ABSTRACT

Explanatory note size – 144 pages, contains 26 illustrations, 28 tables, 3 applications, 47 references.

Topicality. The relevance of developing software tools for automated design of graphical user interfaces lies in the need to simplify the process of designing graphical interfaces, which is a component of most software tools.

The aim of the study. Simplifying the process of designing a graphical user interface by creating a comprehensive framework based on an original markup language and an event-driven approach

The object of research: Software for creating graphical user interfaces.

The subject of research: The process of creating a comprehensive framework for designing graphical user interfaces based on an original markup language and an event-driven approach.

To achieve this goal, the **following tasks** were formulated:

- analysis of existing solutions;

- development of its own markup language;

- development of parsing algorithms and graphical user interface display;

- development of a mechanism for processing events that occur during the user's work with the graphical interface (keystrokes, etc.);

- evaluation of the effectiveness of the proposed solution.

The scientific novelty of the results of the master's dissertation is

- development of an original markup language for constructing graphical user interfaces.

- an original framework has been created for constructing graphical user interfaces based on the original markup language, which, unlike existing ones, uses a "semi-

compiler", which partially combines the properties of a compiler and an interpreter in order to increase the speed of using the original markup language.

The practical value of the obtained results is significance of the development lies in creating a framework for designing graphical user interfaces, based on the original markup language, which can be easily integrated into any application written in the C++ programming language running under the Windows operating system, in just a few steps.

Relationship with working with scientific programs, plans, topics. Work was performed at the Department of Informatics and Software Engineering of the National Technical University of Ukraine «Kyiv Polytechnic Institute. Igor Sikorsky».

Approbation. The scientific provisions of the dissertation were tested at the The scientific provisions of the dissertation were tested at the scientific and practical conference of young scientists and students "SOFTWARE ENGINEERING AND ADVANCED INFORMATION TECHNOLOGIES" (SoftTech-2024).

Publications. The scientific provisions of the dissertation were published in:

1) Proshin N.A., Golovchenko M.M. Framework for creating user interfaces using markup // Software engineering and advanced information technologies (SoftTech-2024 Autumn): materials of the abstracts of the V All-Ukrainian scientific-practical conference of young scientists and students (Kyiv, November 19-22, 2024). – K.: Igor Sikorsky Kyiv Polytechnic Institute, 2024.

Keywords: EVENT-DRIVEN LIBRARY, MARKING LANGUAGE, Windows Api, WIDGETS, UI.