PROSPECTS OF USING THE INTERNET OF THINGS IN EDUCATION

Ilkhomjon Melikuziyevich Siddikov
Associate Professor of the Department of Informatics,
Kokand State Pedagogical Institute, PhD.
E-mail: ilhomsiddiqov58@gmail.com Tel: +99890-508-5512

ABSTRACT

This article examines the prospects for using Internet of Things technologies in education. The various benefits created for students and teachers in this process are discussed.

Keywords: Internet of Things, student, education, e-learning, science and research.

TA'LIMDA BUYUMLAR INTERNETIDAN FOYDALANISH ISTIQBOLLARI

Siddikov Ilxomjon Melikuziyevich
Qo'qon davlat pedagogika instituti Informatika kafedrasi dotsenti, t.f.n.
e-mail: ilhomsiddiqov58@gmail.com   Tel: +99890-508-5512

ANNOTATSIYA

Ushbu maqolada ta'lim sohasida Internet of Things texnologiyalaridan foydalanish istiqbollari ko'rib chiqiladi. Bu jarayonda talabalar va o'qituvchilar uchun yaratiladigan turli xil imtiyozlar haqida fikr yuritiladi.

Kalit so'zlar: buyumlar Interneti, talaba, ta'lim, elektron ta'lim, fan va tadqiqot.

ПЕРСПЕКТИВЫ ИСПОЛЬЗОВАНИЯ ИНТЕРНЕТА ВЕЩЕЙ В ОБРАЗОВАНИИ

Сиддиков Ильхомжон Меликузиевич
Кокандский государственный педагогический институт,
доцент кафедры информатики, к.т.н.
электронная почта: ilhomsiddiqov58@gmail.com Тел.: +99890-508-5512

АННОТАЦИЯ

В данной статье рассматриваются перспективы использования технологий Интернета вещей в сфере образования. В этом процессе рассматриваются различные преимущества для студентов и преподавателей.

Ключевые слова: Интернет вещей, студент, образование, электронное обучение, наука и исследования.

INTRODUCTION

The Internet of Things (IoT) has been developing for more than two decades. The concept of the "Internet of Things" and the term itself were first introduced in 1999 by Kevin Ashton of the Massachusetts Institute of Technology. According to him, it is intended to cover all aspects of the Internet, from the simplest household items we use in everyday life, such as kettles,

door locks, and refrigerators, to socially important technical devices, such as street lights, escalators, parking lots, and city security services, or from high-tech devices used in medicine, such as pacemakers, to the control of production processes. That is, in these areas, it is assumed that objects in these areas will "communicate" with each other via the Internet without human intervention.

If initially the areas of its application were quite limited, then later this technology began to be used in various fields, including education. This article will consider some features of the Internet of Things in education.

On practical issues of using the Internet of Things.

The transfer of information to the Internet of Things is carried out by analyzing technological, technical and physical characteristics. Gradually, modern users are moving from stationary devices to mobile electronic devices for accessing the Internet, using cloud technologies [1]. At the same time, there are opportunities for remote control of various objects. The Internet is becoming smart. The role of people as an intermediate link in managing the processes of information transmission, processing and assessment of its effectiveness is increasing. They also carry out various decision-making processes [2].

A distinctive feature of the Internet of Things in the field of education is the emergence of new qualitative features of a large number of mobile devices, constant access to information with the ability to perform various operations with them, the possibility of using many new services, and the use of integration technologies in the process of telecommunication communications [3].

Of course, there is still a long way to go for the mass use of IoT devices in education, and even developed countries cannot boast of complete digitalization of educational institutions. However, the increase in the number of devices connected to the Internet, their diversity, as well as the improvement of wireless communication, undoubtedly, will contribute to a gradual change in the concept of both higher and primary education. And this process is actively underway today.

Many university teachers, like school teachers, complain about significant time losses on various organizational issues, such as registering absenteeism, checking homework, distributing new ones, etc. Automation of individual procedures allows you to reduce the recorded losses. Among the "smart assistants" that have already taken root in the education sector, we note the following:

• an electronic bracelet that allows you to monitor attendance and transfer individual assignments of students;

• "smart" desks, electronic whiteboards equipped with touchscreens;

• webcams and virtual classrooms for online broadcasting of lectures.

In addition, various recommendation services and decision support systems (DSS) have proven themselves well. For example, registration of students or pupils can be carried out using a "smart" device, for example, a bracelet that uses ECG templates for authentication. Brain activity can be analyzed using a special gadget that works according to EEG technology and determines the student's cognitive energy consumption. The data is transmitted to the teacher's device, which determines whether the student is really working on the task or is just pretending to be.

With the help of special applications, behavioral problems can also be solved. We have all studied somewhere at some point, and even if it is fair, we remember how much we do not like to "hear a joke" from the "teacher" in front of everyone. This will be noticed by others, and in addition to losing your reputation, you will also lose the academic time allocated for studying a particular subject. A way out of this situation may be to use the "silent notifications" mode, i.e. the ability to send messages about the student's behavior to a personal bracelet or tablet, thereby reducing public discontent and eliminating possible direct hostility.

Special software allows you to analyze the dynamics of the behavior of a particular student or pupil during their studies and create their personal image, which will be very useful both for new teachers and for those who are not familiar with a particular audience. Of course, in today's concept of education, such methods in the "student-teacher" relationship may not seem very useful, but when our lives become "digital", they will be completely appropriate and applicable.

As a result, with the help of IoT technologies, the teacher also stops performing the functions of an administrator, and can devote more time to working directly with students.

In the future, the process of identifying students will occur, and educational tasks will be assigned to them by devices.

There are opportunities to collect all statistical data for each member of the study group. Tasks are assigned in a differentiated manner, taking into account the readiness of each student.

With each of them, the tutor can communicate in a way that does not distract other students. Teachers should use devices appropriately in smart classrooms, in addition, general pedagogical approaches to teaching subjects are required.

Of course, the teacher should use appropriate devices and technologies carefully so that the personal aura of students is not violated.

Smart devices themselves are considered in the form of certain auxiliary components that create the opportunity to support recommendation operations.

Training attracts the attention of students, various distractions are removed.

Currently, issues related to the assessment of brain activity still determine some disagreements between different educators.

Under the current conditions, there are opportunities for effective training of personnel for industrial enterprises based on Internet of Things technologies.

There are some practical problems associated with the commercialization of Internet of Things IT solutions in educational processes. That is, modern technologies should ensure income generation. This determines the need to train specialists with business competence [4,5].

CONCLUSION

Internet of Things technologies in education provide students with the opportunity to receive knowledge of a higher quality. Teachers need to develop appropriate methods that adapt modern educational approaches to modern technologies. The Internet of Things has created a unique opportunity to increase the activity of students, to teach and receive education. In the near future, the Internet of Things will penetrate most of the education system.

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