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მართვის ავტომატიზებული სისტემები

TRANSACTIONS

AUTOMATED CONTROL SYSTEMS

Т Р У Д Ы

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The selected articles comprise a collection of scientific works (part 2)
presented to 35th unniversary of foundation of the Automated Control Systems Department
at Georgian Technical University

В сборнике представлены научные труды (ч.2), посвященные
35 летию образования кафедры Автоматизированных систем управления
Грузинского Технического Университета

C O N T E N T S

THEORETICAL COMPUTER SCIENCE

PRACTICAL COMPUTER SCIENCE

TECHNICAL COMPUTER SCIENCE

APPLIED COMPUTER SCIENCE

COMPUTER SCIENCE, PROGRAM TECHNOLOGIES AND MODERN DIRECTIONS
OF THEIR DEVELOPMENT AND TRAINING

Gogichaishvili George, Prangishvili Archil, Surguladze Gia

Georgian Technical University

Summary

Questions of a modern condition and tendencies of development of computer science, as are stated to complex essence of an interdisciplinary science, the analysis of its structural components. Fundamental program platforms and languages which are widely applied at universities of the USA and the Europe are considered. Descriptions of those basic scientific directions and results which are received autoframes of faculty of Computer science GTU for a fiscal year are offered.

THE FORGOTTEN QUOTATION MARKS
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Preface

The author made the experience that an intricate, basic philosophical terminology is best presented by adopting Wittgenstein's aphoristic style. And in Wittgenstein's sense the following pages show how little is achieved when these terminological problems are solved. The word "forgotten" notifies that nothing is new in this paper. Almost everything can be found in encyclopedias. The author owes much to J. Mittelstraß (ed.): "Enzyklopädie, Philosophie und Wissenschaftstheorie".

INVARIANT EQUATIONS AND INEQUALITIES FOR ELEMENTAR
PETRI NETWORKS

Reisig Wolfgang

Humboldt University Berlin

Summary

The structure and behaviour of elementary system networks can be presented in usual linear algebra. Them describe by means of vectors and matrixes. At the same time it is possible to form systems of the equation and to calculate thus properties of elementary system networks. In work some theoretical algorithms and practical examples on the basis of the invariant equations of equality, inequalities and are offered their combination.

GEOMETRICAL MODELLING AND GRAPHIC METHODS OF
THE DECISION OF PROBLEMS

V.Sesaddze, G.Chikadze,V.Kekenadze, T.Kaishauri

Georgian Technical University

Summary

The general principles of applied geometry and geometrical modelling are formulated in the article. The method of geometrical modelling reducing research of the phenomena of an external world to mathematical problems, takes leading place among other methods of research, especially in connection with occurrence of the computer. It allows to project the new means working in optimum modes, for the decision of challenges of science and technics, to predict the new phenomena. Geometrical models have proved as the important control facility. They are applied in the most various areas of knowledge, became the necessary device in the field of economic planning and are the important elements of the automated control systems. All this has engendered occurrence of a new direction under the name computer schedules.

NEW ALGORITHM FOR CALCULATION OF THE PROBLEM OF PROFILE
FLOW AROUND WITH VISCOUS FLUID IN CASE OF STEADY-STATE FLOW AROUND

Obgadze Tamaz, Davitashvili Irma

Georgian Technical University

Summary

On order to study the problems of profile flow around with viscous fluid Navier-Stokes mathematical model is often used. The algorithms developed for this model are so complicated and the error is so grave that it becomes unsuitable for the problems of aerodynamics. Therefore, the correspondent calculations are mostly done with the help of semi empirical formulas. We construct an algorithm based on basic laws of mechanics and classical experiments. We consider incompressible viscous fluid and then, using calculation formulas, we go over to aerodynamic indices of a profile for compressible fluids. The article is based on using nonlinear programming method for minimization of integral error when boundary conditions represent mass conservation law and Bernoulli integral equation for viscous fluids

ABOUT A QUESTION OF DEFINITION OF EQUIVALENT COMPLEX
FACTOR OF NONLINEAR SYSTEMS

Mchedlishvili Nino, Imedadze Teimuraz

Georgian Technical University

Summary

The analysis of nonlinear systems till now represents a challenge. The purpose of the given work is the decision of a problem of the certain class, namely, an establishment of communication between two big groups of methods of research: the method of harmonic balance and the functional description of objects of time area.

The structure of researched systems is represented consistently included linear dynamic and nonlinear static by parts (Wiener's models and Hamershtein's) which are described by series Volter. In article is defined the algorithm of mathematical model of wide class of nonlinear dynamic systems as complex factors of describing function. As a result of research expressions for calculation of complex factors of amplification are received.

ON METHOD OF DETERMINING THE PROBABILIRY OF SOLVING TASKS ON MULTIPROCESSOR COMPUTER SYSTEMS IN THE PRESENCE OF TIME RESERVE

Jojua Z.S., Jojua N.M., Mikadze I.Z.

Georgian Technical University

Summary

An analitical model of determining the probability of performing tasks on multiprocessor (multimachine) computer system when existing a Poisson failure flow and in the presence of time reserve for performance of a task is being considered in the paper submitted. The task performance time distributed in the form of the unit function for a fixed number of processors is considered. The recovery time of the failed processor is alloted by the exponential law. The reconfiguration time of the system is distributed by an arbitrary law. The function of probability of solving a task in the given time has been introduced and the proper analitical expresssions have been admited. After a whole series of transformations using Laplas-Stilties methods the linear algebraic equations system has been obtained. The solution of the system obtained will finally give the function of probability of solving the task in the form of Laplas.

ALGORITHMS OF ADAPTIVE MEASUREMENT DATA REGISTRATION IN COMPUTERING CONTROL SYSTEMS

Macharadze Tengiz

Georgian Technical University

Summary

The paper is concerned with optimal algorithms of measurement data input and computer registration differing their spectral characteristics in multi-channel computering systems. This
is significantly decrease processing data capasity.

COMMITTEE SIMILARITY MEASURES

Zhvania Taliko, Kiknadze Mzia, Magradze Manana

Georgian Technical University

Summary

The most commonly used class of algorithmic similarity measures is so called the Committee Similarity Measures. There are considered two algorithms of formation of algorithmic and committee measures. These algorithms are based on preliminary chosen or already formed set of similarity measures. By means of these similarity measures are possible practically error-free recognition of realization of learning sets.

THE FORMING MATHEMATICAL MODEL OF THE PUBLIC IDEA.

Shonia Otar, Nareshelashvili Gulbaat

Georgian Technical University

Summary

The mathematical model of the influence of public group is processed by the idea of the public analitical probability in this work. It's based on a regulation of the possibility of a final common idea in the group.

FORECASTING OF RELIABILITY OF RECOGNITION ON THE BASIS OF
RESULTS OF CLUSTERING

Verulava Otar, Todua Tea, Verulava Lasha

Georgian Technical University

Summary

There are considered problem of prediction of recognition process on the basis of the results of clustering. Introduced notion of influence zones for patterns (clusters). By means of influence zones might be prediction of possible recognition errors. In this article are considered cases: 1. Influence zones are disjointed; 2. influence zones are intersected (as special case of this is discussed non-compact clusters).

ABOUT FORMALIZATION OF THE PROBLEM OF THE TEST CONTROL

Bosikashvili Zurab, Kapanadze David, Zhvania Taliko

Georgian Technikal University

Summary

The article discribes the issues of the creation of the formal automatic test control models. The task set concerns the automatic generation of the control tests for various subject areas, allowing the creation of the single formalization-based automatic test control systems.

ALGORITHMS OF THE CIRCUIT CONTROL PROCESS

Janelidze G., Meparishvili B., Meparishvili T.

Georgian Technical University

Summary

The article considers the problem of effective control of flows in a circuit with complicated topology. The problem mainly means solution search in concrete situations. In order to solve the mentioned problem the possibilities of an artificial intellect as a realization of present-day high level control methods are proposed. Proceeding from the specificity of the object the united application of artificial neuron circuits and frame systems with genetic algorithms is very important. The article presents a general algorithm of circuit control where intellectual algorithms of monitoring and operative control constitute the main functional blocks which alongside with data bases are based on the existence of knowledge bases, knowledge presentation frame models and solution making machine.

THE MODELING OF REALIZATION MECHANISMS IN THE
OBJECT-ORIENTED PROJECTING

Sukhiashvili Teimuraz

Georgian Technical University

Summary

Most of the objects designed for automation are characterized by evolutional development, which are circumstanced by internal self-organization and perfection. The demands to the system change and the model should be changed respectively. The article discusses the modeling and identification of demand realization mechanisms, taking into consideration correction of the model. For this purpose, the mechanism of realization is presented as a conceptual fragment, which decides the demand-precedent semantics, therefore making it possible in case of need to open and see its hidden structural and behavioral details.

ABOUT CAPABILITY MATURITY MODEL

Bejanishvili Lolita

Georgian Technical University

Summary

User's claim pretension to the programming products quality brings to the investigations forefront the insurance arrangements of the programm products quality. A quality of the workable system is announced as system property and should be planned scheduled and managed. It came to light that the product quality is in direct dependence of a quality of the process, which is used for its creation. Understanding this fact stands fundamental for the creation CMM/CMMI model, which is assigned for the maturity estimation of the working process. In Georgia learning and certification on CMM/CMMI have episodic character yet. Therefore the cognitive system creation is very important for estimation of the organization's abilities and also for learning organizational culture. An organization takes also the recommendation for the organizational culture improvement.

DESIGNING OF DATABASES FOR ORGANIZERS OF CONFERENCE

Topuria Nino

Georgian Technical University

Summary

In this article the descriptions of automated designing of databases for organizers of conferences are resulted. The designing of the conceptual model is performed on the basis of ORM diagram and corresponding ER model. Rules of optimization of the ORM diagram are shown.

DESIGNING OF INFORMATION SYSTEMS OF CORPORATION

Petriashvili Lily, Okhanashvili Maia

Georgian Technical University

Summary

There are considered the models of the multivariate data and   the main principles of using them. They occupy particular place when analizing the data high-gradely. Technology OLAP allows not only receiving the statistical information about activity of an enterprise, as well as search for regularity in it, see the tendencies of the various processes, to make the forecasts. In other words,

OLAP provides the analysts and the administration with a necessary material for acceptance of effective administrative decisions.

ORGANIZATION OF PROGRAM SERVERS IN CORPORATE NETWORKS

Reisig Wolfgang, Surguladze Gia, Gulua David

Humboldt University Berlin, Germany
Georgian Technical University

S u m m a r y

The client-server architecture of corporate networks, server-farm (terminal-server) which management of working sessions of users and uniform distribution access of clients to physical servers is considered provides. Task of a cluster (file-server) is a reliable storage of the common resources (virtual IP-addresses and share names, joint programs and the services, distributed catalogue, etc.), and also the organization of access to external memory (for example, a file of SAN-disks).

AUTOMATION OF CONSTRUCTION OF THE

DISTRIBUTED DATABASES IN .NET ENVIRONMENT

Surguladze Gia, Topuria Nino, Kvavadze Levan, Vacharadze Irina

Georgian Technical University

Summary

The description of the decision of problem of designing and realization of relational databases for the distributed systems of organizational management on the basis of modern information technology (.NET, UML) is given. The concept of using reverser-mechanism in problems of support intercompatibilities ORM/ERM models and DDL-language is offered. Results of experiments are adapted in MsSQL Server and ADO.NET environment.

CONCEPT OF CONSTRUCTION OF COMPUTER

SYSTEM "UNIVERSITY" FOR

INTERROGATION AND ESTIMATIONS OF KNOWLEDGE

Gvinepadze Gela

Georgian Technical University

S u m m a r y

With the purpose of improvement of quality of study in higher educational institutions creation of computer system "university" which basic function will consist of an estimation of knowledge of students by automation of carrying out final examinations is offered. For simplification of processes of development and introduction of system it is desirable to carry out them stage by stage. It is noted, that on department of ACS ща GTU the certain experience of work in the given direction is already collected.

A REDUCTION ALGORITHM GUARANTEEING RELATIONAL COMPLETENESS OF DATABASE LANGUAGES.

Kobiashvili A., Gvaramia E.

Georgian Technical University

Summary

A reduction algorithm by which an arbitrary expression of the relational calculus can be reduced to a semantically equivalent expression of the relational algebra is offered. The example illustrating this algorithm is presented. The advantage of this algorithm is shown.

MODELING OF WORKING PLACES DURING PROJECTING THE DISTRIBUTED CONTROL SYSTEMS

Sukhiashvili Teimuraz

Georgian Technical University

Summary

During projecting the distributed systems, it is necessary to define correctly and model working places and operations, which are to be performed by actors. The article discusses the means for defining the actor roles and means for defining the working processes to be accomplished by these actors, on the basis of precedent analysis and activity diagram.

A BRIEF INTRODUCTION TO VOIP AND TVOIP

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Abstract

The Internet is evolving into a universal communication network and the next generation of Internet together with data will carry voice and video traffic over an IP infrastructure. The way the Internet is evolving in homes and in offices it has become an essential part of life as water and electricity. A revolution is occurring as organizations of all sizes begin to implement IP-based voice and video communication systems. VoIP, VoD (Video on Demand) and TVoIP are currently the most emerging applications that can be integrated over a single IP infrastructure. This paper gives a brief introduction about VoIP, VoD and TVoIP. What are the limitations and QoS requirements in order to integrate these services over an IP infrastructure?

ALGORITHM OF THE ACCELERATED CALCULATION OF NUMBER OF EFFICIENT
CONDITIONS OF STRUCTURALLY-COMPLEX SYSTEMS

Samkharadze R., Kalabegishvili M.

Georgian Technical University

Summary

In article the algorithm of the accelerated calculation of number of efficient conditions of structural - complex systems which essence is offered consists in the following: the mask representing a minimum quantity of efficient, serviceable conditional elements of reliability is formed; the mask devides on groups inside which is carried out generation and exhaustive search the necessary variants.

DEFINITION OF INTERRELATIONS BETWEEN THE BASIC
CHARACTERISTICS OF THE COMPUTER NETWORK

Lolashvili Nino, Tevdoradze Medea

Georgian Technical University

S u m m a r y

A lot of technical and economic characteristics of computer networks are considered in the article, among them the basic what are outlined: reliability, topology, cost and time parameters. The interrelation and interdependence between them is established. Together with it the complex parameter of an estimation of efficiency of a computer network is entered.

DETERMINATION OF QUALITY OF SERVICE OF DISTRIBUTED
MULTIMEDIA SYSTEMS

Bibiluri Nino, Tevdoradze Medea, Umudumiadis Elen, Kordzakhia Ketevan

Georgian Technical University

Summary

The article considers determination of quality of service of distributed multimedia systems. It is shown that quality of service depends on many factors, from which characteristics of all components of multimedia system are principal. In the article all these characteristics are considered separately and their distinctions from characteristics of components of traditional system are given. Scenario of multimedia system QoS processing has been worked out.

ANALYSIS OF CHARACTERISTICS OF QUALITY OF SERVICE OF NETWORKS
OF DATA TRANSMISSION

Mirzkhulava Lela., Kiknadze Mzia

Gergian Technical University

Summary

The given article describes the "best effort" delivery model of data communication networks that offers a point-to-point delivery service an provides the quality of service, data will be delivered to its destination as soon as possible, but with no commitment as to bandwidth or latency. Using protocols such as TCP, the highest guarantee the network provides is reliable data delivery. This is adequate for traditional data applications like FTP and Telnet, but inadequate for applications

requiring *timeliness*. For example, distributed multimedia applications need to communicate in real-time and are sensitive to the quality of service they receive from the network. For these applications to perform adequately and be widely used, QoS must be quantified and managed, and the data communication network must be modified to support real-time QoS and controlled end-to-end delays. The notion of QoS must be extended from the communication layer up through the intervening architectural layers to the application level.

QUESTIONS OF AUTOMATIC DETECTION OF ERRORS AND INCREASE OF RELIABILITY OF THE MEASURING INFORMATION IN THE AUTOMATED SYSTEMS

Kunelashvili Nana, Eremeishvili Nazibrola, Kiknadze Mzia

Georgian Technical University

Summary

In this article pressing questions of detection of errors measuring information in systems of checking are considered. The basic requirement is maintenance of reliability of results of checking. The built in control catastrophic and degradational refusals is stipulated. The considered method of increase of reliability of the measuring information considerably improves characteristics of system of checking.

STRUCTURAL ANALYSIS OF AUTOMATED MANAGEMENT FOR MANUFACTURING ENTERPRISES

Gabedava Omar

Georgian Technical University

Summary

Integrity, flexibility and profitability of operating units is considered by the description of operating structures of the automated control system for manufacturing enterprises which provide reliability.

SAFETY CONCEPTION OF INFORMATION IN NETS

Shonia Otar, Shonia David, Gogokhia Irakli, Poladashvili Nino

Georgian Technical University

Summary

There are given detailed analyze of computer crimes and questions of struggle against them in the work. Also are considered the problems of informational safety for informational systems and is set the general informational safety conception in such nets.

THE SECURITY OF INFORMATION SYSTEMS

Shonia Otar, Sherozia Tamaz, Shonia David, Tsomaia Nino

Georgian Technical University

S u m m a r y

The information systems function of the insuring safety problems are analised in this work. The main direction of the problems solution by the foresee of the custemers' demands are described there.

THE MANAJMENT SYSTEM OF GETTING RID OF THE EXSTREM SITUATIONS AND LIQUIDATION

Shonia Otar, Odisharia Korneli, Poladashvili Nino

Georgian Technical University

S u m m a r y

This work represents the necessity for creation of the system in State, which performs the natural and technogenic nature. The concept works out for forming and functioning of this system.

FRACTAL CODING OF IMAGES IN CONDITIONS OF DISTORTION OF TRANSFERRED DATA

Kharatishvili Nodar, Chkheidze Irina, Steperman Violeta

Georgian Technical University

Summary

In work influence of the distortions acting on the transferred information is considered, at use a method of Fractal of compression in coding images. It is received, that decoding is more sensitive to mistakes in number of the domain, than to distortion in an index of transformation. Therefore it is recommended to apply a way of detection and correction of mistakes to transfer in number of the domain and, that, to raise quality of the restored images.

FIBRE-OPTICAL TELECOMMUNICATION NETWORK OF THE ELECTROPOWER SUPPLY SYSTEM

Modebadze I., Murjikneli G., Modebadze N., Eremeishvili N., Popkhadze E.

Georgian Technical University

Summary

Questions of construction of a fibre-optical telecommunication network of an electropower supply system with the purpose of increase of reliability and quality of communication between power objects are considered. In particular, it is recommended to have in system of electric power industry both own, and the telecommunication channels taken under rent. There is also an opportunity to reduce cost of system, having suspended an optical fibre on a line of a high voltage. Advantages of fibre-optical communication concerning other communication systems, and also dependences of its attenuation on the length of a wave and distances of distribution of a beam without preliminary strengthening from speed of data are resulted. Parameters of an optical fibre and optical cables of a different kind are considered and is shown, how optical cables on transmission lines of a high voltage should be suspended.

FORMATION OF THE DIAGNOSIS IN EXPERT SYSTEM OF DIAGNOSTICS
OF STOMATOLOGICAL DISEASES

Gogichaishvili George, Manukov Sergei

Georgian Technical University

Summary

Diagnostic decisions preparation in expert diagnostic system of dental area diseases considered is proposed in the article. Methods of symptomatic facts statement and diagnostic decisions generation are realized in algebraic system form of model. Realization of generalization and semantic tolerance mechanisms gives us considerable reduction of looking through possible decisions variants.

DISCUSSION OF PROBLEMS OF DEVELOPMENT OF THE INFORMATION
IN TASKS OF OPERATIVE WATER-DISTRIBUTION

Asabashvili Elisabet, Vartanov Martin, Tsveraidze Zurab

Georgian Technical University

Summary

In the amelioration systems, it is possible to separate optimally deficiency of water resources only by informational-managerial system. It means, that managerial centre, which is located on one stage upper must have information about subsystem of lower stage. Managerial center has to receive information about water resources in each sub-system.

MEDICO-SOCIOLOGICAL DATA COMPUTER BASE OF
GEORGIAN OLD CITIZENS

Kachiashvili K., Meparishvili B.

Georgian Technical University

Summary

There is offered a computer base of gerontology data created by authors in the program environment ACCESS. It destines for compact saving of gerontology information in the computer, operative finding it's any part and representation in a suitable form for processing by modern mathematical methods and facilities.The following tasks were solved for created computer base: data organization in the computer memory and its management; information search and its correction in the requisite case; data choice by indicated criterion; creation of the forms and queries; elaboration of the special macros; creation the graphs and dialogues; representation of the information in the needed forms.

SYSTEMS APPROACH TO EARLY DIAGNOSTICS OF THE PATHOLOGY
OF RGANISMS

Meparishvili Badri, Janelidze Gulnara, Meparishvili Tamara

Georgian Technical University

Summary

The necessity of construction and introduction of medicinal expert system in early diagnostics and medication of high risk systemic diseases is affirmed in the article. Particularly, general monitoring diagnostic system of an organism is developed when the exposure of pathological segment and the degree of the very pathology, as well as stating of attending and background diseases are

realized. The solution of the problem is in stating the values of the coefficients of organism graphic model elements when the value of resultant vector of the model will be adequate to real anamnesis of the patient. The mentioned problem may be successfully solved using genetic algorithms. The presented producing of systemic monitoring may become the basis of a new paradigm - systemic medicine, as human organism systems modeling, varied investigations and imitational experimentations.

ESTIMATION OF FORCES ARBOR SHOCK INTERACTION BY THE METHOD OF THE THEORY OF CATASTROPHY

Sesadze Valida, Kekenadze Vladimer, Chikadze Gela, Kaishauri Tinatit, Pailodze N

Georgian Technical University

Summary

The questions of an estimation of forces of the arbor shock interaction with a core in the automatic mills deformation centre of the tube-rolling installations using R.Tom's method of the theory of catastrophy are considered. For the purpose of determination of the maximal pressure arising in the automatic mills cores it is cores necessary to take into account influence of forces of shock interaction determined by the offered technique. R.Adamia's interaction model, considering pequliarity of the shock process while the tube-rolling on the automatic mills, is used for the analysis. Practical calculation of shock interaction forces carried out according to the given methods shoved, that we have a catastrophy of the crease type.

MULTIMEDIA TECHNOLOGIES FOR THE STUDIES OF OPTIMAL CONTROL SYSTEMS

Mosashvili Ia, Sesadze Valida, Maglakelidze Nana

Georgian Technical University

S u m m a r y

Multimedia is already widely used in Georgia and its use increase well in future. Nowadays there are new possibilities to represent the teaching process better. Multimedia approach used for studying the course "Theory of Optimal Control". It must contain the projecting of pedagogical conception and to bring it to the appropriate model of the material, which we have already realized. Studying the control process in current time using multimedia facilities helps a student to imagine the optimal control task and to resolve it in different ways. The task, which is the best according to its high-speed response, represents the task of designing the optimal trajectory. The task on soft landing on the Moon refers to the above-mentioned tasks. In this task, the equation of artificial satellite soft landing on the Moon is formulated with the initial conditions.

DESCRIPTION OF CONTROL SYSTEM FUNCTIONAL STRUCTURE OF AGRICULTURAL FARM FOR DESIGNING AUTOMATING SYSTEM OF CROP FORECASTING

Pochovian Semion

Georgian Technical University

Summary

There is considered the description of main functions and solved problems during the description of control system functional structure of agricultural farm for designing automating system of crop forecasting in the work.

METHOD OF DISTRIBUTION OF THE ELECTRIC POWER WITH APPLICATION
OF A PROPORTION "GOLD CROSSING"

Macharashvili Giorgi

Georgian Technical University

S u m m a r y

The "Gold Proportion" guarantees the harmony and hardiness of Technics', economics, societies' Drawings, architecture and other spheres or such condition existing between the elements, which is correspondence with the rule of "Gold Crossing". This proportion means unequal separating in two parts of the system, the equality among them is: 1=0,618+0,382 or. We use The "Gold Crossing" proportion for distribution electrical energy among the consumers of electrical energies. For we need to conduct analysis to 1990, when there was normal condition in Georgian Electrical power. As it appeared in the analysis this year the distribution of the electrical power was close to the distribution rule by the proportion rule of "Gold Crossing". So we can distribute the electrical power for the future with ideal version by using this rule.

AUTOMATION OF THE PROCESSES OF ETYMOLOGICAL SEARCH

Gvinepadze Gela

Georgian Technical University

Summary

Ascertainment of the etymology of words is a complex linguistic task, especially when the original vocabulary is concerned. Some scientists consider that there is no perspective for the search of etymology for such terms, because these words are considered to be amotivational ones. The investigations carried out by us resulted in the following: for the most part of the original words the key point is the basic concept which is believed to be WATER. According to this supposition, 'hopeless' sequence of the ways of formation of Georgian words has been ascertained. Certainly in order to extend the investigation, the utilization of the computer has become necessary. The conception concerning the automated system of the etymological search of words has been elaborated. The program estimates the possibilities of etymological linkage between the words of the similar phonation but at the same time the paper states that the concluding remarks are to be made by experts.

DESIGNING OF DATA WAREHOUSE FOR DECISION SUPPORT SYSTEM ON
THE EXAMPLE OF COMMERCIAL BANK

Vacharadze Irina

Georgian Technical University

Summary

By using modern program UML technologies authomation of process of designing of authomation control system is possible, that essentially reduces the time and costs of creation of system, creates the condition for construction of standard packages in the modern languages (C#, C++, VB, JAVA). In the work is presented on the sample of commercial bank fragments of construction of the storage data and designing of the diagram of the program system classes.

CONSTRUCTION OF THE COMPUTER MONITORING SYSTEM OF
"TECHNICAL LOSSES" ELECTRIC POWER ON THE BASIS OF ORM/ERM

Surguladze Gia, Topuria Nino, Bakhia George

Georgian Technical University

Summary

In this article resulted the description of automated designing of databases for the personnel working in area of power for reduction of " technical losses " in this sphere. The designing of the conceptual model is performed on the basis of ORM diagram and corresponding ER model. The software of the user interfaces executed by ASP.NET

CONSTRUCTION OF SIMULATION MODEL OF MARKETING PROCESSES
ON THE BASIS OF AGENT MODELLING

Okhanashvili Maia, Petriashvili Lily

Georgian Technical University

Summary

Here is discussed efficiency of application of simulation modelling for marketing processes. And also agent modelling not as replacement to traditional approaches, but as rather useful addition to system dynamics and discrete-stochastic modelling. There is considered simple system of clients' service and corresponding agent model is brought.

THE NEW APPROACH TO TECHNOLOGY OF CREATION OF THE INTERNET INFORMATION-
SEARCH SYSTEMS (ON THE BASE OF WWW.E-INFO.GE)

Dolidze Teimuraz

Georgian Technical University

Summary

The new approach for creation of technology of the internet information-search systems is presented and discussed, that enables customers not only to get the desirable information about search products or services, but implement the first stage analyses and estimation of the information.

MODELLING OF PROCESSES OF VIRTUAL MARKETING AND
AUTOMATED WORKPLACE FOR DISTRIBUTOR-SELLER

Kashibadze Marina

Georgian Technical University

Summary

Statement and the decision of problems of construction of an automated workplace of the virtual distributor-seller in a network of virtual marketing, on the basis of operative orders of potential buyers and an actual database of products from the catalogue of the certain firm are offered. There are constructed models and algorithms of system of simulation of these processes on the basis of UML and Petri networks.

INTEGRATED THE ANALYSIS OF DATA

Petriashvili L., Okhanashvili M., Akhalaia Sh.

Georgian Technical University

Summary

In this clause development of ERP-systems, a role of the data warehouses in information ERP-architecture, and also prospects of creation of the integrated environments using opportunities of these two technologies is considered. Besides the estimation of achievements of two largest firms (SAP and People Soft), manufacturers of ERP-systems is given in the field of development of the data warehouses and analytical appendices.