 Ease and simplicity of project development. This property includes the implementation of all kinds of hints in the source code editor, wide possibilities for working with project resource files, such as image files, icons, cursors, menus, accelerators.

3 The presence of a powerful debugger to detect errors in the implementation of the program.

4 A large amount of documentation on the capabilities of the development environment, on the types of modules used and descriptions of the main functions.

5 When developing a project, there are many options for setting the optimization of a developed project, for example, optimizing the size of an executable program module, or optimizing its execution speed.

6 Support for working with services, both by means of API functions, and at the level of special built-in service designers.

7 The productivity of the program is improved due to special built-in libraries of functions – .NET Framework 7.4.2. It all depends on the version of the components installed in the operating system.

8 Relatively small system requirements for installing the environment and for its launch.

The object-oriented language C # was chosen as the programming language for writing the application. This choice is due to the fact that this language is a key language in working with the .NET Framework. For the implementation of the project, the necessary and sufficient version of this set of libraries is the .NET Framework 4.7.2. This version is necessary to maintain work at the application level with databases and organize networking between individual program modules.

Interface Design. When designing the interface, the tabbed structure was applied. With the information logically divided by tabs, simplifying its search, it does not clutter the home page and does not need to create additional forms.

The main information about the violators is stored in a database, with the ability to take action over it, after selecting the appropriate data. This structure is the simplest and most understandable for users with

a different level of personal computer skills. Using standards of controls allows you to minimize the time spent learning how to work with the application.

To visualize some operations, user interface components were created. The developed components and their descriptions are presented in Table 1.1.

Table 1.1. – List of developed custom components

Component Name	Component Assignment
Button_Open	Implementing a button for selecting a document
Button_Save	Saving a copy of the document as amended
FilterTextBox	Filtering data from a database
PrintCheckBox	Implementing an element to print a document while saving
dataGridView	Implementing a control to display the current state of the database

Using the program, the user interacts with the document generation subsystem. The program in its composition has a separate window through which the user receives all the necessary information.

All functionality can be divided into specific tasks, each of which has its own method. A list of several methods and their significance are shown in table 1.2.

Table 1.2. – List of application methods

Method name	Purpose
Form1	It contains the implementation of the interface element, which displays all the information from the database
FindAndReplace	Contains the implementation of part of the program for working with a document
CreateWordDocument	Describes a method that performs text substitution

Conclusion. The correct approach when developing an application is to use modern technologies that allow you to solve your problems. This primarily saves time in developing the interface, as well as resources for data processing. This is very relevant, with a lot of information that is subject to constant change.

The win - form technology is considered, which allows creating an adaptive interface of any complexity, while maintaining its functionality and attractive appearance. Based on the results of this work, the possibility of their application to the built interface and dynamic query processing was described.

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