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Cloudy in the Educational Process of Higher Education Institutions Need to Use Technologies

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Annotation: In this state, the use and application of cloud technology in the educational process, the problems of its use, and the significance of the use of cloud technology in the educational process are analyzed in Uzbekistan. Izucheno, chto ispolzovanie oblachnyx tekhnologiy v obrazovatelnom protsese pozvolyaet ispolzovat bolee shirokiy spectr form i metodov, yavlyaetsya odnim iz sovremennyx sposobov prostit i oblegchit process obuchenia.

Key words: training, interactive method, cloud technology, use, information, technology, new cloud technology training.

Enter. In the development of digital technologies, education takes the form of a continuous, individually oriented, flexible and dynamic process. UNESCO is focusing on developing high-tech educational competencies and skills for the 21st century. In the context of the sustainable development of education for all, the ubiquitous penetration of digital technologies, inclusive knowledge is carrying out the description of the problems and solutions of forming the level of ICT competence, media and information literacy in accordance with the society's requirements, the integration of ICT and pedagogy is a problem-solving approach, including open An example of this is the development of innovative techniques and technologies used for the formation of educational resources and teaching-methodical support, the use of public open online education. The 21st century is the age of high technologies and mass communications. Now it is difficult to imagine our life without electronic devices. A computer, laptop, tablet or even a cell phone. These devices are changing the lives of many people for the better. Today, "cloud" technologies are actively used in all developed countries. They provide innovative, cost-effective opportunities for business, management, education and research. Currently, the very rapid growth of information, knowledge itself remains a goal in itself, they are one of the conditions for the successful implementation of a person's professional activity.

Thus, studying cloud technologies is of particular importance at the moment: - one person has data on several computers, for example: a work computer, a home computer, laptops, tablets, constantly transferring files between them, opening and editing documents

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Figure 1. Use of cloud technology in the educational process

must have knowledge about software compatibility; — knowing the limited capacity of the computer's hard disk or flash cards; — the need to have a software license; If we look at cloud technologies themselves, they are information processing technologies, in which computer resources are provided to the Internet user as an online service. The word "cloud" is used here as a metaphor for a complex infrastructure that hides all the technical details.

Currently, "cloud technologies" are divided into the following categories: - Private (private) - Public - Hybrid - Clan (community) Private cloud: Private cloud (English privatecloud) is used by an organization that includes several consumers infrastructure. A private cloud can be owned and managed by the organization itself or by a third party (or a combination thereof). Public cloud: Public cloud (English publiccloud) is an infrastructure used by the general public. A public cloud can be owned, managed, and analyzed by commercial, academic, and government organizations (or any combination thereof). Hybrid cloud: A hybrid cloud (eng. hybridcloud) is two or more different entities that remain unique objects, but are interconnected by standardized or proprietary technologies (for example, short-term) to transfer data and applications. is a combination of different cloud infrastructures (private, public or public), using shared cloud resources to balance the load between clouds. Clan cloud or community cloud: Community cloud is a type of infrastructure designed for use by a certain group (clan) of consumers of organizations with common tasks. A public cloud may be jointly owned and operated by one or more public organizations or a third party (or a combination thereof), and may be physically located both within and outside the owner's jurisdiction. Thus, cloud technologies are data processing technologies in which computer resources are provided to the Internet user as an online service.

The main types of cloud technologies are:

"Infratuzilmagandaynkhizmat" ("Infrastructure as a Service" or "IaaS");

"Platform as a Service" ("Platform as a Service", " PaaS");

"Software as a Service" ("Software as a Service" or "SaaS");

Consider each of these technologies in detail.

Infrastructure as a Service (IaaS)

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IaaS is the provision of computer infrastructure as a service based on the concept of cloud computing. IaaS consists of three main components:
Hardware (servers, storage systems, client systems, network equipment)
Operating systems and system software (virtualization, automation, key resource management tools)
Middleware (eg for systems management)
IaaS is based on virtualization technology, which allows the user of the equipment to divide it into parts that meet the current needs of the business, thereby increasing the efficiency of using available computing power. The user (company or software developer) only has to pay for server time, disk space, network bandwidth and other resources necessary for operation. In addition, IaaS provides the client with a complete set of management functions in one integrated platform. IaaS eliminates the need to support complex data center, client and network infrastructures while reducing capital and operational costs. In addition, you can achieve additional savings in maintenance within the framework of the shared infrastructure.
Platform as a Service (PaaS)
PaaS is the provision of an embedded platform for developing, testing, deploying and supporting web applications as a service.
To install web applications, there is no need to purchase hardware and software from the manufacturer, and there is no need to organize their support. Customer access can be arranged on a rental basis.
This approach has the following advantages:
expandability;
fault tolerance;
virtualization;
security;
Scalability includes the automatic allocation and release of necessary resources based on the number of users served by the PaaS application.
PaaS As an integrated platform for developing, testing, deploying and supporting web applications, the entire list of operations for developing, testing and deploying web applications can be performed in one integrated environment and thus eliminates the cost of supporting individual stages.
The ability to create original code and share it within the development team significantly improves the efficiency of creating applications based on it PaaS.
Software as a Service (SaaS).
Saas is a software distribution model that involves providing software as a service to end users on demand. Access to such a program is done over the network and often through an Internet browser. In this case, the main advantage of the SaaS model for the client is the lack of costs associated with installation and updating and the installation, updating and maintenance of the software that runs on it. The target audience is end users.
In the SaaS model:
the application is adapted for remote use;
several clients can use one program;
payment for the service is charged as a monthly subscription or based on the total amount of transactions;
program support is already included in the fee;

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the program can be updated seamlessly and transparently to employees and customers.

From the point of view of software developers, the SaaS model allows the client to effectively deal with unlicensed use of software, since the client does not have the ability to store, copy and install the software.

In fact, SaaS software can be seen as a more convenient and cost-effective alternative to in-house information systems.

The development of SaaS logic is the concept Vaas (Workplace as a service - workplace as a service). That is, the client gets at his disposal a fully equipped virtual workstation with all the necessary software.

Data storage and backup

All three types of cloud services represent an interconnected and integrated structure.

In addition to various methods of providing services, there are several options for deploying cloud systems:

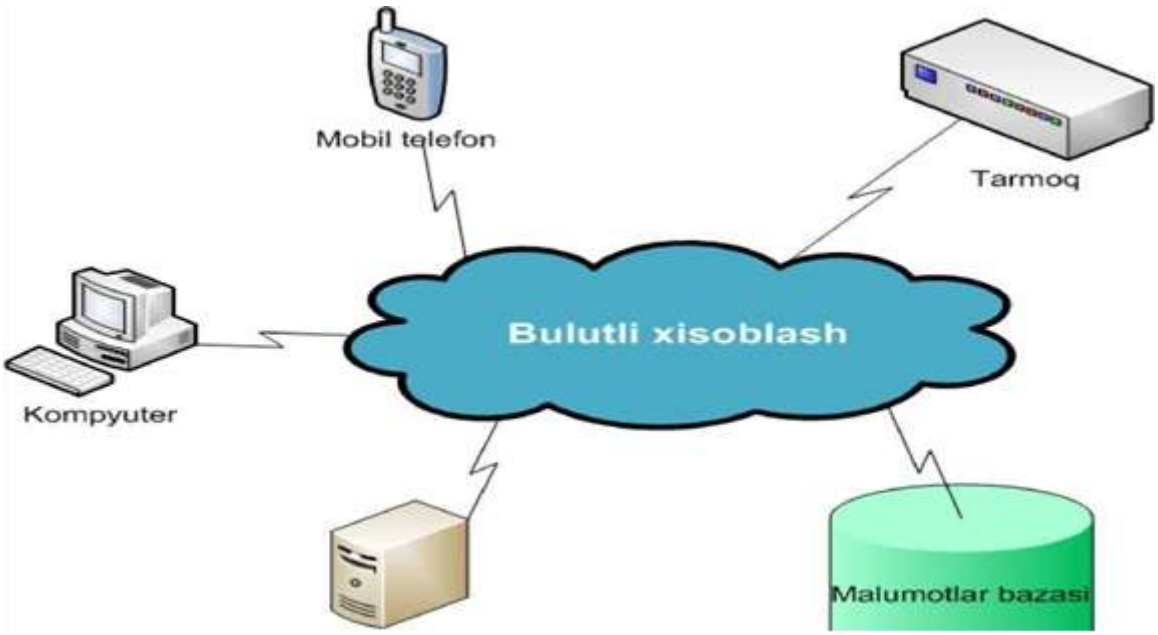

Figure 2. Information flows in the clouds.

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