**Discourse Information System**

**Formulation of the problem**

In recent years, modern news has become numerous and multilingual, the number of available channels for receiving them has increased dramatically. People’s attention is drawn to primitive exclamations on Facebook, Instagram, Youtube and Reddit. The heads of young people are distracted by this informational cacophony, not being able to conduct at least some in-depth analysis of what is happening, and learning to think in three-second intervals of attention. National media outlets strongly distort the picture of reality for the sake of their current political agenda. Along with the distortion of information, there is an explosive increase in its available quantity, the shortening of the time that it describes, and the deterioration of the quality of long-term analysis of trends, which gives rise to reinforcing, positive feedback, cyclically repeating and increasing the degree of distortion, deterioration, fragmentation and short duration of descriptions of event series and the ideologues that drive them.

While in the scientific community for centuries a strict format of publications has been developed, with links to primary sources, to authors of previous articles, with numbering of links, which allows you to build a strict sequence of development of scientific thought, a sporadic, chaotic, descriptive, and incoherent approach prevails in the news, which prevents one to build strict relationships with previous events in the context, and teaches the reader the "slide" mode, when the next picture is not connected with the previous one, and micro-reboot is required. Thus, the modern reader or viewer of the news can never concentrate, “jumps on top”, and cannot plunge into deep thought, even if he would like to.

In addition, the effect of the information “echo chambers” in the algorithms of news agencies, social networks, and television studios that study the reader’s preferences and offer him only discourses corresponding to his ideas is known and well described, which leads to the closure of his information field and the limitation of new views on those the very events on the other ideological side, such as news coverage around the trade war between the USA and China, will be diametrically opposed in the value systems of the Chinese, and in the news of the Americans, that readers and viewers will be almost completely deprived of the opportunity to see the *logic circuits* the opposite side, finally it could potentially lead to an escalation of the conflict.

**Proposed solution**

To solve the above problems, it is proposed to create an information system, a new type of news website, aggregator, “event reconstructor”, operating with different levels of abstractions, the atomic level of which are individual, original news on existing portals that are analyzed by professionals - “reconstructors” of events (such as investigative journalism), in which keywords are highlighted, headings are replaced to facilitate the perception of the context, relationships with events are built and the annual, five-year, ten years, thirty years, etc. prescription, and today's news are processed for further, deeper understanding, for deeper conclusions from what is happening.

It is proposed to create a prototype of the system interface, and fill it with the first event chains combined into discourses. Demonstrate the system to investors grouped by different countries and ideological domains. Consult with reporters, editors-in-chief of news agencies (after the prototype visual interface and the top ten visual demonstration chains of high quality). Attract investment. The investment is aimed at developing the community of journalists, and attracting the traffic of minded readers, gaining the attention of people in a better context. Offer the most professional reporters with a high reputation to try a new way of their old reporting business.

**Some considerations for the operation of the system:**

1. The system is based on existing news from any reliable sources.
2. News is placed in a database in the form of a PDF, with a link to the source and archived cached copy of the web page. It is possible to place audio and video.
3. Keywords are highlighted in the news, with a yellow marker, or other colors. For audio or video, their transcript is published, in which words of interest and phrases are highlighted.
4. The keywords are searched by dates, people. Conversely, people are searching for keywords and dates. The search is similar to the WestWorld program and the BuildingConnected system: buttons on the left, and flying lists of people, conversations, dates, ideologies and so on. The interface is somewhat similar to Visual Studio Code, in it you can build extensions and switch visual settings, for example, dark / light themes.

**System operation from events to people:**

1. In the news, keywords and phrases are highlighted with a “marker” to omit white noise that is not of interest.
2. In the fields on the left, the removal of signs that facilitate perception is possible.
3. News is combined into news chains, forming an event series. The main sequences of this event context are highlighted, highlighted.
4. Intermediate comments are made for the series of events, explaining the relationship between the events (a community of journalists who need to be paid here is a question of monetization). It is possible to attach a dialogue of other journalists to their comments, giving rise to a public debate on this context (the issue of reputation, aggression, flooding remains unresolved).
5. Event series can intersect and branch, forming logical graphs of events.
6. Several series of events are combined into trends, political, economic, social, and scientific. Linkages-comments allow them to stick together, and understand the relationship between them.
7. If you want to view the news, the original web page unfolds, with highlighted keywords. Phrases out of context do not break out. When you hover over the highlighted word, explanations appear on the right, left, bottom and top. For example, if the word “Mike Pence” is highlighted, then there is a link to Wikipedia, a list of trends in which he takes part, a list of ideologies that he is supposedly guided by, and groups of people in which he is a member.
8. Trends are united in the discourses.
9. Ideas of development are united in ideology.
10. Ideologies unfold back into groups of people (peoples of countries, scientific, political schools, etc.).
11. Groups of people are fragmented into people, reflecting their emotions and commitment to certain ideologies.
12. Monetization of the system is possible through advertising (then the visual series will be littered again), subscription (which will exclude poor and people unwilling to pay) or donations (like the Wikipedia model, which will allow you to clear the visual field and give access, but there is a risk that donors will greatly influence the removal of some discourses, for example from Palestine, Iraq, Libya and other war zones, etc.)

**The process from people to events.**

1. For a given person, it is shown which group he belongs to, and what events are connected with him, which chains form these events, which ideologies he supports and which ideologies or ideologies he adheres to.
2. The same is shown for a group of people, a school of knowledge, or a people.

**SWOT analysis**

**Inner virtues**

1. The competence and horizons of the team, allowing you to analyze distant time chains of events and combine them into abstractions of a higher level for further analysis.
2. Programming skills and physical presence in Silicon Valley.
3. Virtually unlimited resources for access to capital, talent for interface designers, programmers, etc.
4. The liberal environment of San Francisco promotes a more fluid exchange of ideas, in contrast to the conservative circles of the center of the United States.

**Internal flaws**

The key difficulties in creating the system are as follows:

1. It is difficult to draw such an interface that will fit in many chains, many event series, their gluing, comments, connectors, and higher-level abstractions. The design of the system will need to change rapidly as new ideas and requirements for the interface, which will create a burden on the creators of the system.
2. It is difficult to attract sufficient resources of clever analysts who can comment on the chains, because one of the most difficult types of journalism is investigation, and not just the publication of their opinions. Generic article titles and comments should be concise, succinct, and simply explaining the proposed logical connections.
3. It is unclear whether the system should be distributed or centralized, and what should be the algorithm for coordinating opinions on the relationship of chains. The system of wiki-consensus and society by invitation begs, but abuses and intentional damage to other people's chains and ideologies are not ruled out.
4. It is unclear how to exclude the comments of bots and trolls, where there is a thin red line between a sincere dispute and expressing one’s opinion on the one hand, and malicious flooding on the other. Perhaps you also need to establish a wiki consensus mechanism for detecting bots. Or just the “Report” button, when the signals are transmitted to the central office, and there a decision is made to block the bot. Then such a system will be slow, awkward, and, most importantly, in different language domains, it will not be able to respond correctly to, say, Chinese characters.
5. It is difficult to catch traffic into the system, people use different motives and discourses, and for the system to be useful, the integration of all these discourses into a working structure will be a large-scale and complex task.
6. It is difficult to track the key event chains occurring even in a single country, for example, in the USA. There are a lot of them. But there is hope that attracting a sufficient number of professionals will solve this problem, especially if the system is open, like Wikipedia.

**Opportunities**

1. Creating a new type of Think Tank, “highlighting” trends, ideologies, a chain of events, this is an extremely interesting work.
2. Creating a new type of news site, which is not yet exists in the world.
3. The ideologies of people, groups, and countries can be more clearly expressed, which will bring their positions closer together and help mutual understanding.
4. The system will obviously contribute to the education of people, especially young people, helping them understand what is happening from the point of view of different people, groups, cultures, peoples, and this will help prevent conflicts when too polar interpretations arise. For example, this will help Americans better understand the chains of facts, ideologists and ethics of China, the Middle East, Russia, and so on. And vice versa.
5. The system will make it possible to project "soft power", that is, to convey the advantages of the logic of one side or another, which should make the world a more transparent, more reasonable and logical.

**Threats**

1. There may be people, companies, or even governments of countries that will not like the logic of some, or even so many chains of events and discourses. High-level analysts may be at risk. Perhaps, for some ideas and designs, the reporter’s confidentiality will be required, for which it will be necessary to develop a separate procedure for handling information, for example, restricting access to it. This, in turn, can threaten the reputation of the system.
2. Conflicts may arise that would jeopardize the leadership of this company and its very existence, since obviously there will be a desire on one side to suppress the discussion of the discourse of the other.
3. It may take a team to move to a more neutral country to put less pressure on it, and use cryptocurrencies for financing purposes, as well as other safety and security measures.

**Required resources to start the system:**

1. Website
2. Prototypes of visual UI / UX interfaces, designers.
3. The first few, or several dozen chains, demonstrating the functionality of the system.
4. The logic of adding investigative reporters-reconstructors.
5. Journalists, at least ten people.
6. Critical readers, focus group.

**Program structure**

Loading functions

Parse News ( )

Parse Book ( )

Load Title ( )

Load Text ( )

Load Source Hyperlink ( )

Load Pictures ( )

Load Music Fragment ( )

Load Video Fragment ( )

Drawing functions

Draw Text Block ( )

Move Text Block ( )

Scroll Text Inside Block ( )

Unhide Pictures ( )

Hide Pictures ( )

Field Fly Right ( )

Field Fly Left ( )

Field Fly Down ( )

Field Fly Up ( )

Field Zoom In ( )

Field Zoom Out ( )

Field Minimap ( )

Logical operations with text blocks

Extrapolate Chain ( )

Delete Extrapolation Leave Chain ( )

Highlight Key Words Yellow ( )

Change Highlighter Color ( )

Highlight Words in Comment ( )

Delete Words ( )

Change Line Intervals ( )

Change Font Size ( )

Create Class ( )

Assign Words to Class ( )

Rename Class ( )

Connect Block To Block With Arrow ( ) - direct causal link

Write Question To Words ( ) - like a comment

Like Question ( )

Dislike Question ( )

Like Comment ( )

Dislike Comment ( )

Switch To Compact Tree View ( )

N. N. Grigoryev, Santa Clara, 2019