SYSTEM EMPHASIS DOCUMENTS OPERATIONS

Innovative technologies in blockchain
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1. Informatization as humanity needs.

By different estimations, the history of homo sapiens has been enumerating from 5 to 40 thousands years. On the early stage of its development, it existed in the form of a primitive commune. On the stage when the whole social product was vital for surviving, no other distribution form except the distribution according to the needs, could exist. With the development of production forces and appearance of a product surpluses, the commune relationships have become an obstacle for the society development. As a result, the distribution according to labor appeared which was followed by the property of individuals, exchange and material inequality. All of this prepared and made inevitable the appearance of private property, exploitation and creation of certain social conditions. The first classes or so called civilized societies originated in the XXXI century before our era. It is approximately 5 thousand years ago.

Civilization is supposed to be a set of social rules adopted in society, including a certain set of evidences which confirm actions and a set of treaties for the behavior rules, recommendations, and commitments.

In ancient times, at the dawn of society, the paper was not widely available – natural objects like stones, bones, tree leaves and so on were used for binding agreements. A little later the parchment and the common paper appeared. Invention of ink facilitated the process.

Birds (pigeons, owls) along with human messengers were used to deliver documents. Sometimes in order to deliver a message to the near town the messenger had to ride a horse all the day and night. Very often he could become a victim of robbers and gamblers which wanted to tamper the content of message to get some advantage. Moreover, the documents could be quietly swapped by owners for selfish purposes to get personal benefits.

Now, in the era of instant messaging systems, digital signatures, universal computerization, IOT and big data, these ways of interaction are seen as something from past millennia. However, all of this was considered modern just about 100 years ago. Just imagine that there are still the long living people who are older than 100 years and they saw this "prehistoric" informatization with their own eyes!
2. Computer Informatization

The last century brought humanity a completely new and amazing product which was not expected 100 years ago, but it broke into our lives, rapidly penetrated into all life processes and all spheres of our life. This product is called a computer. You do not need to imagine a laptop or a desktop computer with a large display. In this case by a “computer” we mean the transferring and management of information, a set of hardware and software technologies, controlled by an electronic brain - microprocessor. The name of all this is computer informatization.

In general, the evolution of computer informatization can be split in several stages.

The first stage of the educational informatization (electronization) is characterized by the wide introduction of electronic means and computer technology in the process of training students. Firstly it touched technical specialties (late 50's - early 60-ies), and then humanitarian specialties (late 60's - early 70-ies). The first stage was supposed to teach the basics algorithmization and programming, elements of the algebra, logics, mathematical modeling on a computer. Such an approach was supposed to help students to form an algorithmic thinking style, mastering some programming languages, the development of computer skills with the help of computer logic algorithms. Relatively low computer performance of that time, absence of user friendly software interface did not contribute to wide usage of computers in the terms of humanitarian education.

The second stage of educational informatization (computerization) (from the mid-70s to the 90s years) was associated with the emergence of more powerful computers, software that had user-friendly interface, and was primarily characterized by its interactivity. Using computers, students as subjects for the first time of the educational process got the opportunity to interact and control digital models of the real objects they were studying. Computer education technologies made it possible to study various (chemical, physical, social, pedagogical, etc.) processes and phenomena on the basis of modeling. Automated systems of training, knowledge control and management of educational process started to play more important role in the field of education.
The third modern stage of the educational informatization is characterized by the use of powerful personal computers, high-speed drives of high capacity, new information and telecommunication technologies, multimedia technologies and VR technologies. This stage was also characterized by philosophical understanding of ongoing process of informatization and its social consequences. An important part of the third stage was the appearance of the first cryptocurrencies back in 2008-2009, which brought completely new concepts to our lives such as decentralization, blockchain, mining, etc. Almost all cryptocurrencies have one common advantage: they are based on cryptography with a decentralized accounting system. The operation of these systems is based on such technologies as blockchain, directed acyclic graphs, consensus ledgers, etc.
3. Electronic document workflow

The development of the computer informatization allowed to realize the long dream of mankind: to make possible the automatization and accounting of the processes related to the interaction of people and documents, to speed up delivery of information, collection of statistics and reports. So, electronic document workflow is a set of automated processes to work with documents presented in the electronic form, with the implementation of the "paperless office work" concept.

There are the following main types of electronic document workflow:

- production document workflow;
- management document workflow;
- archive document workflow (a collection of the procedures of archival document workflow);
- human resource document workflow (procedures of personnel records);
- accounting document workflow;
- document workflow for logistics
- secret and confidential record keeping;
- technical and technological document workflow.

There are others as well. It is obvious that there can be as much of the document management systems as there are types of activity types. As a result, information systems that automate individual types of document flows develop towards mass character.

Advantages of document workflow:

**Timesaving:** employees spend less time searching for paper documents. Thanks to centralized database, files are backed up regularly, it eliminates the possibility that the document will be irretrievably lost if it is forgotten on the plane, accidentally or intentionally destroyed or simply disappeared in the office chaos. It completely eliminates the loss of time spent on searching for files and documents that were not on their places for some reason.

**More adequate usage of physical space and technology:** valuable square meters are occupied by redundant servers and other devices to store documents can be released. Depending on the status and relevance of the information, documents and files can be safely removed at the end of their shelf life. Data
management not only helps to meet the corporate standards, but also contributes to a more adequate usage of the storage space.

**Increasing transparency of the internal enterprise work:** EDMS (electronic document management systems) allow managers to monitor the status of the document during all stages of its life cycle - from creation to approval. In addition to this, EDMS allows you instantly and easily find not only the requested file, but also a full report of who created it, who had access to it, and who edited it.

**Keeping a personal history of each file and related documentation:** EDMS allows to centrally manage customer-supplier relationships. For example, just one click is enough to bring up all the necessary documents which contain requirements related to different types of relationships between an organization and an external entity.

**Greater flexibility with regard to the physical location of the staff:** because of electronic access and communication, employees will have an opportunity to work remotely. And even being in the same geographical location, employees no longer need to wait for the paper copies of the files to be sent from the near office.

**Increased security of information and documents:** as mentioned, the centralized database allows you to make backups of documents, thereby reducing the risk of accidental or intentional loss of files. At the same time, less time will be spent on searching required document if its location has changed for some reason.

**Reduced printing, postage and shipping costs:** paper documents which are sent between departments or suppliers may be sent electronically.

**Improvement of employees’ and managers’ satisfaction level:** optimization of routine tasks allows employees to have more fun during office hours. Freeing employees from doing tasks that are often boring, such as handling invoices, allows them to devote themselves to the other activities. At the same time, department heads get more ability to control the work of their subordinates. Ultimately, some organizations may find that the savings allow them to move to a new level of business.
4. Tasks of electronic document management systems

- Providing the effective management using automated control, transparency of the entire organization activities at all levels.
- Support of the quality management system in accordance with the international standards.
- Support of effective accumulation, management and access to information and knowledge. Providing the staff flexibility due to greater formalization of each employee activities and the ability to store the entire history of his activities.
- Logging the company's activities in general (internal investigation, analysis of the activities, identification of places with high amounts of activity)
- Optimization of business processes and automatization of the mechanism of their implementation and control.
- Eliminating paper documents from the organization internal workflow. Saving resources by reducing the costs of managing document flows in organization.
- Excluding the necessity or substantial simplification and making it cheaper to store paper documents due to the availability of the operational electronic archive.
5. Document management system based on blockchain

Traditional electronic document management system, with all its advantages, does not provide absolute reliability due to the fact that the data is usually available, at least, to a group of system administrators of EDMS and a group of business-administrators as well. Of course these people are usually trusted, but it is not always enough from, for example, a security point of view: it could be the document workflow in complex and dangerous objects or objects related to government security. Moreover, the key containing the EDS (electronic digital signature) can be stolen or retrieved from a person (for example, under the threats) to make a change to an already approved and previously submitted document.

Electronic document workflow based on cryptocurrency and blockchain where transactions obey the rules of the network, and the network itself is decentralized, should be a solution for this difficult problem.

Our team is working to solve the problem of the great society and business dissatisfaction - namely we try to satisfy the needs of effective, fast and clear document workflow between different organizations within full legal security. Since the legal status of the contract / protocol / deal depends entirely on the document, we need this document to be protected so that it could not be forgotten, stolen, lost.

Blockchain technology and one of its forms – a cryptocurrency, literally creates the neweconomy and this is the economy of the future; over the past 5 years cryptocurrencies have evolved from the marginal sphere of technological exotic into a serious factor of the financial system world that no one can ignore anymore.
6. Who we are?

Our team is not quite young (but not that old ;), talented, dedicated, energetic and ideological specialists, initiated a serious project to implement the S.E.D.O. system, which is intended to help all interested people, companies and corporations to take advantage of the great opportunities that a unique system of decentralized electronic document management provides. No distances, state borders, race or religion differences exist for the blockchain, it brings technologies that unite people and companies together in a business community where they can freely realize their potential. We hope that by using our system the community will benefit because having reliable system it will be more convenient for achieving goals and multiplying capital.

Our team consists of:

- developers with more than 25 years of experience ranging from assembly to high-level languages including C++, java, javascript, solidity, python, etc.
- Our experience and competences are very extensive, and we are engaged in the field of EDMS automation for more than 10 years
- lawyer
- marketer
- project sponsor
- technical support specialists
- web designer

When reaching the industrial scale, the necessary staff will be recruited to support the product (vendors, integration developers, support engineers). We have the extensive connections with the business community, as well as with informational resources and some powerful business people.
7. How it will be working?

The name of the system we are developing is S. E. D. O. - also it can be mentioned as SEDO. This abbreviation is based on four words:

- SYSTEM
- EMPHASIS
- DOCUMENTS
- OPERATIONS

Conceptually, SEDO will present the system interface for interacting with external electronic document management systems to provide the circulation of the certified electronic documents between different companies (in the simplified case it will be between branches of large companies).

All the features required for a typical workflow will be supported:

- treaty work
- incoming documentation
- outgoing documentation
- the minutes of the meetings
- power of attorney etc

The core of SEDO will be functioning on the blockchain produced by project team. The system will support the integration with all major ERP, WMS systems and the systems with the electronic digital signature as well.
To access SEDO, a special API will be implemented, and support will be provided on the 365x24 basis.
8. What will be the basis of the S.E.D.O blockchain?

Blockchain network will be implemented by using the classical, time-tested technologies which are largely unique for EDMS:

- guaranteed confidentiality of the information transferred between the participants of document workflow
- sufficient transaction speed
- guaranteed protection against network attacks (including network spoofing)
- the possibility of a bonus system for network consumers using Proof of Stake algorithm (POS) etc.

The transaction will be a unit of circulating information which will include a set of documents, meta data, etc.

The circulation of transactions will be paid by a special token (or by its derivatives) in the blockchain.

SEDO consumer companies will be able to buy the necessary package of tokens, which will be enough for their needs. Non-spent tokens can be sent back to the system to get back the cost of the token at the current market price.
9. What the engine of the SEDO EDMS is based on?

The CUBA platform open source engine will be used for the construction of the SEDO EDMS. This is a time-tested solution that has a high popularity among developers and customers all over the world. It backed up by a wide community and excellent customer service and allows you to quickly create the necessary set of applications from scratch.

CUBA represents the powerful environment for building the corporate information systems. Typical characteristics of such applications are advanced data models, dozens or even hundreds of relatively standard screens, support of a large number of complex business processes, lots of reports, flexible access control list, and so on.

The key platform features:

- high level of abstraction regarding the technologies it based on (Vaadin, Spring, EclipseLink, etc.)
- pre-installed and integrated components that solve many typical tasks of corporate systems
- visual development tools and advanced template code generation
- in total, this allows to minimize the time spent on "system" tasks, configuring the project infrastructure, the integration of technologies and components, development of basic functionality. It allows to concentrate on the implementation of business requirements. At the same time, CUBA does not restrict the access to the low-level code. The environment guarantees the possibility to adapt the code for the needs of the project.

CUBA-based applications have a standard three-layer architecture. The element which binds the systems is metadata, the information about the application data model. Thanks to metadata the visual components know what data they are working with. So, for example, the table knows that it displays the attributes of the "driver" entity and automatically fills in the column names and their format. The same way, the metadata helps the visual components interact with the database through ORM, specifying objects graphs that are needed to be loaded or updated. The same principle applies to the security subsystem, reports generating and other parts of the platform.
Compared to other platforms CUBA has a rich declarative web interface: it is possible to create screens in the visual editor or in XML, choosing from dozens of visual components - from all sorts of buttons to Google Maps integration and dynamic charts. Logic of initialization and event handling is then set in Java (or Groovy) controllers. Taking into consideration the components binding to the data, you can very quickly create a complex UI that will be easy to maintain due to a clear separation of code from markup. If the choice of available components is not enough, the platform has a mechanism to integrate the external components written in Vaadin, GWT, or JavaScript.

An important part of the CUBA user interface is the universal data filter. It is a component that allows users to create their own search conditions. It is enough for the developer to drag the component to the browser screen (so called typical screens for displaying a list of entities) and forget about it. Users and system administrators will be able to determine what to look on. Access control subsystem which is based on a role model allows to control in the runtime the access of CRUD operations to the entities or individual attributes, visibility of the display components and the arbitrary tokens as well, which can be created and used programmatically. Row-level access control allows you to restrict access to specific data records. For example, users from the regional department can only see documents that are created in that department. In conclusion, all changes to the data are logged, so you always can see who, what and when changed. It is very comfortable in the investigation.

More information about the platform can be found here: https://www.cuba-platform.com/
10. Project stages

In our road map you can check out a detailed work plan. The main stages are:
1. To create a project team (done)
2. To formulate the project goals (done)
3. Preparation of SEDO token with the possibility to mine in the Ether network (in development)
4. Marketing and exchange listings
5. To develop the SEDOX token (working name) on its own blockchain
6. To develop the S.E.D.O. system
7. Swapping the SEDO token from the Ether network into its own blockchain.
8. Launching in the production (real customers)
Why the SEDO token is needed in the Ether network?

The development of such a complex system as S.E.D.O. requires a lot of time and other resources. At the same time, the project team consciously refuses ICO. Instead of this, we offer all the participants to become the partners in the project for relatively free. We develop the Proof of Work token in the Ether network. So, everyone will be able to mine some SEDO tokens. At the same time we will pursue the information policy aimed at the advancing of project and making it widely known. People who mine tokens will be able to either sell them on the exchange at the current price or wait for the swap of coin in order to become the coinvestors of the launched into production SEDOX token.

SEDO token specs in the Ether network:

- 50.000.000 SEDO - maximum token supply
- 1.000.000 SEDO - premine (bounty and development fund)
- 8 - number of fractional digits

Mining specs:

- Difficulty readjustment every 1024 blocks
- Block halving
- 10 minutes block time
- GPU & CPU mineable
Contact Us

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