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Mobile Technologies Education

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Abstract

Rapid advancement of information and communication technologies enables to produce more mobile devices. Most of distance education students need access to study materials, communications tools and further learning means not only at home and in their working place, but for example on business trips. The aim of this paper is to present possibilities of mobile technology in teaching informatics and programming. According to the results of surveys carried out in primary, secondary schools and universities. We can say that mobile devices are increasingly used in learning. Results of surveys and experiments show that mobile devices can enhance the teaching of Computer Science, Programming and Algorithms. The paper describes the experience of teaching and the development of mobile applications, applications for teaching and for users with special needs.

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Keywords: education, distance education, mobile technology, programming, tablet.

1. Introduction

Mobile computer and communication devices include not only notebooks that provide relatively small level of mobility. These devices are suitable only for transfers. Better mobility is given by smartphone or tablet. They use mostly operating system Android, iOS or MS Windows Phone. The advantages are mainly small dimensions, relatively long working time, instant response to user commands, software and hardware extensibility and communication abilities. Not only mobile computers and communicators are needed for the real mobile work. It is necessary to establish support and infrastructure for mobile connection to communication networks. The recent advancement of data communication systems offers practically usable and reachable tools. At the first place there are WiFi and the GSM technologies and its extensions EDGE, LTE etc.

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2. Mobile technologies in education

In 2004 there was performed a research among 63 students of bachelor's degree study program Applied Computer Science. Its objective was mainly getting of information about usage of mobile information and communication technologies. As it was supposed all of the students used cellular phone. 64 % of respondents used also mobile PC – notebook, 13 % respondents used PDA (Personal Digital Assistant) and 8 % respondents used smartphone. The following graph satisfying, that students were using mobile devices in the education. [1]

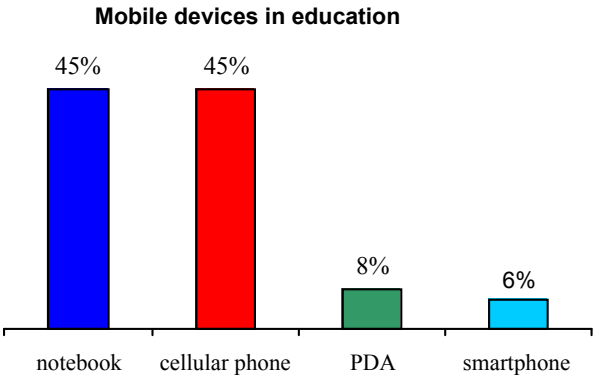

Fig. 1. Mobile devices in education (research 2004).

The second research was done at the end of 2013. The survey involved 113 students of bachelor's degree study program Applied Computer Science. It has 66 full-time students and 47 distance learning students. The aim of the research was to investigate the use of mobile devices in the education. For example: the number of students owning laptops, from 64% in 2004 to 89% in 2013. All students own at least one mobile device.

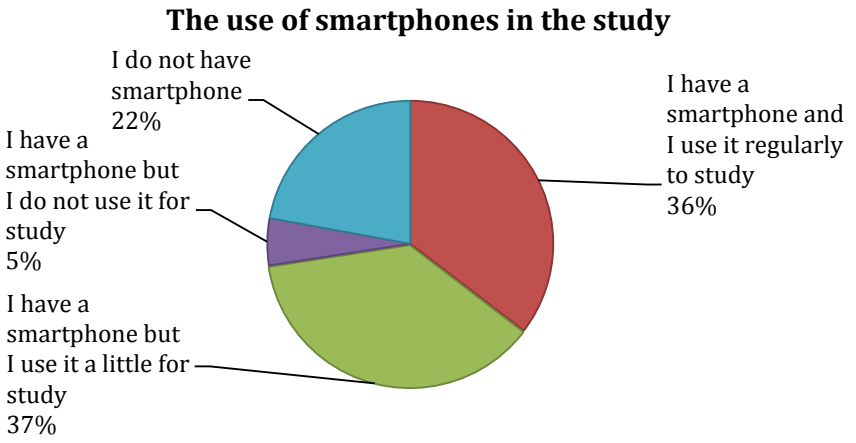

Fig. 2. The use of tablets in the study.

Students enjoy the most frequently smartphones running Android 78 %. Other systems are iOS (12 %), MS Windows Phone (8 %), Blackberry (1%), other systems (1%).

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