INFORMATION TECHNOLOGY DEVELOPMENT TRENDS

Rustamova Moxichexra Yaxshiboyevna
Head teacher, Tashkent University of Information Technologies
named after Muhammad al-Khwarizmi
Uzbekistan, Tashkent
Abduraxmanov Abbos Abdusattarovich
Head teacher, Tashkent University of Information Technologies
named after Muhammad al-Khwarizmi
Uzbekistan, Tashkent
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Abstract
In this issues we can analysis the importance of information Technology. An analysis I take into account the importance of automatic system and how it was changed during the years. Today, there are different types of stages of development of Information Technology. We noticed that the main 4 stages of development of Information Technology. The role of satellite communication is in modern world and benefits of this.
Key words: Information Technology, communication system, spheres, intervals, automated systems, teletypes, radical, satellite communication, cellular communication.

INTRODUCTION

It is clear that, today Information Technology is playing a major role in the modern world. Information technology has a special position in our society, which is the engine of World Economic Growth, which not only affects its economic and social institutions but also penetrates into all spheres of production activities and allows you to establish effective management systems.

Currently, computers play a big role in the distribution, storage and processing systems of information in our society. Inter-regional and international relations are increasingly forming, which requires the possibility of exchanging information over long distances in the shortest possible time. In addition, the number of people professionally engaged in the collection, storage and processing of information is increasing day by day, which also causes an increase in demand for the development of Information Technology.[1]

There are many definitions of the concept of "Information Technology". In particular, the American specialist in the field of Management G. Poppel believes that information technology refers to the use of computers and communication systems for the collection, transmission, storage, and processing of information for all spheres of public life. Of course, information technology has entered into all areas in a wide way, and the need for its development is very great. Due to the high demand for the development of information technology, we can observe that this industry is still developing continuously. Throughout the development of information technology, it is divided into several stages. Let's take a look at the trends in the development of Information Technology below.[3]

Let's take a look into the future and figure out the trends in the development of Information Technology. To do this, we first need to figure out what is the current state of Information Technology and what stages it has passed.

As we know, the process of using information resources in society is an integral part of Information Technology. To date, information technology has gone through several evolutionary stages, the change of evolutionary stages is manifested in the development of the scientific and technical process, as well as in the emergence of modern technical means of information processing. Like any other technology, information technology is unevenly Advanced, which means that any new solutions appear from time to time, and not in constant uniform time intervals. Today, there are several types of classification of stages of development of Information Technology. Below we will consider a variant of these classifications:

Stage 1 (until the late 1960s) is the beginning of the development of the first information technology associated with the emergence of Information Systems. At this stage, the main direction of development is manifested in the development of automated systems of automation and Production Control and process control of routine human actions. However, in the context of the limited capabilities of software and technical tools, there have been problems with large amounts of data processing.[5]

In addition, at this stage, there is a psychological problem, in which users cannot fully understand the created capabilities of Information Systems and the problems being solved, as well as full use it, creating a difficult situation between developers and users. Therefore, systems have been created that users cannot perceive well and do not fully use despite their great capabilities.

It should be noted that at this stage there were also large computers, electric typewriters, teletypes (telexes), copying machines, and portable sound recorders. In this regard, the main emphasis in Information Technology began to shift from the form of information presentation to the formation of its content.

Stage 2 (until the late 1970s) - the widespread availability of IBM/360 Series donations made them available with basic and specialized software, with the development of automated control systems as well as information and search engines. At this stage, more attention is paid to the formation of the meaningful side of Information Technology for the management environment of various spheres of society's life, in particular, the organization of analytical work.[6]

A characteristic problem of this stage was the availability of the possibility of using large universal computers (mainframe) only by powerful corporations due to the high cost and complexity of the operation.

Stage 3 (from the mid–1980s) is a computer designed primarily for non-professional users, as well as the first personal computers to emerge based on their approach to Creating Information Systems. At this stage, Information Technology gave the individual user the opportunity to use information technology. Thanks to this, the user of the latest information technology could freely use it. This stage was associated with a change in the characteristics of the information product, which increasingly became a hybrid between the results of computational and analytical work and a specific service provided to the individual user.[5-6]

It also evolved continuously. That is why a user-to-user connection was established between the developer, and a mutual understanding arose between the specialists of both groups. The problems of this stage have become the need to maximize the user's needs and create a suitable interface for working in a computer environment, as well as the development of applications for corporate and individual use.

Stage 4 (from the early 1990s) consisted of the development of modern technologies based on telecommunications technology advances and distributed information processing, that is, to create large Information Systems, and local, regional and global networks. This stage gave us the opportunity to carry out an uninterrupted exchange of information through global networks. Now the purpose of Information Systems was not only to improve the efficiency of data processing and help the user but also to organize high-performance information technologies. The universal use of electronically stored data has radically changed the ways people work, learn, manage, and make the most of their free time.

Stage 5 (from the beginning of 2000) consisted of the globalization of Information Technology, the orientation of user services to comprehensive satisfaction, the integration of information resources, the development of geoaxborot technologies and systems, the creation of opportunities for the use of intellectual and nano information technologies and systems. It also allowed the integration (approximation) of wired and wireless technologies and communication systems.[5-6]

This trend has ensured the elimination of the problem of distance in the rapid exchange of information between consumers. In this case, in the banking sector, the possibility of issuing part of the money not only through cashiers but also through ATMs appeared. Also, the ordering of goods through telemarketing, bypassing bases, warehouses, stores or sales agents, was also reflected in this trend.

In addition, a video conferencing system, an electronic kiosk, an email, an author and a reader, a seller and a buyer, scientists among themselves, a teacher and a student, and an opportunity to communicate directly between the specialists of the enterprise.

One of the great achievements of this trend is the globalization of information technology, resulting from satellite communication and the use of the internet around the world, where people have the opportunity to communicate with each other or in a common group, regardless of whether they are anywhere in the world.

Initially, there was a need for large-scale data transmission when satellite communication became available. The first satellite communications system was the Intelsat system, then similar regional organizations (Eutelsat, Arabsat, etc. Over time, the share of data transmission in the total volume of main traffic has steadily decreased, paving the way for the transfer of large volumes of data.

For most of the population, satellite communication was complex, expensive, and difficult to use in life. Satellite communications have been several times more expensive compared to land mobile tariffs. This made the population uncomfortable. Satellite communication is constantly developing at the expense of industrial and low-population-density areas.

One of the main advantages of satellite communication is that it is available in places where there are no connection options through any other means: on board the aircraft and between the ocean, in the taiga, in the Tundra and in the Arctic. For cellular communication, you need to build base stations and then be in their zone of influence, for analogue telephone communication, you even need to connect subscribers with wires. To communicate through satellite equipment, it is enough to have an open sky at the top.

Another important advantage — it does not matter which part of the world you are calling, only the time of data transmission is important, so satellite communication tariffs are very simple-only the cost of a minute is much more expensive. When subscribers communicate with each other, the signal alternately passes from them to the centre of the Earth, which can

be on the other side of the globe, and this does not affect the cost of the call or the quality of communication in any way. In addition to the advantage, satellites also have disadvantages.

The disadvantages of satellite communication are associated with the fact that large distances in the atmosphere are travelled:

there are noise and losses due to physical processes in the troposphere;

there is a dependence on the weather, radio waves do not pass well in clouds and snow clouds;

satellite phones are not intended for use in buildings, since the walls and roofs are affected as a barrier;

expensive tariffs-about 7500 rubles per minute of call, which is much more expensive compared to the prices of mobile operators.

Due to these shortcomings, satellite communication remains a special means of communication, which is addressed only in extreme cases. This is mainly used by the military, rescuers, travelles and climbers, deer herders, oilmen and sailors.[9]

CONCLUSION

So, if you pay attention, the stages of development of Information Technology are aimed at creating wider and more accessible opportunities for people every time they change. So if we compare the first and last stages, we can observe that very great opportunities and facilities are formed for humans. Of course, information technology will continue to develop as long as humanity exists.

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