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CREATING AN APPLICATION FOR TRAINING SCIENCE

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ABSTRACT

This article contains scientific and theoretical materials on ICT programs and software products for their use in the educational process, designed to quickly update information and restore feedback.

Keywords— software, ICT, software products, multimedia, testing

INTRODUCTION

At present, pedagogical software for teaching various subjects in the country and abroad, in particular, electronic textbooks, electronic manuals, automated training programs, simulators, software shells have been created and are widely used in the education system. Theoretical and methodological bases of development and improvement of teaching methods are reflected in the research work carried out by scientists of the Republic and foreign countries. In particular, on the development of content and methodological aspects of cybernetics and technical sciences AA Abdukadirov [1], M.Aripov [2], and V. dagienė [3]. output; KT Olimov [4] developed the technology of the principles of creating electronic textbooks on special subjects and the methodology of their examination; E.S.Polat [5], V.V.Grinshkun [6], on creation and application of pedagogical software in education Although it has been considered in the works of scientists such as A.I.Ashirova [7], but in these works the methods of creating software shells for the preparation of electronic teaching materials and their use in improving the effectiveness of education have not been sufficiently studied.

STATEMENT OF THE PROBLEM

Creation of a software shell for the preparation of electronic textbooks and manuals;
Development of electronic textbooks and test programs using the software shell;
If the methodology of using the created electronic textbook and manual in the educational process is developed and the training of engineers is applied to the educational process, then the effectiveness of teaching subjects in the higher education system will increase.

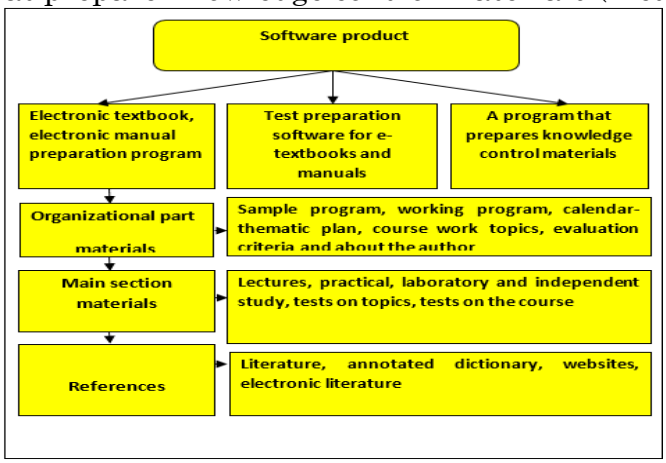
METHOD FOR SOLVING THE PROBLEM

The authors created an e-textbook program using modern programming languages, which used: the teacher - conPictures the system and creates a teaching course, the student - studies the created course and completes assignments.

The software product allows you to create a hierarchical structure of the course, support different types of training materials (text, graphics, audio, video, animation, etc.), work in a local area network or autonomous working conditions, create and execute scripts. It also performs tasks such as editing e-textbook sections and lesson files. When using this software product, the teacher acquires the tools, as well as the skills to work in the system that creates the course. Every educator prepares an e-textbook of the subject he teaches easily, in a short time, the student has the skills to work with a computer and can master the subject independently.[7]

The software product consists of three programs:

- electronic manual developer;
- test preparation;
- consists of programs that prepare knowledge control materials (Picture- 2.1).

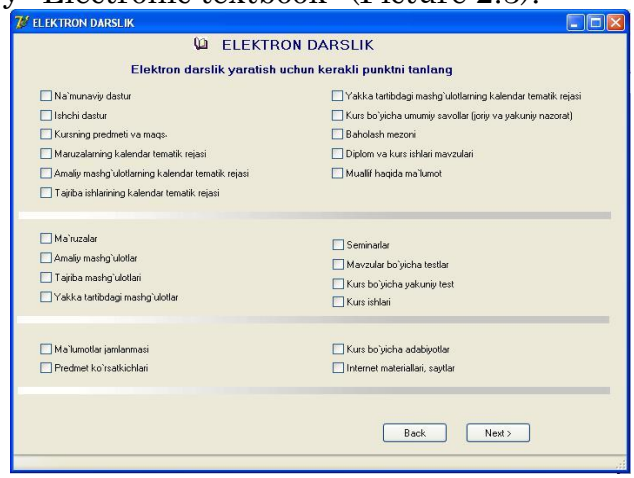


Picture 2.1. Software product structure

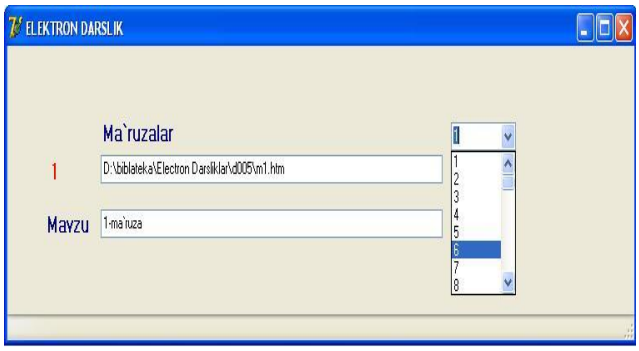
The software product automates the preparation of educational resources on topics and courses in the teaching of ICT, simplifies the work of teachers, facilitates the introduction and use of tests.

Files for creating a course structure using the software product EDconstructor.exe - the structure of the course is created by selecting the necessary sections of the textbook using the software product (Picture 2.2). Through this dialog box, the educator can select the sections he or she needs.

The number of lectures, seminars and practical classes is optional (up to 1..50 in the program shell), the address of the main files is specified, a copy of all files located at the given address is copied to the new directory "Electronic textbook" (Picture 2.3).



Picture 2.2. Creating an electronic textbook structure communication view of the window



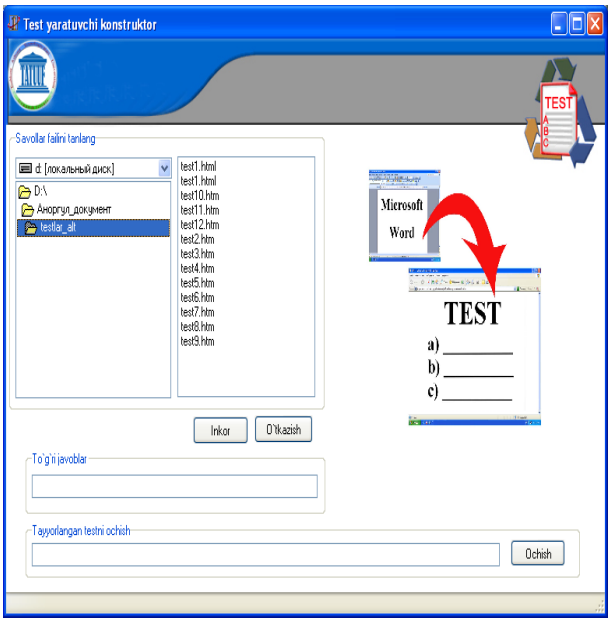
Picture 2.3. Number of lectures and the name of each lecture input dialog box

The software shell copies the directories where the web files are located and creates a new "Electronic Textbook" directory.

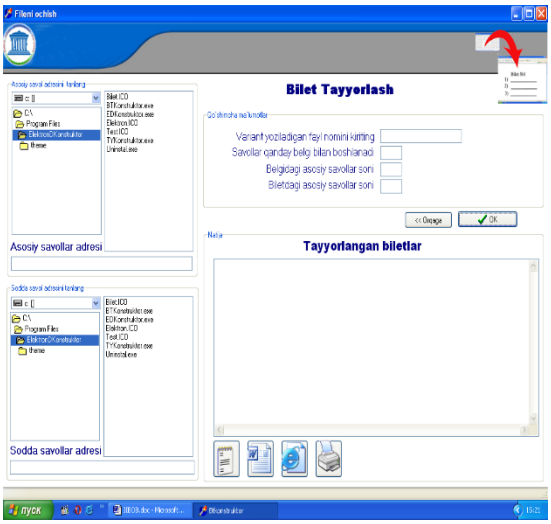
One of the main procedures in the program shell is to copy files, and the CopyFiles procedure is used to copy files with arbitrary extensions from the location to the "Electronic textbook" directory. CopyFiles is one of the main procedures of the program, and this procedure transfers the selected html and the desired image, formulas, video files, all relevant files in the directory to the specified address. Two parameters are included in this procedure: the first parameter is the address of the object to be copied, and the second is the address to be copied.

ED is structured in the form of communication, enriched with video and audio information, has animation and animation effects, has a simple, easy structure to use, has a list of control questions at the end of each topic and general course, students have test sections to check their knowledge.

The main advantage of an ED prepared using a software shell is that it is an open system, meaning that the teacher can modify it at any time or remove old data, thereby enhancing feedback.



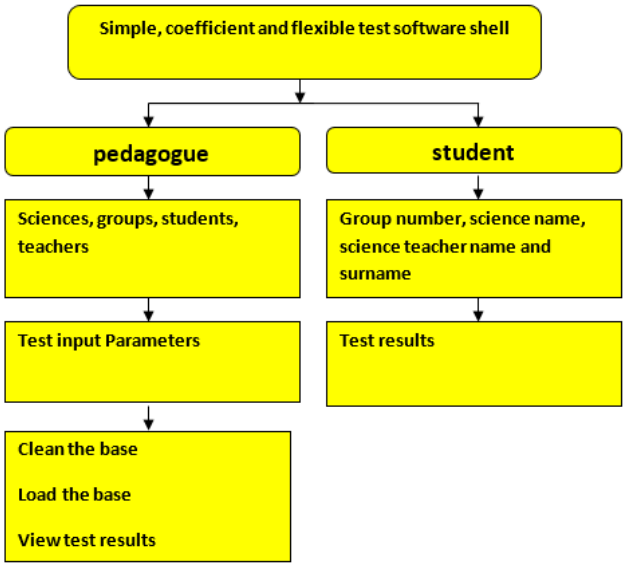
Picture 2.4. View of the test preparation program



Picture 2.5. Option preparation application view

TYconstruktor.exe program shell is shown in Picture 2.4. After selecting the desired file, click "Transfer" and create a new test.html file. The test.html file can be used separately or by placing it in an electronic manual, which allows the student to study the subject independently, in depth. As a result, the correct answer to the question will be marked with a "+" and the wrong with a "-". At the end of the test, the number of correctly completed assignments, the number of incorrectly completed assignments, and the student's grade will be displayed as a result. If the student clicks the “resubmit” button, the test is retaken and the student can retest their knowledge. With the help of this test program, the student quickly learns the learning material by repeatedly testing his knowledge.

The program for the preparation of knowledge control materials is designed to prepare the necessary options for the learning process, cards. This program allows the teacher to automate the preparation of the required number of options, cards and simplify the work. Options can be placed in ED and manuals. A test program designed for the network has been created and allows you to enter 3 types of tests online.



Picture 2.6. The structure of the test program shell

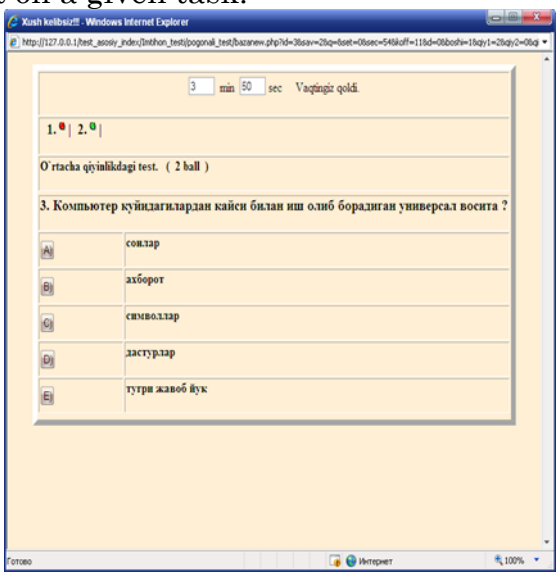
In this case, the teacher enters and edits information about subjects, groups, student lists, teacher lists, test input editor, test parameters (coefficients), cleaning the base database, loading and test results[8].

Three different types of tests can be used in the test program.

Simple tests - one point is awarded for each correctly completed task.

Coefficient tests - each task is evaluated by a specially entered coefficient.

Flexible (adaptive) tests - allow you to control the difficulty of the task depending on the student's answers to the test on a given task.



Picture 2.7. Appearance of the test window

In flexible tests, if a student successfully answers a task, the computer makes the next task a little more difficult (otherwise easier) than the previous one. Such tests develop students 'creative thinking, helping them to explore science more deeply.

Modern software shells require the ability to place text and graphics files in any format in the textbook, access to audio and video files in any format, place tables and animations, improve artificial intelligence and control systems, autonomous and network use.

CONCLUSION

The constant updating of information on the teaching of ICT is important to create educational programs, improve software products that allow them to update e-learning resources, create modern versions. As students can improve their knowledge and experience by this program.

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