THE PROBLEMS OF CONSTRUCTION OF AUTOMATED WORKING PLACES

© 2016 A. P. Preobrazhensky

Voronezh institute of high technologies

The main benefits associated with the use of networks in the functioning of semi-autonomous and distributed automated workplaces (AWP) are considered. The analysis of the main provisions that guided the developers of arm, given the fact that they appeared. The presence of the aggregated information space allows to significantly reduce the gap between processing and decision-making.

Keywords: automation, working place, software, computer.

Most often semi-autonomous, automated work stations (AWS) operate as components of a local area network located in a limited area (within one or several areas); it does not use the telecommunications means of communication for general purposes.

The major benefits associated with the use of networks in the functioning of semi-Autonomous and distributed arm:

- building high-performance data processing systems by combining multiple computers into a powerful computing complex;

- improving the reliability of the system thanks to the network organization of data processing;

- the automation of the process, allowing a gradual transition to paperless, and ultimately the electronic document;

- efficient use of network resources due to the connection of arm components; provided group and single circulation of documents is controlled by their passage and execution;

- integration of computing resources and their effective use because of the separation in time of the expensive peripherals (high-speed printing, electronic storage of data);

- no duplication of data among customers due to their centrally stored on the server, providing access to corporate files and databases.

Note that building a modern arm, taking into account the term, involves the use of a fully functional expert system with knowledge bases, machine inference, explanation subsystem, is able to interpret the obtained results for making effective decisions.

Consider the basic principles that guided the developers of arm, following the retrospectives of their appearance.

The first arm were professionally oriented, and their software was determined, as a rule, the nature of work performed. They were intended for specific experts and provide solution of tasks of the relevant subject area.

However, widespread functional approach to the development arm, which was as follows. Analyzed the functions carried out by workers of a particular profession. From them were chosen the most typical, followed by the creation of software tools for their automation.

The developed software is united in a holistic system that supports tasks relevant profession, which is shaped in the form of a specific arm. For all its faults and limitations, this approach became the whole milestone in the development of the concept of arm.

Management activities described as the set of processes correlated with the schedule of assignments, and the activity of each employee was linked to the activities of the other. Thus, there is a General schedule of works.

On the basis of it was formed tasks, reminders were issued, accumulated data on the activities of the employees.

The use of the necessary data to allow the processes of distribution of documents inside the company, to do the sending, receiving, and handling messages from different sources and to gather experts to meetings, even if they were at a very great distance from each other. Integrated software packages with the listed functions and serve as a base for automation. A wide range of software for your PC do not exclude the necessity to develop new applications, as the need arose of creating a workstation for new professions.

Преображенский Андрей Петрович – Воронежский институт высоких технологий, д. т. н., доцент, e-mail: app@vivt.ru

Required further specialization, binding to a specific Department, division, etc. as you accumulate software, and a more accurate specification of duties of professionals prerequisites for complete rejection of the functional approach to the creation of arm.

Ideally, they should be created under a particular specialist subject of tasks, relationships with other employees, personal inclinations and habits. Consideration of these factors applies not only to the functional of software, technical and organizational means, but also compliance with the ergonomic requirements.

To date, the number of known approaches to design and implementation AWS of various specialist subject areas and their relationship to organizational structures.

Speaking on the functioning of the arm, it is necessary to consider the component that should be adopted for the handling unit in the workplace, in particular the Manager. To such units in accordance with the established hierarchy, you can include the problem management function, business process, task, job.

The problem may consist of several management functions, each of which is implemented by a set of processes and/or tasks in the General case.

Each task is implemented through the execution of a specific list of works, a characteristic for it. Any problem and/or control function can also be implemented by an appropriate set of processes, tasks and activities.

Therefore, when designing a particular arm of the Manager should be the organization of information processing to build a hierarchy of selectable units of processing. The classical organization of information processing was provided for the sequential decision task (corresponding to the arm belong to the first generation, as the basic unit of processing they took the challenge).

The second generation of arm Association suggested tasks in accordance with control functions, and within each of them the problems were solved in the given order.

Processing information by using the arm of the first and second generations assumed gap in time between processing data and making decisions that interfere to respond promptly and act on emerging situations.

With regard to the organization of the data, they could represent a collection of files or databases, or a combination there of. Integrated information processing for decision-making contributed to the development of the concept of databases and systems management.

The presence of the aggregated information space will significantly reduce the time gap between processing and decision-making.

So there was the arm of the third generation, the basic unit of processing for which was already the process.

Currently, there are more arm belonging to the fourth generation. The basis of their functioning is based on the concept of work as the basic unit of information processing and workflow.

The main advantage of arm can be described as an opportunity for maximum integration of the components of the new information technologies in management processes without having to violate the natural course of conducting and making those management decisions that pertain to our firm.

It is necessary to conduct the appropriate training of specialists. Software and hardware tools arm provides the user Manager an opportunity in the dialogue mode with a computer to consider it is difficult to formalize factors by tracking the process of data processing, if necessary, interfering with its progress and making necessary adjustments.

You can produce multiple calculations, the modeling options and implementing a variety of situations, which increases the validity and efficiency of decisions.

Analyzing the essence of arm specialists determine they are often as professionally-oriented small computer system arranged directly on working places of specialists and intended for automation of their work.

For each control object must provide automated work places that meet their functional purpose. However, the principles of creation of arm needs to be:

–system;

–flexibility;

–resistance;

–efficiency;

–the orientation to the end user;

–problem focus on solving a specific class of tasks;

–ergonomics;

–the principle of matching the information needs of user used technical means;

–the creative principle of the contact arm and their potential users.

ЛИТЕРАТУРА

1. Завьялов Д. В. О применении информационных технологий / Д. В. Завьялов // Современные наукоемкие технологии. – 2013. – № 8-1. – С. 71-72.

2. Землянухина Н. С. О применении информационных технологий в менеджменте / Н. С. Землянухина // Успехи современного естествознания,2012, № 6, с. 106-107.

3. Максимов И. Б. Классификация автоматизированных рабочих мест / И. Б. Максимов // Вестник Воронежского института высоких технологий, 2014, № 12, с. 127-129.

4. Максимов И. Б. Принципы формирования автоматизированных рабочих мест / И. Б. Максимов // Вестник Воронежского института высоких технологий, 2014, № 12, с. 130-135.

5. Choporova E.I. Efficiency increase techniques of engineers orientation in a foreign language information area / E. I. Choporova // American Journal of Pedagogy and Education, 2013, № 1, с. 006-008.

6. Мельникова Т. В. Особенности математического моделирования экологических и гостиничных систем / Т. В. Мельникова // Моделирование, оптимизация и информационные технологии. 2016. № 1. С. 14.

7. Акатов Д. В. Технология создания компьютерной сети производственного предприятия / Д. В. Акатов, А. Г. Юрочкин // Моделирование, оптимизация и информационные технологии. 2015. № 3. С. 8.

8. Гуськова Л. Б. О построении автоматизированного рабочего места менеджера / Л. Б. Гуськова // Успехи современного естествознания. 2012. № 6. С. 106.

ПРОБЛЕМЫ ПОСТРОЕНИЯ АВТОМАТИЗИРОВАННЫХ РАБОЧИХ МЕСТ

Воронежский институт высоких технологий

В статье рассмотрены основные выгоды, связанные с применением сетей при функционировании полуавтономных и распределенных автоматизированных рабочих мест (АРМ). Проведен анализ основных положений, которыми руководствовались разработчики АРМ, исходя, из того, как они появлялись. Наличие агрегированного информационного пространства позволяет существенно сократить разрыв во времени между обработкой и принятием решений.

Ключевые слова: автоматизация, рабочее место, программа, компьютер.