3. Patent US 6,288,536 B1, G01N 27/72. Eddy Current Sensor. [Текст]/Inventors: Mandl R. (DE), Mednikov F.M., Nechaevsky M.L. (RU), Wisspeintner K. (DE); assignee: Micro-Epsilon Messtechnik GmbH & Co. KG (DE). – 09/230,897; Aug. 4, 1997; Date of Patent: Sep. 11, 2001. – 7 p.

4. R.Mandl. Messen, Steuern und Regeln mit ICONNECT. [Текст] /Mandl R., Sick B.//Komponentenbasierte Bild- und Signalverarbeitungsanwendungen visuell programmiert: Brevier. – Heidelberg: Vieweg Verlag, 2003.- s.349-360.

M.U. Mamatmuradova

INTELLECTUAL INFORMATION SYSTEMS

(Karshi branch of the Tashkent University of Information Technologies named after Muhammad al-Khwarizmi)

Abstract: In modern science, under research related to the modeling of human intellectual capabilities, one understands the scientific direction occupied by problems of the synthesis of automatic structures capable of solving complex problems of information support of various types of human activity. Usually these are tasks for which, for one reason or another, there are no ready-made rules or examples of solutions. Develop a rule for solving such a problem can a person with the necessary knowledge, experience and intelligence. Among these tasks, the most difficult and urgent task is to develop the means of human communication with a computer system that simulates the human intellect in natural language and the task of automatic machine translation from one language to another, provided that the semantic and emotional aspects are accurately conveyed. Only with the help of absolutely natural means of communication between a person and an automaton executing a computer program will it be possible to create systems adequately modeling human intelligence and such properties as thinking, intuition, consciousness and subconsciousness. Such systems in modern computer science are called intellectual information systems.

Key words: *intellectual systems, intellectual task, automated information systems, intellectuality of information systems.*

The current state of fundamental and applied research in the field of intelligent information systems allows us to consider that their results have become quite definite. This means that a relatively stable system of concepts has developed, a methodology for designing, constructing and implementing has emerged, and the typical structures of such systems and their components have been defined.

It is generally accepted that the intellectual task is to find an unknown algorithm for solving a practical or theoretical problem that is universal on the set of original data inherent in this problem. It is only necessary that the performer solving the problem be able to perform those elementary operations from which the process is composed, and, in addition, that he is pedantic and carefully guided by the proposed algorithm. Such a performer (man or machine), acting purely mechanically, can successfully solve any problem of the type in question. Therefore, it seems quite natural

to exclude their class of intellectual tasks for which standard methods of solution exist. Examples of such problems are purely computational tasks:

- solution of a system of linear algebraic equations;
- numerical integration of differential equations;
- problems of approximation of empirical data, etc.

To solve such problems, there are standard algorithms that represent a certain sequence of elementary operations, which can be easily implemented as a program for a computer. In contrast, for a wide class of intellectual problems, such as pattern recognition, logical inferences and logically complex games (for example, playing chess), proof of theorems, etc., such a formal breakdown of the process of finding solutions to individual elementary steps opposite often proves to be very difficult, even if their solution is not difficult.

Thus, there is some basis to consider the concept of intelligence as equivalent to the concept of a universal super-algorithm, which is capable of creating algorithms for solving specific problems.

Each of these stages corresponds to its own information model of the subject area. For the first information systems, such a model was catalogs or classifiers; for AIS (automated information systems), these were information sets organized in the form of databases and data banks, and for IIS (intellectual information system) the domain model is represented by a structured data system called the database knowledge. Information systems based on catalogs were created primarily to implement, in varying degrees, a mechanized search for the necessary information. AIS, based on highly organized databases, allowed not only to conduct an automated and multidimensional search for information, but also a fairly complex processing of the information found, its organized storage and transfer. IIS, based on knowledge bases, should (in addition to the capabilities of AIS) solve problems called "intellectual".

Features and attributes of information system intelligence

Any information system (IS) performs the following functions:

• Recognizes user-entered information requests and the necessary input data.

• Processes the data entered and stored in the system in accordance with the known algorithm and generates the required output information.

From the point of view of the implementation of the listed functions, IP can be viewed as a factory producing information in which the order is an information request, raw material is the raw data, the product is the required information, and the tool is the knowledge with which the data is converted into information.

The Intelligent Information System (IIS) is an information system that is based on the concept of using the knowledge base to generate algorithms for solving economic problems of various classes depending on the specific information needs of users.

For intelligent information systems, oriented to the generation of algorithms for solving problems, the following features are typical:

-developed communication skills;

-the ability to solve complex, poorly formalizable tasks;

-Ability to self-learning.

The communicative capabilities of intelligent informational systems characterize the way the user interacts (interface) with the system.

Complex, poorly formalized tasks are tasks that require the construction of an original solution algorithm depending on the specific situation for which the uncertainty and dynamism of the initial data and knowledge may be characteristic.

Conclusion

Thus, the intellectual information system is a computer model of a person's intellectual capabilities in the purposeful search, analysis and synthesis of current information about the surrounding reality in order to obtain new knowledge about it and to solve various vital tasks on this basis. A promising way of improving and further developing expert systems is the creation of tools based on the joint use of different models of knowledge representation: production, semantic, frames and logical models. All these models are a mathematical tool for constructing advanced intelligent automated information processing and control systems.

References

[1] Andreychikov AV, Andreychikova ON Intelligent information systems. Uch.- M .: Finances and Statistics, 2004.- 424 p.

[2] Arseniev SN, Shelobov SI, Davydova T.Yu. "Making decisions. Integrated information systems ». Textbook for High Schools. M.: Unity-Dana, 2003.-270 p.

[3] Jackson P. Introduction to expert systems / Textbook - M .: "Williams", 2001 - 624p.

[4] Ledeneva TM, Podvolny S.L. Systems of artificial intelligence and decision-making: a textbook; Ufa: UGATU, 2005. - 246 with.

[5] Pospelov GS "Artificial intelligence. New Information Technologies "- Moscow:" Science 2006 ".

D.M. Umurzakova

FUNCTIONS OF MOBILE COMMUNICATION IN THE FUTURE HOME

(TUIT Fergana Brench, Uzbekistan)

Today, connectivity is generally regarded as a high-end novelty in home devices, suchas utility meters, thermostats, security cameras, TVs and Blu-ray players, rather than afeature for the mass-market. This view will become out-dated as we move to a futurewhere connectivity is pervasive and embedded in virtually all household devices.Many analysts believe that the smart home of the future is likely to contain 15 to 30connected devices and sensors, all linked via a home area network and connected toservice providers’ back-end systems and the Internet. Connected devices will range fromordinary household appliances through to solar panels and electric vehicle charginginfrastructure that both consume and generate electricity.

The combined revenue from the smart metering, home automation and home energymanagement (HEM) segments will be worth more than $44bn in 2016,