SECTION 1. Engineering science

***Pecherskyi Rostyslav Vitaliiovych***
*Student of magistrature of specialty «Computer Science»*
*Bohdan Khmelnytsky Melitopol State Pedagogical University*
*Melitopol, Ukraine*

## DEVELOPMENT OF A COMPUTER TRAINING PROGRAM IN THE HISTORY OF COMPUTER SCIENCE

*Summary.* The article reports on the development of a computer training program in the history of computer science, describes the stages and features of program implementation. Attention is drawn to the capabilities of the Delphi programming environment for the development of educational computer programs.

*Key words:* computer training program, programming, Delphi, history of computer science

Modern information society has influenced all fields of people's activities, accordingly educational sphere. N. Gnatyuk claims that individual's professional competence is directly dependent of his feeling in data flows and his ability to use them [1, p. 278]. Especially, it is connected with future computer science teachers that must not only know and use informational technologies but also raise corresponding abilities in their students.

A valuable factor of raising level of education to completely new quality is not only providing of computer equipment and stuff for studying but also investigating and further implementation of pedagogical programs and different educational resources from various subjects. According to this, there is an actual problem of investigating new methods of teaching, educational facilities and its psycho-pedagogical justification. With the help of multimedia tools, test-works and educational programs studying process becomes more interesting for students.

To provide self-work for students of specialty 014.09 Secondary education (Computer Science) there was developed a new computer educational program within the discipline of «History of Computer Science». It can be used both as an additional resource in the audience or as the main source during test work. It must be stated that usage of the computer educational program within the discipline of «History of Computer Science» allows receiving following advantages: develop searching skills and information processing and capability of organizing personal studying process, raising level of knowing a subject [6, p. 36].

A description of functional characteristics of program variant is mentioned in [4] works, so let us pay attention to the ways of its realization on programming levels. During the investigation of programming method, a special attention needed solving of following problems:
  − reflection of text information in different formats;

– making a graphic interface with the cost of installing and usage of additional components;

– reflection of video information of «History of Computer Science»;

– organization of process of managing windows of knowledge control;

– providing of saving of information in data base.

A short characteristic of each of these.

The program was investigated with the help of integrated circumstance of quick investigating of Delphi appendixes, which uses many of advanced ideas and concepts that are funded in graphical interface of Windows. The specialty of Delphi is the ability of making in it modern and effective programs for the work in operational system Windows and Linux, which work with multimedia, databases, information of different formats. Delphi is an integrated source, which connects interactive debugger, editor, form designer and different special modules.

Investigating of programs in Delphi is based on using of visual projector technology, which provides formation of user interface with the help of visual and non-visual components [2, p. 12]. Project of computer educational program of «History of Computer Science» is made of fourteen forms, each has its own purpose.

I must also say a couple of words about the data format, which is used in program method. Practical experience has shown that during the implementation of computer programs into the studying process there is often need of modifying the information. For instance, it can be improvement of the content of studying material, usage of programming method for different subjects. So, when the content of lectures and laboratory works was being made there were used outer files with the *.txt, *.htm, *.pdf formats that would allow strengthening its content without intrusion in inner structure of program file and its inner recompilation.

The processing of data of different formats was done with the help of tool components of Delphi. To reflect *.txt format there was used component of Tmemo class, that is on a pallet of components Standart. It is a field of reflecting and editing of non-formatted text. TMemo component has a lot of properties for text editing, which assists to its usage in simple text editors for looking and editing text.

As a way of observing data in *.htm and *.pdf formats it is used an ActiveX component of TWebBrowser that uses WebBrowser component that is in Microsoft Internet Explorer composition. In this way, it is on every single computer where Internet Explorer is installed. All latest versions of Windows include this component in standard distributive, and, moreover it is practically useless without it. To use TWebBrowser in your program, you must place this component, that is stated in Internet tab, on form and then call Navigate method.

Making of graphical interface of electronic way of studying purpose was done with the help of establishing and using additional components or using images that had been made beforehand. For installing and using outer components in Delphi, you should make simple steps:

1. Download Delphi.
2. In upper menu select «Component» – «Install Component».

3. In this window opposite the field "Unit file name" you should press the "Browse" button and select the way to the file *.pas. In following window of compilation request press the "Yes" button. After compilation you can close it. The component will be installed afterwards [3, p. 170].

TMediaPlayer is used for watching video-fragments, it is situated on a System page, which gives access for all main abilities of multimedia processing. TMediaPlayer is introduced in the look of set of buttons, that are used for multimedia devices managing (compact-discs, sound cards etc.) video and audio files. Each button of the program has its name, which allows to a programmer to make needed button unseen or unavailable. Component automatically distinguishes the type of multimedia device according to the file format, and occupies managing of device given. With the help of changing FileName or DeviceType program can change a device that is connected to the component.

For saving current information in computer studying program there was used relational database of Microsoft Access that is fulfilled demands of investigated program. To work with the database of *.mdb format in program, developed with the help of Delphi, Microsoft Access database is unneeded to install, as the project itself has all needed components to work with the majority of data bases. It is made through free ODBC driver. Despite this, to work with database, the presence of free MDAC (Microsoft Data Access Components) is needed, which automatically sets up with the Windows operational system installation.

**References:**

1. Hnatiuk, N.Ye. (2012). Problemy profesiinoi pidhotovky maibutnikh fakhivtsiv biotekhnichnoho profiliu ta shliakhy yikh rozv'iazannia [Problems of professional training of future specialists of biotechnical profile and ways of their solution]. Suchasni informatsiini tekhnolohii ta innovatsiini metodyky navchannia u pidhotovtsi fakhivtsiv: metodolohiia, teoriia, dosvid, problemy, 33, pp. 277–281.
2. Parizhskiy, S.M. (2005). Delphi. Uchimsya na primerah [Delphi. Learning from examples]. Kyiv: MK-Press, 216 s.
3. Rey, K. (1996). Sozdanie originalnyih komponent v srede Delphi [Creating original components in the Delphi environment]. Kyiv: DiaSoft Ltd, 512 s.
4. Sharov, S.V. & Martyniuk T.I. (2013). Stvorennia elektronnoho zasobu navchalnoho pryznachennia z dystsypliny «Istoriia informatyky» [Creation of electronic means of educational assignment from the discipline «History of Informatics»]. Pedahohichni nauky: teoriia, istoriia, innovatsiini tekhnolohii: nauk. Zhurnal, 1, pp. 302–308.
5. Sharov, S.V. (2017). Samostiina robota yak umova formuvannia profesiinoi kompetentnosti maibutnikh fakhivtsiv [Independent work as a condition for the formation of professional competence of future specialists]. Suchasni tendentsii rozvytku ukrainskoi nauky: materialy Vseukr. nauk. konf. (21-22 lypnia 2017 r., m. Pereiaslav-Khmelnytskyi), 5, 35–38.

## Література:

1. Гнатюк Н. Є. Проблеми професійної підготовки майбутніх фахівців біотехнічного профілю та шляхи їх розв'язання. Сучасні інформаційні технології та інноваційні методики навчання у підготовці фахівців: методологія, теорія, досвід, проблеми. 2012. №33. С. 277–281.

2. Парижский С. М. Delphi. Учимся на примерах. К.: МК-Пресс, 2005. 216с.

3. Рей К. Создание оригинальных компонент в среде Delphi. К.: DiaSoft Ltd, 1996. 512 с.

4. Шаров С. В., Мартинюк Т. І. Створення електронного засобу навчального призначення з дисципліни «Історія інформатики». Педагогічні науки: теорія, історія, інноваційні технології: наук. журнал. 2013. №1. С. 302–308.

5. Шаров С. В. Самостійна робота як умова формування професійної компетентності майбутніх фахівців. Сучасні тенденції розвитку української науки: матеріали Всеукр. наук. конф. (21-22 липня 2017 р., м. Переяслав-Хмельницький). 2017. №5. С. 35–38.