MOBILE COMMUNICATION TECHNOLOGY
AS A TOOL OF EDUCATIONAL PROCESS

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Abstract: *The article describes the application of mobile communication technology for enhancing of educational process.*

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ACM Classification Keywords: *H.4.3. Communications Applications*

Introduction

Technologies of mobile communication fast develop and distribute in modern society. Some books are printed which are devoted to development of applications for mobile phones [Pirumjan, 2003], [Gornakov, 2005]. But the problem of mobile communication using in educational process is investigated poorly. Wide distribution of mobile phones and distance education technology (e-Learning) in modern society makes necessary such investigation.

This fact makes very actual research in the field of using of mobile communication tools in educational process. Therefore, this article is devoted to a research of this problem.

Mobile Phones and Educational Process

The use of mobile phones in educational process is based on such possibilities of mobile phones and services of mobile communication operators:

1. The Mobile GPRS-Internet allows to work in the Internet with the help of mobile phone, which is connected to the computer. A student enables to work with the Internet from any place without the urban phone line and to use materials on the Computer Science, which were saved on the educational portal educator.narod.ru, and also materials on the Electrical and Electronics Engineering, which were put on the portal victorbondarenko.euro.ru.

2. SMS-messages allow the instructor to send the necessary text messages on the student's mobile phone.

3. MMS-messages allow the instructor to transmit fragments of multimedia manuals, which have the text, sound, animation on the student's mobile phone and E-mail.

4. The WAP allows to look through the WAP-sites directly on display of the mobile phone. WAP-sites can contain the useful educational information - multimedia courses, tests, tasks, which can be loaded on the student's mobile phone. Besides, WAP-sites give the access to the E-mail, which allows students to send letters to the instructor. These letters can have advisory character or they can contain the executed tasks. The access to WAP-sites is possible with the help of the GPRS service.

5. The conferencing (Multiparty call) permits to connect to talk 5 interlocutors simultaneously. This possibility allows the instructor to conduct of educational and scientific discussion. Using conferencing it is possible to ring up one more interlocutors, not interrupting current talk, and to connect him to talk, to accept a source call and to connect the new interlocutor to conversation. It is possible temporarily to interrupt talk to all interlocutors, except for one, to come back to talk to the students waiting on a line. The instructor has possibility to disconnect one from the interlocutors, not interrupting talk to the remaining interlocutors. It is possible to finish talk to all interlocutors.

The support of the considered possibilities of mobile communication technology in educational process is executed with the help of such instructor's software:
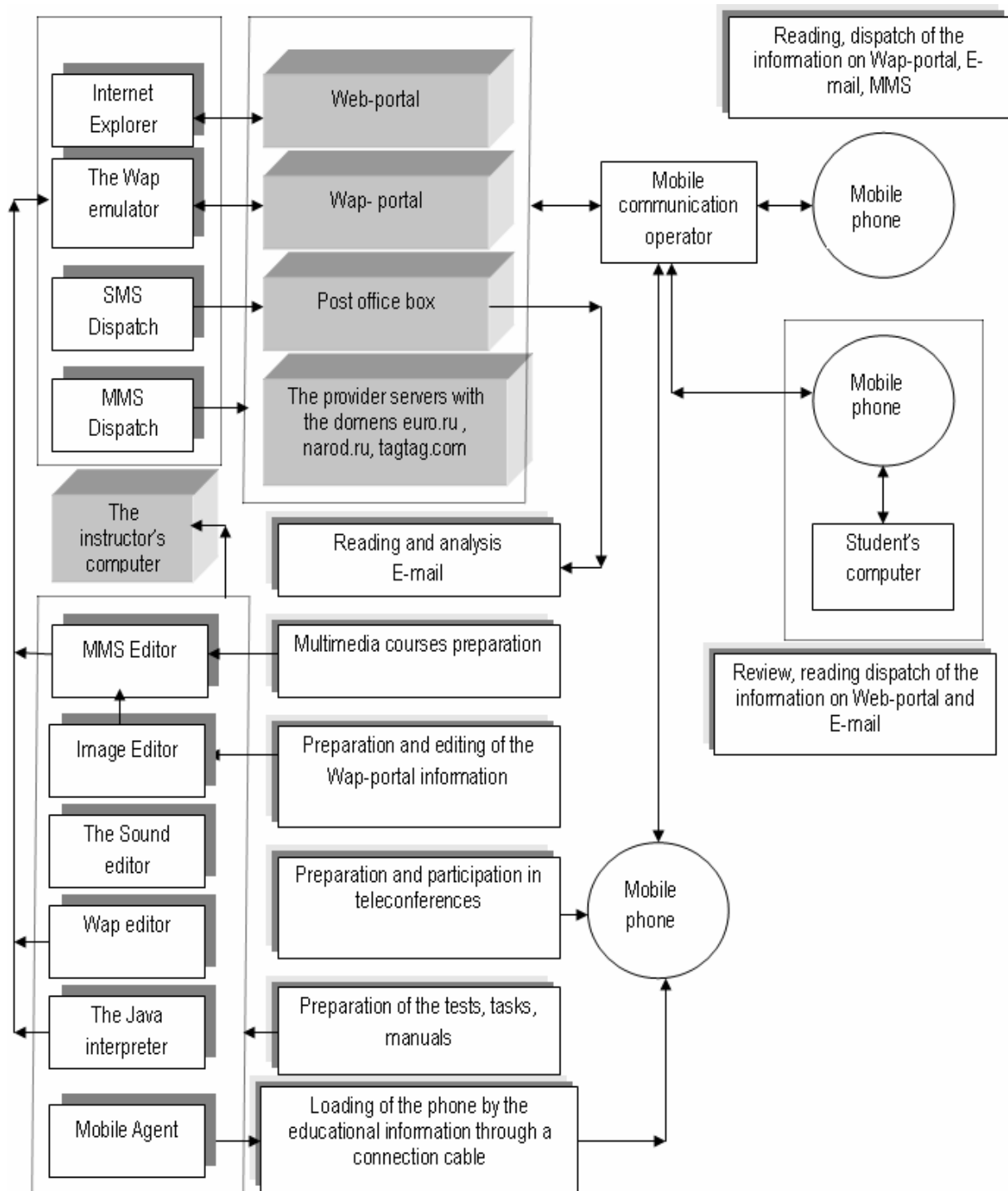
Fig. 1. The application of mobile communication technology to educational process.

1. The Web-browser (Internet Explorer) is used for review and the editing educational portals, where are contained materials that support the teaching of Computer Science courses (educator.narod.ru) and also materials that support the teaching of Electrical Engineering and Electronics (victorbondarenko.euro.ru).

2. The Wap-browser (Klondike Wap Browser Personal Edition) is necessary for review and editing of the Wap-site (tagtag.com/educator) with educational materials.

3. The Mobile Agent system allows to write on the mobile phone with the help of a cable the educational information (lections, tasks) which is prepared on computer.

4. The SMS-messages dispatch system allows to send messages from the instructor's computer on the student's mobile phone.

5. The MMS-messages dispatch system sends MMS-messages from the instructor's computer on mobile phones of the students.

6. The MobileBASIC system 2.1, allows to build the tests, educational programs and other applications as JAR and JAD files, which can be executed on the mobile phone under the control of the Java-interpreter.

7. The MMS Home Studio system 1.1. 379 allows to form multimedia applications using the editor of figures the Sony Ericsson Image Editor 2.1. and also editor of a sound the Sonic Foundry Sound Forge 6.0.

Using the mobile phone possibilities which were considered, we will present mobile communication technology as a tool of educational process. The scheme of such technology is shown in fig.1.

The instructor prepares and places an educational material, which is necessary for learning, (tasks, lectures, multimedia courses, tests) on Web-portals educator.narod.ru, and victorbondarenko.euro.ru for using in the Internet. Simultaneously same information with changes oriented for using on the mobile phone, with the help of the editors is recorded on the Wap-portal.

The student reads out the necessary information from the Wap-portal on the mobile phone, executes the task and results of the executed work sends with the help of e-mail to the instructor, using for dispatch the mobile phone or the Internet.

In case of necessary consultation, the student can use such possibilities of the mobile phone: voice communication, E-mail and also SMS-messages. The SMS-message is used frequently also by the instructor, which can make in group the necessary announcements or appointments.

The instructor can use the conferencing for a difficult materials discussion.

Conclusion

This mobile communication technology is introduced in educational process at the Financial Faculty of Kiev National Economic University. The technology can be introduced in educational process of all forms of learning, but this technique is most effective for preparation of students of the correspondence and remote forms of learning.

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