შ რ ო მ ე ბ ი
მართვის ავტომატიზებული სისტემები

TRANSACTIONS
AUTOMATED CONTROL SYSTEMS

Т Р У Д Ы
АВТОМАТИЗИРОВАННЫЕ СИСТЕМЫ УПРАВЛЕНИЯ

№ 1(6)

ვულოცავთ !

ბატონ არჩილ ფრანგიშვილს საქართველოს ტექნიკური უნივერსიტეტის რექტორად არჩევას. ვუსურვებთ ნაყოფიერ და ნაომატებულ შემოქმედებას ჩვენი უნივერსიტეტისა და ქართული სამნჯინრო-ტექნიკური საზოგადოების საკეთილდღეოდ.

ჟურნალის რედკოლეგია

CONGRATULATIONS !

Mr. Archil Prangishvili on winning elections for the
post of Rector of
Georgian Technical University

ПОЗДРАВЛЯЕМ !

АрчилаИвериевича Прангишвили с победой в
выборах на должность ректора
Грузинского Технического Университета

პროფესორი არჩილ ფრანგიშვილი:

ტექნიკის მეცნიერებათა დოქტორი, საქართველოს ტექნიკური უნივერსისტეტის რექტორი, საქართველოს საინჟინრო აკადემიის პრეზიდენტი, საქართველოს მეცნიერებათა აკადემიის წევრ-კორესპონდენტი, საერთაშორისო საინჟინრო აკადემიისა და გაეროსთან არსებული ინფორმატიზაციის საერთაშორისო აკადემიის ნამდვილი წევრი, ჟურნალ „მსს"-ის რედკოლეგიის თავმჯდომარე.

Ms. Archil Prangishvili:

Doctor of Technical Sciences, Full professor, Corresponding member of the Georgian Science Academy, President of the Georgian Engineering Academy, Member of the International Engineering Academy and the International Academy of Informatization of UN. Rector of GTU from 14.02.2009. The expert in the field of Computer Science and Control Systems. Head of Editorial Board of the Journal "Automated Control Systems" of Georgian Technical University.

АрчилИвериевич Прангишвили:

Грузинский ученый, доктор технических наук, профессор, член-корреспондент Академии наук Грузии, президент Инженерной академии Грузии, член Международной инженерной академии и Международной академии информатизации при ООН, ректор Грузинского технического университета с 14.02.2009. Специалист в области Систем управления, Информатики и Вычислительной техники. Председатель редакционной коллегии журнала "Автоматизированные Системы Управления" ГТУ.

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CONCEPT OF INTERDISCIPLINARY TRAINING ON THE SPECIALTY OF MIS WITH BACKGROUND OF UML/2

Surguladze Gia

Georgian Technical University

Summary

Ways of perfection of system of training by disciplines of modern information technologies at universities on a specialty of the Management Information Systems in view of interdisciplinary connections are considered. Article offers the concept of interdisciplinary training for existing three-stage system of higher education (bachelor degree, magistracy and doctoral studies) on a specialty of the MIS and the program of its realization on the basis of experiences of known universities of foreign countries with background of UML-technology.

APPLICATION ROBUST METHODS OF THE DATA, ANALYSIS OBTAINED IN A PRECISION EXPERIMENT

Zedginidze Irakli., Beraya Nino

Georgian Technical University

Summary

Proficiency testing by interlaboratory comparisons is used to determine the performance of individual laboratories for specific tests or measurements, and to monitor the continuing performance of laboratories. At application to the data received as a result of experiment by an estimation precision of criteria Cochren and Grubbs, some data can be excluded. This decision essentially influences such characteristics of a standard method of measurements as value of standard deviations of repeatability and reproducibility. Stated robust methods allow to analyze the data in such a manner that it is not required to accept the decisions on exception of any data. The robust methods given by values of standard deviations of repeatability and to reproducibility, which are valid for data of high quality and are not exposed to influence of the data poor quality. The program ensuring in an automatic mode data processing of supervision by robust method according to algorithm, stated in clause is received.

DEFINITION OF OUTLIERS BY A METHOD OF GRAPHIC COMPATIBILITY AT INTERLABORATORY TESTS

Beraya Nino, Zedginidze Irakli., Karoyan Inga

Georgian Technical University

Summary

The questions of automation of checks on quality of realization of tests by means of interlaboratory checkings are considered. Proficiency testing by interlaboratory comparisons is used to determine the performance of individual laboratories for specific tests or measurements, and to monitor the continuing performance of laboratories. For algorithm of definition outlier laboratories by criteria Mandel the program ensuring in an automatic mode data processing of supervision of checked laboratories with distribution of the evident diagrams of values Mandel statistics for interlaboratory compatibility grouped on laboratories, and also diagrams of values of Mandel statistics for intralaboratory compatibility also grouped on laboratories with the indication of display lines for Mandel statistics h and k for two most often of used significance values is received. The distribution of the recommendations concerning laboratories is provided in an automatic mode which can not further participate in definition of parameters of production by a considered standard method of measurement.

MATHEMATICAL MODELLING OF PEOPLE MASSES BEHAVIOR`S DYNAMIC

Obgadze Tamaz[1], Sakvarelidze Nino[1], Modebadze Teimuraz[2]

1. Georgian Technical University,
2. Kutaisi Technical University

Summary

A mathematical model of emotional excitation dynamics in the people massesis contrived.. On basis of software package Mathcad 2001 Pro the rating dynamics of transition not excited peoples masses to a crowd - emotionally excited masses is shown.

SYNTHESIS OF ROBUST TRACKER SYSTEMS WITH ROOT LOCUS

Kotrikadze Omar, Kotrikadze Ketevan

Georgian Technical University

Summary

Robust control is the new direction in modern Control Systems Theory; In this paper Robust of the tracker systems is proved and using the strong theorem of Kharitonov and root locus, polynomial with less buffer of stability are set. For this polynomial, the rationed root locus are built. The root locus graph enables to conduct the synthesis of tuning parameters of the robust tracker system.

THE CORRECTIVE SECTION'S ROBUST STRUCTURAL ANALYSIS

Kotrikadze Omar, Kotrikadze Ketevan
Georgian Technical University

Summary

In this paper corrective sections robust synthesis is described. Also the following subjects are covered: passive corrective section sheme; transmission functions for the different entrance and exit values. Root locus is used to solve the problem. That excludes the influence on the source by the corrective section's entrance signal's inner resistance.

INVARIANT-GROUP ASPECTS FOR THE SOME PARTICULAR SUMS OF IDENTIFICATION OF THE DISTRIBUTED PARAMETERS

Narimanashvili Nodar

Georgian Technical University

Summary

Using of invariant-group properties of the mathematic-physic equations for some particular sums of identification of identification of the control objects with distributed parameters is discussed. The possibility of getting of invariant solutions for differential equations with the particular derivatives on the basis of using its group properties is shown.

STRUCTURAL DESIGNING AND SYMMETRY OF THE NONLINEAR REGULATORS AGGREGATED PROPORTIONALLY-DIFFERENTSIATION

Valida Sesadze Nana Maglakelidze
Georgian Technical University

Summary

Problem decisions of analytical designing of nonlinear regulators of synergetic method, which is based on carried in functional dependence in space of positions of attractors on which natural properties are arranged with technological requirements of control as considered. By the synergetic approach conformity between invariant diverses and optimizing functions is established.

FORMATION OF MEASURES OF SIMILARITY WITH APPLICATION OF THE PRINCIPLE OF "SIMILARITY-DISSIMILARITY" (ATTRIBUTES)

Verulava Otar, Iremadze Ia
Georgian Technical University

Summary

The process of formation of measures of similarity for the objects with equal-dimension is discussed. Particularly, it can be the standard descriptions of recognition images, educational images, control and unknown images. During the recognition process the principle of coincidence (dissimilarity), is used that means the existence of procedure of superposition. Hence, it is necessary to provide the conditions of dimension equality. For the function of formed measures of similarity here the existence of metric features is proved and the opportunities of their utilization for binary and not binary recognition objects is represented.

TO MAKE A NEW METHOD FOR DEFENSE INFORMATION

Gulnara Kotrikadze
Tbilisi David Aghmashenebeli University

Summary

For defense of information, we made a new method. Where we used asymmetrical system of cryptography. Private, the method of Dipy-helman, in which the making the degree function is used , but in the new method we used multiplication matrix, which needs less time to get the key than Dipy-helman method. Making the degree was changed with multiplication. Trustworthiness of the method establishes to choose A_1 and A_2 matrix from multiplication matrix. Although the matrix multiplity is known to everybody, its important to notice that any matrix which is taken from matrix multiplity is intercom mutative towards all other matrices. And of course, all matrices are quadratic. In ather case, commutative will be disturbed. Choosing A_1 and A_2 matrixes for third person it is impossible, because these matrices multitude make very great number $n^2!$, where n is the space and it is beforehand known to everybody too. The mentioned method is distinguished with its trustworthiness, which causes high stability of the new method.

THE CREATION OF MULTITUDE OF INTER-COMMUTATIVE MATRIX AND ITS USAGE FOR DEFENSE OF INFORMATION

Kotrikadze Gulnara

Tbilisi David Aghmashenebeli University

Summary

In the article shortly is discussed cryptography, privately, the method of Dipi-Helman in asymmetrical system. But in it making the degrees is changed by multiplication of matrix. It is caused because of that, that making the degrees for finding the key takes more time, than multiplication of matrix, and it gives us reliable result. Besides, it is necessary and enough a matrix to be commutative or inter-modifying for getting the same key for both sides. Matrix must be quadratic, otherwise commutation will be abolished. The Matrix is chosen from available matrix multitude and everybody knows about it beforehand. There had been examined various matrices: arbitrary, accidental, symmetrical, bisectional. If we discuss symmetrical matrix, by it we get two kinds of matrices: the half part of the multitude is symmetrical to X axis, the second part is symmetrical to Y axis. The matrix fields is got by the same way, what is very important. Every kind of matrix gave us good result. The matrixes began the repetition very late, and that means that was created the multitude of matrixes. The multitude is defined by the formula $M^{(n \times n)}$. As big is the space as good result is made. 10^{30} is so big number, that choosing the matrix from such multitude in real time is impossible.

SIMULATION OF PROCESSES OF DELIVERY OF PRODUCTION ON THE BASIS OF COLURED PETRI NETWORKS

Surguladze Gia, Okhanashvili Maia, Basiladze Giorgi

Georgian Technical University

Summary

Questions of modeling and research of marketing business - processes, in particular modeling of sending of production are stated on the basis of time painted networks Petri. The cores of functions and opportunities of the CPN-tool for simulation dynamic business-processes are considered. It is offered decomposition of CPN-model in hierarchical modules. A fragment of a condition space for CPN-model is considered and listing statistical is given. Result of experiment of simulation modeling is shown.

PROCESSING OF AUTIMATIZED SYSTEM OF WORKING PROCESS MANAGEMENT

Kartvelishvili Ioseb, Jlantiashvili Avtandil

Georgian Technical University

Summary

The constructed stages of object-oriented approach of integrated automated system of document on working process management in state institutions and private structures are represented in this work. Working processes and the structure of aut0mated system is represented schematically and each of them is described according to its functional purpose.

COMBINED PROCESSING OF REGISTERED INFORMATION IN NATIONAL AGENCY OF PUBLIC REGISTER

Kartvelishvili Ioseb, Bitarashvili Marina
Georgian Technical University

Summary

The work represents a combined method of effective processing of registered information in national agency of public register and accessing the results of statistic analysis in the form of tables and diagrams. The method of combined processing is represented by different stages and each of them is described with its functional prescription.

RESEARCH OF SOME PROBLEMS OF CREATION OF THE UNIFORM MANAGEMENT INFORMATION SYSTEM BY THE STATE

Shonia Otar, Nareshelashvvili Gulbaat, Maisuradze Giorgi,
Shonia Akaki
Georgian Technical University

Summary

The analysis of necessity of creation of the uniform automated control system by the state and some problems to be solved necessarily is lead. Also it is shown, what place should borrow in this system cognitive modeling of a situation, main principles and are presented to feature of its creation and application.

DEVELOPMENT PIOSPECTS OF MULTYMEDIA MEANS

Omar Gabedava
Georgian Technical University

Summary

The advantage of using multimedia means of designing automated system control is consideced. New technologies of computer knots, which are used for technological maintenance of multimedia means are decrited. The schedule in which development multimedia means to consider are displayed is given.

HYBRID INTELLIGENT SYSTEMS

Todua Tea
Georgian Technical University

Summary

Hybrid intelligent systems are intensively developing during in last years. Problems of the real world are quite difficult and it is not possible to solve them by means of only one separately taken method. Hybrid intellectual systems allow to connect formalizable and non-formalizable knowledge more effectively due to integration of traditional means of an artificial intellect. In this article some methods of construction of hybrid intellectual systems are considered.

THE ANALYSIS AND RECOGNITION OF THE GEORGIAN SYMBOLS OF "SYLFAEN" FONT

Verulava Otar, Tsverikmazashvili Zurab
Georgiam Technical University

Summary

This work covers the problem of choosing the method of software analysis for converting scanned image into text format. Criterions for choosing a way of the analysis are preparation processes particularly: using scaling and segmentation for convenience of forming pattern descriptions and etalons. The method of recognition is generated for the Georgian symbols of a font "Sylfaen" with Unicode encoding, which includes 74 symbols: Georgian alphabet, Arabian figures, punctuation marks, brackets of different kind and some mathematical symbols. For the procedures set forth above are generated algorithms and corresponding source codes in programming language C++.

MODELING OF MARKETING PROCESSES IN THE BUSINESS - PROJECTS CONTROL SYSTEM

Turkia Ekaterine, Topuria Nino, Okhanashvili Maia
Georgian Technical University

Summary

The perfection of marketing processes modeling and management in a business - projects control system are offered. Questions of problem identification, model construction, deciding a suggested task with the help of model, check of adequacy of model and realization of research results at marketing research are considered. Simulation and imitations model of dynamical processes for the complex analysis of different parameters is used. A set of modern modeling technology - BPMN, Petri nets, XML and modern tools for transformation of models are offered for construction of the analysis model scenario and for an experimental research of complex parameters is offered. Practical example the BPMN models of business - projects scenario and transformation of this model in CPN tools is offered.

THE AUTOMATIC SYSTEM OF RECOGNITION OF SPEECH SOUNDS WITH OPTICAL IMAGES

Natroshvili Otar, Berianidze Teimuraz
Georgian Technical University

Summary

A hierarchical structure of recognition of speech sound images by automatic comparison of their corresponding optical images with adequate optical reference images is devolved. Representation of procedures of recognition by means of counts is given.

METHODS OF EFFICIENT CONTROL OF THE TRAFFIC AT THE OVERLOADED OPERATING MODES OF COMPUTER NETWORKS OF

Natroshvili Otar, Natroshvili Nino
Georgian Technical University

Summary

The Presented article is devoted to the decision of a problem of definition of optimum sequence of transferred packages through network channels at existence of the overloaded operating modes in computer networks. The basic requirements of an optimum arrangement in buffer memory of switching knots and deliveries of packages from the target interface are formulated at change (in particular, increase) in level of the traffic. Algorithms of realization specified above a problem are developed.

WORK MODELLING OF AIRCRAFT'S SELF-AIMING CENTRAL PART'S BOARDING COMPUTER

Vachiberidze Georgi, Kamkamidze Konstantin
Georgian Technical University

Summary

The article covers the developing activities of computing complexes, taken into account the work modeling of aircraft's self-aiming central part's board computer. The processed complex gives the capability of performing performance modeling of specialized microcomputer, for using current expression transformer, as well as without it. The methods are described and appropriate algorithms are presented that gives the possibility for calculating the deviation coordinates of aircraft from the aim using the structural function. The realization algorithm of this function is built up on the principle of correlation-extreme system. The architecture of boarding laboratory is structured for improving aircraft management and algorithms, also for specifying parameters of radio-locational coordination of self-aiming central part in real cosmic circumstances.

MAKING OF THE STANDARD OF FRACTAL SUEEZING OF COLORED IMAGES ACCORDING TO JPEG STANDARD

Xaratishvili Nodar, Chxeidze Irina, Narimanashvili David
Georgian Technical University

Summary

The work refers to the issues of elaborating of the new standards of squeezing of images and its program realization. The offered standard is based on using of fractal method of squeezing of images. It satisfies all demands required for JPEG-2000 standard of squeezing of images and is the further development of this standard.

CONFLUENCE OF THE FRACTAL ENCODING OF IMAGES TO THE OTHER ALGORITHMS OF SQUEEZING

Xaratishvili Nodar, Chxeidze Irina, Narimanashvili David
Georgian Technikal University

Summary

It is shown the possibility of confluence of fractal encoding of the images with the known methods of encoding. According to the result of the above mentioned, the preliminary filtration of images with the morphologic filter improves the quality of recovering of the image. Fractal encoding on the tops of the morphologic pyramids gives the opportunity to increase the coefficient of squeezing 15-16 times in the conditions of deteriorating of the quality of image with 2-3 decibel.

THE GENERAL PRINCIPLES OF CONSTRUCTION OF GLOBAL NETWORKS ON EXAMPLE IP-PROTOCOLS

Kiknadze Mzia, Petriashvili Lili
Georgian Technical University

Summary

The modern aspects of building of processing data network is represented. IP protocols are the standards of building of processing network. Nowadays great attention is paid to constructing of united convergent network, the network which processes data, voice and video. In order to build IP such network it's necessary to solve some problems. Some of these problems settlement is examined in this article and besides, the principles which are necessary for transportation package from sender to receiver without any defeef is also formed.

MAIN ASPECTS OF SECURITY ON THE BASES OF REPUTATION IN AD HOC NETWORKS

Tevdoradze Medea, Mgebrishvili Lina
Georgian Technical University

Summary

In the article there are described questions of raising of OLSR-protocol security in Ad Hoc Networks. In this connection it is justified application of mechanism of reputation. The conception of reputation is characterized and it is offered model of its estimation which combines different types of reputations and which is free from large scale of drawbacks which are typical for other models of reputations, in particular, depending from time, necessity of information transfer in networks, request of significant recourses and etc.

MATHEMATICAL MODELLING PEOPLE MASSES EMOTIONAL BEHAVIOR`S DYNAMICS AT PERIODIC PR- EXCITER

Obgadze Tamaz[1], Sakvarelidze Nino[1], Modebadze Teimuraz[2]
1. Georgian Technical University,
2. Kutaisi Technical University

Summary

A mathematical model of people masses emotional excitation dynamics   at the periodic PR-exciter is contrived. On the basis of software package Mathcad 2001 Pro the rating dynamics of transition not excited peoples masses to a crowd - excited people masses depending on frequency and amplitudes of the exciter is shown.

SUPPLY WITH INFORMATION ECOLOGICALLY OPTIMUM ACCOMMODATION OF ENGINEERING OBJECTS

Chkhaidze Nikoloz, Dzhaparidze Levan, Tsitskishvili Marat,
Tsitskishvil Mariam

Georgian Technical University

Summary

For an estimation of ecological loads the information of a network of monitoring of an environment is used; the estimation of "ecological value" is possible the formalized criteria. As a result of such formalization comparison differing ecological conditions and socio-economic characteristics of areas is possible and for construction to choose for ecologically safe accommodation inside of region to choose the most favorable area. In work as an example the method of formalization is resulted by introduction of the multiplicity parameter considering features of carry in an atmosphere of toxic emissions.

CONDITIONAL CLASSIFICATION OF SURFACES. POSITIONAL PROBLEMS OF THE CATALAN SURFACES

Chkuaseli Ketevan, Alikhanashvili Marina, Gogoladze Romeo,
Gogoladze Liana

Georgian Technical University

Summary

A conditional classification of surfaces is considered, common review is realized   and criteria of surfaces pretence to defined classical groups are expressed.   The main part of the article is dedicated to description of so called Catalan surfaces and   to their disc raping, because of their extensive use in production. The multitude of positional problems on the Catalan surfaces are considered, that don't have a description in the technical literature.

WEB-CONTENT MANAGEMENT SYSTEMS

Zhvania Taliko
Georgian Technical University

Summary

Control systems of a Web-content which allow to develop and support dynamic information web-sites are discussed. Advantage of dynamic web-sites consists in separating design from information accumulation that allows to automate documents circulation, business-processes, mechanisms of personalization. The basic functions of control systems by a Web-content are development of a content, management of a web-site, delivery of a content. In a basis of systems the three-unit architecture of the client/server that facilitates work of clients and access to the information lays.

MODERN METHODS AND MEANS OF ANALYSIS OF RISKS AND MONITORING OF INFORMATION SYSTEMS

Kapanadze David, Zhvania Taliko
Georgian Technical University

Summary

The estimation of a necessary level of investments in information safety of business for effective investment in this sphere are discussed in article. Modern systems of the analysis of risks are described, which allow to make an estimation of existing risks and choose an optimum variant of protection over efficiency.

HIERARCHY OF PROTECTION OF A WEB-SERVERS OF THE COMPANY

Kapanadze David
Georgian Technical University

Summary

The problem of optimum adjustment of company protection systems according to requirements of information safety is considered. It is noted that to solve of this problem it is necessary to generate the approach and to prepare protection according to it. There are described a new approach for protection of web-servers and a technique analysis of risks. The hierarchy of protection of the network divided on six levels of complexity is given. Recommendations for a choice of a level of protection a web-servers of the company are generated.

ENERGY SYSTEM SIGNAL TRANSFER

Modebadze Iuri, Murjikneli Guram
Georgian Techncal University

Summary

This work covers remote control issues of energy system by means of signal transfer, in particular specific schemes of signal reception from energy sources are given, and it is recommended application of the modern optical-electronic devices in it. Here is discussed also information collection, from energy system, its transfer to end processing in the management (control) centre.

THE BASIC SCHEME OF THE TRANSFORMATION INSTRUMENT IN THE TRAINING SYSTEM

Bosikashvili Zurab, Bejanishvili Lolita
Georgian Technical University

Summary

During human's intellectual activity period the problem of learning, knowledge representation and structurization has always been and is an actual question. The problem of knowledge structurization due to its diversity, contradiction and huge dimension is unsolvable problem. It is relevant to represent the same knowledge in different ways and also to process transformation mechanisms. In specific tasks of training for transformation of structured knowledge, the method of modular transformations of representations is offered.

ARCHITECTURE OF THE TRAINING SYSTEM FOR COLLECTIVE METHODS OF SOFTWARE DEVELOPMENT

Bejanishvili Lolita, Gogishvili Zurab
Georgian Technical University

Summary

Perfection of software design methods and associated design processes promotes optimization of expenses due to low technical support costs. Creation of software complexes with high reliability, the correct organization of project management has high importance. Besides, it becomes clear, that the team of software developers should be ready to use offered methods and instruments of collective software development. Therefore, very important is creation of the system able to train to collective methods of software development, which architecture is represented in this article.

SYNERGETIC IN SOCIAL-ECONOMIC ISSUES

Kapanadze Mariam, Sesadze Neli
Georgian Technical University

Summary

Day by day modern science offers new branches. Synergetic is the newest science, which appeared about 30 years ago. It represents an interdisciplinary science and studies the general regulations of self-organization, formation of structures, which appeared in complex open systems during exchange process of permanent streams of substance. The objects of studying are quite different systems, from atom to humans. Nowadays many braches of social-economic area use synergetic in solving their problems.

THE SCIENTIFIC AND TECHNICAL INFORMATION AND MARKET

Sesadze Nelli, Sesadze Valida
Tbilisi State University of Economic Relations,
Georgian Technical University

Summary

A role of the scientific and technical information in social production development is considered. Multifunctionality of the information and possibility of its fast transformation from one moment of process of work in others provide to the given productive force one of the leading parts in development of system of productive forces of a modern society.

SYSTEM OF MAINTENANCE OF RELIABLE FUNCTIONING BIOCHEMICAL AND BACTERIOLOGICAL LABORATORIES.

Pagava Akaki
Georgian Technical University

Summary

The urgency of reliability of functioning of monitoring and controlling systems of biochemical and bacteriological laboratories is considered. One of the ways of the solution of this problem is shown on the basis of a portable computer. The superiority of the solution of this problem on the basis of a portable computer is proved above the alternative solution of that one on the basis of the microprocessor. The article demonstrats the block diagram of the system and algorithm of the software. In case of malfunction of the monitoring and controlling system, the autonomous control mode is activated and a GSM call from cellular phone notifies the responsible people on the event of critical emergency.

SYSTEM OF DEFINITION ADEQUATE PSYCHO-EMOTIONAL LOADINGS FOR MASS RESEARCHES

Pagava Akaki
The Georgian Technical University

Summary

The urgency of system engineering of mass researches of definition adequate psycho-emotional loadings is well founded on the basis of known mathematical methods of data processing cardio- intervalometer. The brief analysis of a physiological basis of a method and technical systems applied these purposes is shown. The technical problem is formulated and the block diagram of system is given. The brief description is given of the basic units of an electronic part set, transfers, reception and input in a computer of parameters of processable biosignals necessary for diagnostics. The basic attention is given to the synthesis of an electronic part and algorithm of the organization of input of signals from several sources.

ORGANIZATION OF BUSINESS IN THE NETWORK OF INTERNET

Mdinaradze Ketevan

Georgian Technical University

Summary

The use of the Internet in the traditional business acquires strategic importance. Now under our conditions the Internet can be not only the supplemental channel of selling of production and the tool of solution of single marketing problems. In proportion to an increase in the total number of visitors of the Internet, it is converted into the basic marketing channel. "The Internet - by the economy" it is accepted to call the application of up-to-date information technologies in the business. "The Internet- economy" begins to turn over business. "The Internet" radically changes the methods of operation of many companies - most noticeable in the region of high technologies, but today they penetrate also other spheres - machine building, chemistry, biotechnology, medicine, financial and fund markets, the petroleum gas-extraction branches, etc. The up-to-date trends of development of this new sector of economy - Internet- business - are very promising, its role in the world and national economy grows.

MATHEMATICAL MODEL OF QUALITY MANAGEMENT OF SERVICE FOR FAMILY TYPE HOTELS

Abelashvili Nodar, Merabishvili Tinatin
Georgian Technical University

Summary

Questions of quality improvement of service put more and more high requirements on a background of expansion of economic relations of management and regulation of increasing tourist streams, especially for hotels of family type recently involved in this business. On the basis of results of sociological researches the mathematical model for such types of hotels enables optimal use age of resources for reception for the maximal economic benefit.

OIL PRODUCTS TRANSPORTATION MONITORING AND CONTROL PROCESSES AUTOMATION

Surguladze Gia, Burchuladze Alexandre, Iremashvili Ioseb
Georgian Technical University

Summary

Transportation principles of oil products, problems and solutions are discussed. Project of control system is proposed, which will perform monitoring of all phases of transportation process and results analysing. It's possible to use results of the project based on object-oriented programming and client-server technology as a system, which will assist in decision making in corporations, active in oil products transportation business.

ANALYSIS OF TELEMEDICINE NETWORKS' THROUGHPUT

MedeaTevdoradze
Georgian Technical University

Summury

Networks of telemedicine are characterized with a big information loads, that is why are necessary to estimate throgthput of network. In the article there is offered approach on the bases of which for estimation of throughput of network are defined and solved next tow tasks: definition of probability of router' blocking and middle time of delay in router if there are known information streems which come to router; definition of maximum possible values of information streems during the servise of which in the given type of networks there is supported possible middle time of delivery of frames.

FINITE DIFFERENCE SCHEMES FOR MULTIDIMENSIONAL PARABOLIC TYPE EQUATION WITH CONSTANT COEFFICIENTS

Komurjishvili Omar[1], Khomeriki Nodar[2]

I.Vekua Institute of Applied Mathemathics
Georgian Technical University

Summary

The paper deals with a simple unified algorithm for construction of absolutely stable economical schemes to solve multidimensional parabolic type equations, where each difference equation completely approximates the given differential equation. It is wortly to note that for the first time the constructed schemes are dependent on the dimension p only (they are not dependent on the weight).