MATHEMATICAL PARAMETRES OF MODELLING

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Abstract—this article discusses the features and trends of process of development and creation of a multi-functional electronic trading platform is aimed at efficient and profitable interaction of suppliers and buyers. Interaction takes place through electronic communication systems, so it is always operative and relevant. Electronic trading platform is a complex of information and modern technical solutions.There are several types of electronic trading platforms - for commercial customers, for placing government orders. The sites on which electronic transactions are performed by commercial customers are divided into specialized and multi-profile. Users, participants of the sites, held auctions and trades themselves can decide on which of the sites it is more convenient and profitable to work with. In addition, on a multiprofile resource the customer can act as a supplier, the seller - this is dependent on the scope of his activities, on the possibilities.

Keywords: Multi-functional electronic trading platform, information flow, data flow, information flow objects, users, customers, suppliers.

Introduction

Both suppliers and customers have significant advantages when working with electronic trading platforms. In particular, those who buy products or services significantly save time searching for a potential supplier, save their money for organizing purchases. Honest conduct of the transaction is observed, as the site administration provides for measures directed against unscrupulous suppliers. Auction in electronic form can have participants who at the time of its holding are in completely different corners of the world.

In today's digital world there are many different ways of presenting multimedia information. Of course, in order to convert analog information into digital form, special programs are needed, create a file (it will be called a container), which contains all the text, graphics, audio and video the information.
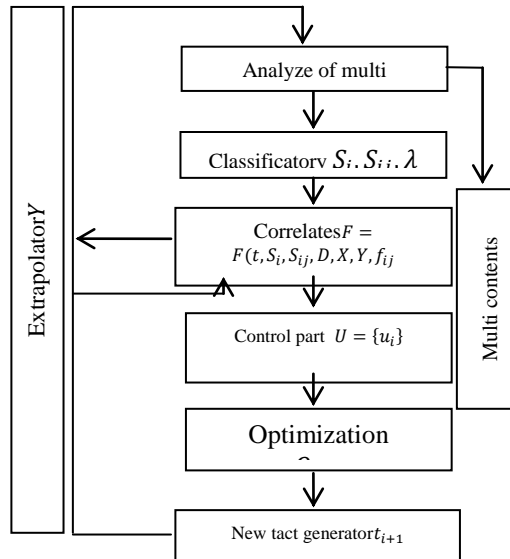
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Fig. 1.Algorithm synthesis software modules formed task-oriented management system of electronic trading platforms

The Code abbreviation for Coder / Decoder - program that allows you to convert the recorded information so that it takes up less space. In this case, the file extension can not be changed, ie, the basic structure of the container does not change, change the representation of text, graphics, audio and video, but to play the file, "encrypted" with any codec, it is necessary for it to be installed on the user's computer [1].A generalized Lagrangian is constructed

$$L = G\big(x(k_F)\big) + \sum_{K\backslash K'\backslash t_F} \big(\mu(k) - R\big(k, x(k), u(k)\big)\big)$$

$$+ \sum_{K'} (\mu(k) - G^c\big(z(k)\big) + \int_{T(z)} (\mu^c\big(z(k)\big) - R^c(z(k), t, x^c(t), u^c(t)))dt),$$

And a number of constructions with sufficient optimality conditions of Krotov [2,p.56-71]:

$$G(x) = F(x) + \varphi\big(K, x(K)\big) - \varphi\big(k_I, x(k_I)\big) - \sum_{K_I}^{K-1} \mu(t),$$

$$R(k, x, u) = \varphi\big(k + 1, f(k, x, u,)\big) - \varphi(k, x),$$

$$G^c(z, \gamma^c) = -\varphi\big(k + 1, \theta(z, \gamma^c)\big) + \varphi\big(k, x(k)\big) + \varphi^c\big(z, t_F, x_F^c\big) - \varphi^c\big(z, t_I, x^c(t_I)\big)$$

$$- \int_{T(z)} \mu^c(z, t)dt,$$

$$R^c(z, t, x^c, u^c) = \varphi_{x^c}^{cT} f^c(z, t, x^c, u^c) + \varphi_t^c(z, t, x^c),$$

$$\mu(k) = \begin{cases} \sup\{R(k, x, u): x\epsilon X(k), u\epsilon U(k, x)\}, k\epsilon K\backslash K' \\ -\inf\{l^c(z): x\epsilon X(k), u^d\epsilon U^d(k, x)\}, k\epsilon K\backslash K', \end{cases}$$

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$$\mu^c(z,t) = sup\{R^c(z,t,x^c,u^c): x^c \epsilon X^c(z,t), u^c \epsilon U^c(z,t,x^c)\},$$
$$l^c(z) = inf\{G^c(z,\gamma^c): (\gamma^c)\epsilon M(z), x^c \epsilon X^c(z,t_F)\}$$

We obtain the following recurrent chain with respect to the Krotov-Bellman functions of two equations

$$\varphi, \varphi^c(z):$$
$$\varphi(k,x) = sup\, \varphi\big(k+1, f(k,x(t)u)\big), u\epsilon U(k,x),$$
$$\varphi(k_F,x) = -F(x), k\epsilon K\backslash K'\backslash k_f,$$
$$\varphi_{t^c}^c = -H_{x^c}^c(z,t,x^c,\varphi_{x^c}^C), (2.4.3)$$
$$H^c(z,t,x^c,p) = max\{p^T f^c(z,t,x^c,u^c): u^c \in U^c(z,t^c,x^c)\},$$
$$\varphi^c\big(z,t_f,x_f^c\big) = \varphi\big(k+1, \theta(z,t_F,x_F^c)\big), (t_F,x_F^c) \in M_F^c(z),$$
$$\varphi(k,x) = sup\, \varphi^c\big(z,\tau^c(z)\xi^c(z)\big), k \in K', u \in U^d(t,x)$$

Substituting these functions into the right-hand sides of the given discrete and continuous relations, $k \in K''$ we have

$$x(k+1) = \theta(k,x(k),\widetilde{u^d}\big(k,x(k)\big)\gamma^c(\check{z})),$$
$$\dot{x}^c = f^c\big(t,x(t)\big),t,x^c,\widetilde{u^c}(\check{z}(k),t,x^c)),$$
$$t_I = \tau(\check{z}(k)), x^c(t_I) = \xi^c(\check{z}), \check{z}(k) = (k,x(k),u^d(k,x(k))).$$

- Integrated "seamless" integration with Banking services;
- Operations with personal accounts;
- Management of payments and primary documentation;
- Agreement and conclusion of contracts in electronic form;
- The possibility of remote work of external experts with applications of participants remotely from the site interface;
- Remote holding of meetings of commissions. Voting using EDS:
- Single provider personal area;
- Working with supplier catalogs;
- Supplier interaction environment;
- Processing of direct orders;
- Conducting double auctions;
- Rating system and compliance-control.

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