ASPECTS OF EFFECTIVE USER INTERFACE DESIGN OF DEMONSTRATION ENVIRONMENT COMPONENTS

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Abstract. We analyzed question of the studying course "Basics of algorithmization and programming". We propose to study material by using program demonstration environment. We described the perspectives of effective design of software application in the future.

Keywords: informatization, information and communication technologies, the program demonstration environment, Videointepretator, user interface, design.

1 Introduction

Informatization of education in Ukraine is one of the most important mechanisms of modernization of educational system. Introduction of modern information and communication technology (ICT) to the ways of education will allow to upgrade purpose, content, methods, tools and organizational learning for teachers. Informatization of education is not only the result, but also an incentive for development of ICT, it providing to accelerate socio-economic development of society.

Full training activity is possible with providing the intelligent interface that must to provide the main features of the learning environment to user.

Interaction between users and the computer (HCI-Human-Computer Interaction) occurs at the interface. An important facet of HCI is the securing of user satisfaction.

2 Problem definition

Integrated environment of studying course "Basics of algorithmization and programming" WEBOAP is created at Kherson State University. The main advantage of environment is organization of independent work and the current and final control of the students' knowledge. Environment provides for teacher and students all features of effective studying course basics of algorithmization and programming.

New version of the demonstration environment "Videointerpreter 3.0" is developed with using advanced technology at the moment. Requirements to the program in general are:

- cross-platform;
- versatility;
- interactivity;
- UI-friendliness;
- code reuse;
- interface interaction standardization;
- working with programming language Pascal, C, Java;

The new version will provide an opportunity to perform the following functions:

- In functionality terms:
  - selection of multiple algorithms, editing them in the one session;
  - generating arrays for various types of distribution;
  - syntax highlighting;
  - highlighting execute designs;
  - checking the correctness of the position of the brackets;
  - IntelliSense;
  - writing comments to the code;

- o   ability to see the value of the instance variables and their values;
- o   availability of features to disable animation;
- o   updating plug-ins.
- In ease terms:
  - o   creating the navigation between the algorithms in the code editor;
  - o   sequential transition from data visualization to the formation;
  - o   addressing blocks of code;
  - o   classification algorithms for topics with choosing from the collection;
  - o   ability to run multiple sessions in the algorithms.

In new version we will reconstruct the user interface according to the basic principles of designing the interface. We consider the basic guidelines for constructing the user interface [7, 8].

3   Conclusion

The user interface is the part of the software product that is stand before the eyes. Some programmers tend to leave design to the end and they believe that the real benefit of application is the programming code that requires more attention. However, most software is hard to use. This conclusion follows from most results of the testing facilities, the practical observation and planners' personal experience of software. Actually, the user interface is a channel which to make interaction between the user and the program.

The design of the interface should be iterative character his mandatory element should be negotiation with a potential user and the obtained results. Tools and implementing methods of the interface must to provide the ability to adapt it to the needs and characteristics of the user.

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