



# FACTS

FACTS Index 9.18<sup>1</sup>

## FACTS Constructing Authentic Internet Content Ecosystem

FACTS Foundation  
FACTS.io  
2018.8

<sup>1</sup> FACTS Index Rating

0–5 means that the facts basis is insufficient or the relevance of referenced facts is weak.

6–8 means that the referenced facts basis is appropriate, but the view basis is insufficient.

9–10 means that the referenced facts basis is authentic and valid, and the view is fully expressed.

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# Abstract

## • Without facts, there is no truth

FACTS is the only way to successfully solve the serious problems of massive false content, unclear fact clues, miscellaneous information adverse to identification, etc. on social media such as Facebook and Twitter and various Internet content platforms.<sup>2</sup> Meanwhile, with the fine-grained user incentive system introduced completely, FACTS also solves the problems of difficult authenticity judgment and underpowered user propagation for platforms such as Wikipedia and Quora<sup>3</sup> providing premium content.<sup>4</sup>

## • Facts speak for themselves

The core of FACTS is to construct a Facts Content Incentive Mechanism that is based on the block chain technology, i.e. the Proof of Facts (PoF), and hence to form an authentic content library that is based on Facts Graph. The Facts Content Incentive Mechanism and Facts Graph of FACTS are open to all content class DAPPs via a uniform interface to form a vertical public block chain of service content ecology. The facts incentive mechanism is designed in accordance with the authentic content views of neutrality and verifiability, any authentic content is proved authentic by referencing or depending on other reasonable facts bases, and the Content Review Panel guarantees the mechanism is executed properly to ensure the quality of Facts Graph. FACTS Index is a core parameter reflecting the authenticity of content to let users know at a glance.

The incentive mechanism of FACTS is to promote the credibility of content and the propagation extent of credible content by rewarding users for each behavior beneficial to the community. In content communities with common values, users obtain corresponding token reward through beneficial behaviors such as producing authentic content, excavating the authenticity of content, propagating authentic content, etc. The underlying Facts Pool of FACTS is updated and improved continuously to form a network-interconnected structural Facts Graph. In this way, each noun, each incident and each view in the content community are depending on bases and theories, the judgment cost of users can be greatly reduced, and the reading experience is optimized. After each piece of content in the Facts Pool is referenced reasonably, content authors will receive corresponding reward to be encouraged to create more content values for the community.

In general, the problems of massive false content, underpowered creation and low propagation efficiency on the network can be solved perfectly under the action of a perfect decentralized facts-driven mechanism of FACTS.

<sup>2</sup> EF-False content is harming Facebook community qq.com, Nov. 13, 2012, referenced on Mar. 5, 2018, FACTS Rank:0.894

<sup>3</sup> A-Quora Wikipedia, referenced on Mar. 5, 2018, FACTS Rank:0.945

<sup>4</sup> EF-Screening and Presentation: New Propagation Trend of Mobile Content in the Context of Information Fatigue, people.com.cn Jan. 12, 2016, referenced on Apr. 1, 2018, FACTS Rank:0.938

# Chapter I Core Idea of FACTS



## 1.1 Industry Background: Massive false content on the network

The development of global Internet is facing a problem difficult to break through today. Lots of false information is brought before users by simple "Like" means and recommended algorithm, which makes users unable to decide which is right and do not know why. Facebook having 2 billion of users all over the world is accused by many mainstream media of helping [Trump<sup>5</sup>](#) win the presidential election via fake news thereon. [Wired<sup>6</sup>](#) (magazine), as a famous science and technology media in Silicon Valley, covered in depth that executives in journalism "thought that the preference of Facebook algorithm has caused sillier and sillier reports to be published in journalism". <sup>7</sup>Recently, [Mark Zuckerberg<sup>8</sup>](#), founder of Facebook, was panicked at the US Congressional Hearing due to the incident of data breach. This dilemma clearly shows that the traditional "centralized" Internet content community management mode is full of loopholes, which deeply influences the development of realistic society.



(Figure 1: Mark Zuckerberg at US Congressional Hearing. Source: WIRED<sup>9</sup>)

The other side of a coin is also worrying. The success of enterprises such as Facebook, Twitter, [Reddit<sup>10</sup>](#), MicroBlog and Quora in business does not create actual cash value for users participating in community maintenance and construction. In the existing business mode, the business realization process is as follows:

<sup>5</sup> A—Donald Trump Wikipedia, referenced on Mar. 3, 2018, [FACTS Rank:0.945](#)

<sup>6</sup> A—Wired (magazine) Wikipedia, referenced on Mar. 3, 2018, [FACTS Rank:0.945](#)

<sup>7</sup> EF—INSIDE THE TWO YEARS THAT SHOOK FACEBOOK—AND THE WORLD, WIRED Feb. 12, 2018 referenced on Mar. 4, 2018, [FACTS Rank:0.929](#)

<sup>8</sup> A—Mark Zuckerberg Wikipedia, referenced on Mar. 4, 2018, [FACTS Rank:0.945](#)

<sup>9</sup> EF—WATCH MARK ZUCKERBERG TESTIFY BEFORE CONGRESS LIVE RIGHT HERE, wired.com, referenced on Mar. 22, 2018, [FACTS Rank:0.920](#)

<sup>10</sup> A—Reddit Wikipedia, referenced on Mar. 23, 2018, [FACTS Rank:0.945](#)



(Figure 2: Social Media Realization Process)

During this process, the most central content creators can only receive a small part of advertising revenue, while the node users who are important in the content propagation chain are completely excluded from the sequence of benefit distribution. This may easily cause the content creators to attract more users to interact for various benefits, and even make up more false content to draw the attention of users<sup>11</sup>, hire water army<sup>12</sup>, scalp<sup>13</sup>, and obtain profit by exploiting vulnerability. For example, the false information similar to the following content is often presented on Twitter or MicroBlog:



(Figure 3: Users discussed on Twitter that the host Megyn Kelly was dismissed for backing Hillary. Source: The Verge<sup>14</sup>)

Among the Trending Topics on Facebook and Twitter, there is a topic of "Megyn Kelly" linked to a report titled "BREAKING: Fox News Exposes Traitor Megyn Kelly, Kicks Her Out For Backing Hillary", to the effect that Megyn Kelly, as a reporter and host of Fox News Channel<sup>15</sup>, was dismissed by the company for backing Hillary to be the President of the United States, which is a fake speculation news article in fact.<sup>16</sup>

<sup>11</sup> EF-Internet media is full of fake news sina.com.cn May 9, 2017, referenced on Mar. 22, 2018, FACTS Rank:0.904

<sup>12</sup> A-Water Army [persons posting a great number of meaningless messages in forums] baike.com, referenced on Mar. 23, 2018, FACTS Rank:0.932

<sup>13</sup> A-Scalp baike.com baike.com, referenced on Mar. 23, 2018, FACTS Rank:0.932

<sup>14</sup> EF-Facebook removes fake article about Megyn Kelly from Trending Topics theverge.com, referenced on Mar. 24, 2018, FACTS Rank:0.916

<sup>15</sup> A-Fox News Wikipedia, referenced on Mar. 23, 2018, FACTS Rank:0.945

<sup>16</sup> EF-Facebook removes fake article about Megyn Kelly from Trending Topics The Verge Aug. 29, 2016, referenced on Mar. 12, 2018, FACTS Rank:0.892

Therefore, FACTS hopes to summarize a reasonable incentive mechanism by constructing an original incentive algorithm and analyzing the process of users' behavior of participating in the content production and content interaction on the basis of summarizing over ten years of experience and lessons of its team in Internet product design and operation and observing and analyzing billions of user behavior<sup>17</sup> habits.

The cornerstone of an excellent community must be continuous production and precipitation of authentic and premium content; giving Like, sharing and rewarding can better inspire creators emotionally to continuously produce high-quality content; reference, compliant about violation, note and comment can play the roles of supervision and continuous optimization for content. The accumulation of these behaviors also helps other users of the platform to understand authentic and valid content; the establishment and continuous rectification of community order help the community to build an ordered content structure in a long period, help browsing users to find interested information more efficiently and help the community to eliminate inferior content.

When content authors reference the content that is objective and authentic enough to add notes for the corresponding nouns and incidents and obtain the vote of the Content Review Panel, and after the evaluation period and appeal period, the corresponding content will also be input into the Facts Pool. Once the content is referenced by other users, the content authors will obtain the corresponding shared reward.



## 1.2 Development Vision: Constructing a token-driven authentic network content world

FACTS hopes to become a content service platform of the whole network to construct a decentralized<sup>18</sup> public block chain network for contributing evaluation and distributing interests for critical behaviors such as authentic and premium content production, content accumulation and propagation, etc.

With a phone in hand and network resource available anywhere, we can get a lot of information every day, but in complex information, it is more and more difficult for us to tell the truth from the false. According to a survey of Pew Research Center<sup>19</sup> in 2017, more than two thirds of American adults get news from social media<sup>20</sup>. After Facebook, Twitter and even Snapchat become the main channels for many people to get news, Trump, President of the United States, often talks about "Fake News"<sup>21</sup>. How to repair the seemingly "broken news"?

The main purpose of FACTS is to establish a diversified Facts Pool driven by the token rewarding system. Users ensure the authenticity of all content by participating in content production, interaction and error correction, while other developers can trustingly develop more content applications that are based on classification and subject on the basis of the content in the library and realize their business values<sup>22</sup> together with the content creators by more diversified commercial methods.

<sup>17</sup> A-User Behavior Analytics Wikipedia, referenced on May 25, 2018, FACTS Rank:0.945

<sup>18</sup> A-Decentralized baike.com, referenced on Mar. 26, 2018, FACTS Rank:0.932

<sup>19</sup> A-Pew Research Center Wikipedia, referenced on Mar. 26, 2018, FACTS Rank:0.945

<sup>20</sup> EF-In 2017, two-thirds of U.S. adults get news from social media Pew Research Center Sep. 5, 2017, referenced on Mar. 28, 2018, FACTS Rank:0.943

<sup>21</sup> EF-Donald Trump aide accuses BBC of 'fake news', BBC Feb. 8, 2017, referenced on Mar. 1, 2018, FACTS Rank:0.942

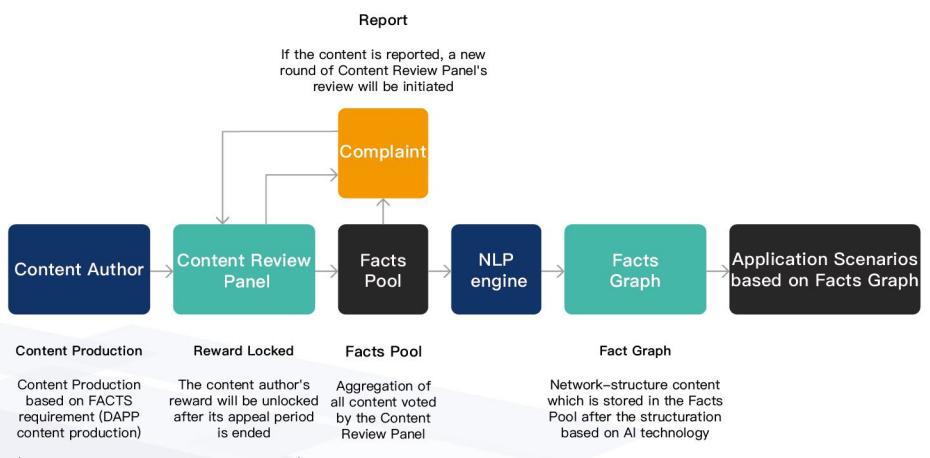
<sup>22</sup> A-Business value Wikipedia, referenced on May 23, 2018, FACTS Rank:0.945

# Chapter II FACTS Solution: Incentive Mechanism Based on Facts (PoF)



## 2.1 Overview of FACTS Solution

The core of FACTS is to construct a Facts Content Incentive Mechanism that is based on the block chain technology, i.e. the Proof of Facts (PoF), and hence to form an authentic content library that is based on Facts Graph. The Facts Content Incentive Mechanism and Facts Graph of FACTS are open to all content class DAPPs via a uniform interface to form a vertical public block chain of service content ecology. FACTS creates a set of FACTS Index evaluation models capable of effectively reflecting the authenticity of content, which evaluate the content and generate FACTS Index of the content to provide a powerful credibility reference for the Content Review Panel and users. The credible content approved by the Content Review Panel is stored in the Facts Pool, and the NLP<sup>23</sup> engine automatically constructs Facts Graph of that content to precipitate out massive credible content.



To intuitively describe the credibility weight of different content channels, FACTS introduces FACTS Rank. The FACTS Rank is based on the algorithm similar to Page Rank<sup>24</sup>, and the corresponding Rank values are given to different content or content channels by calculating the mutual reference relationship of content.

FACTS chain stores the account book data and the user critical behavior data to be inspired, FACTS content is stored in the content addressing file system that is based on IPFS<sup>25</sup> protocol, and the chain only stores the index of content. The content in the Facts Pool will continuously generate and update the corresponding Facts Graph via analysis of NLP engine.

To reduce the workload of the Content Review Panel and improve the efficiency, FACTS also provides abundant AI automation tools, including automatic anti-spam, and automatic duplicate checking.

<sup>23</sup> A-Natural language processing Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)

<sup>24</sup> A-PageRank Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)

<sup>25</sup> A-InterPlanetary File System Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)



## 2.2 Incentive Mechanism (PoF) of FACTS

Proof of Facts (PoF) is an incentive mechanism that is based on FACTS behavior. Users use their knowledge and experience for judging Facts content via behaviors of creating, supplementing, reviewing, reporting, reading, sharing and giving Like to Facts content, which can be considered as users' contribution to Facts content. PoF will make statistics according to the contribution extent of each user to Facts content, and reward will be issued according to the FACTS incentive model.

### 2.2.1 Reward Pool

FACTS provides a fair and rational public reward pool. Content consumers can obtain the right of reward pool distribution by forming effective interaction with content via behaviors such as sharing, giving Like, noting, commenting, etc., and content authors will obtain the corresponding token reward as a result of increase in the quantity of content consumer interaction. All rewards will have a reward freezing period, i.e. an appeal period, and will be issued to users only after the appeal period ends and no proof is received.

Example of reward pool core algorithm<sup>26</sup> :

$$\begin{aligned} \text{REWARD\_POOL} = & \sum \text{REWARD\_CREATION} \times \text{REWARD\_CREATION\_FACTOR} \\ & + \sum \text{REWARD\_INTERACTION} \times \text{REWARD\_INTERACTION\_FACTOR} \\ & + \sum \text{REWARD\_DIFFUSION} \times \text{REWARD\_DIFFUSION\_FACTOR} \end{aligned}$$

### 2.2.2 Evaluation Weight and Energy Value

The content can be evaluated in positive and negative aspects. Positive evaluation includes giving Like, rewarding, etc., while negative evaluation includes thumbing down, correcting errors, reporting, etc. Meanwhile, neutral behaviors such as sharing, commenting, content perfection, etc. are calculated as content evaluation factors according to a certain weight<sup>27</sup>. The evaluation of content of users involves consumption of energy value.

Each evaluation behavior of users will consume a certain energy value, and also obtain FACTS Token reward because of participating in content interaction. After the energy value is consumed, users still can participate in interaction but will not obtain corresponding FACTS Token reward. The energy value is gradually restored according to time.

The energy value is introduced on the basis of two purposes:

1.Preventing active users<sup>28</sup> from accounting for excessive evaluation weight.

2.Avoiding obtaining a great deal of evaluation weight by registering zombie users<sup>29</sup> . For positive evaluation and negative evaluation, the evaluation weight generated by a single valid evaluation behavior is used as a parameter to regulate the influence of energy value possessed amount on the evaluation weight.

<sup>26</sup> A-Algorithm Wikipedia, referenced on Apr. 11, 2018, FACTS Rank:0.945

<sup>27</sup> A-Weight Function Wikipedia, referenced on Apr. 21, 2018, FACTS Rank:0.945

<sup>28</sup> A-Active User baike.com, referenced on Apr. 2, 2018, FACTS Rank:0.932

<sup>29</sup> A-Zombie User baike.com, referenced on Apr. 2, 2018, FACTS Rank:0.932

The rules of the energy value are set as follows:

- 1.The maximum energy value is constant;
- 2.The energy value is restored according to the special time;
- 3.Each behavior of creation/interaction-propagation of users will consume a certain energy value;
- 4.The behavior of users of consuming the energy value will obtain the corresponding reward from the reward pool according to the behavior incentive coefficient.
- 5.The behavior of users after the energy value is consumed is still valid but cannot obtain reward from the reward pool any longer.

### 2.2.3 Determination Period

The evaluation within a certain number of days after release of content will be used to calculate the benefit which shall be distributed to the content, and after expiration, the system will automatically calculate the benefit that authors deserve. This means that when benefit distribution is determined upon expiration, the benefit to be distributed will be distributed proportionally for all the content according to the net evaluation weight that the content gains. Premium content will often trigger more premium content. In such modes as Quora and Zhihu, premium answers are often guided by good questions<sup>30</sup>, and the platform will reward the content triggering premium content.

### 2.2.4 Appeal Period

The benefit of one piece of content will be calculated after expiration of the evaluation period. To allow enough time to discriminate attributes such as infringement, authenticity, etc., the benefit will still need a certain lock-up period<sup>31</sup> to reach the authors.

To prevent malicious authors from releasing infringing or illegal content, users can initiate a new content review panel by filing a content report complaint. The system will freeze this kind of content according to the voting result of the Content Review Panel, and the content authors cannot obtain the benefit that can be obtained in a conventional state. During the appeal period, the content authors also have the right of arbitration appeal to ensure that all users can be treated fairly.

Time is also one of the important indexes for verifying the authenticity of content. FACTS uses a longer appeal period to ensure that there is sufficient basis to prove the authenticity of content before the content is input into the Facts Pool.

<sup>30</sup> EF-Where does the value of Zhihu come from? Premium content plus deep UGC interaction 163.com Jul. 26, 2017, referenced on Mar. 30, 2018, FACTS Rank:0.895

<sup>31</sup> A-Lock-up Period Wikipedia, referenced on Mar. 30, 2018, FACTS Rank:0.945



## 2.3 Core Indexes of FACTS

### 2.3.1 FACTS Rank

FACTS Rank: After the content network structure is formed by the cross-reference between the facts content, we can determine the FACTS Rank of a piece of content by the interlinkage between the content. The FACTS Rank is ultimately embodied as the overall rating of the relevance and importance between the facts content, with the numerical values from 0 to 1.

In order to avoid the imbalance of Facts Rank caused by the excessive degree of correlation between different content references of the same user, we improve the Page Rank algorithm of the traditional search engine<sup>32</sup>. The reference between the content of the same user will result in less weight sharing, and the reference between the content of the different users will result in more weight sharing. The coefficient increases in the Page Rank formula as it attenuates in the user relevance, which results in the formula FACTS Rank:

$$\text{FACTS Rank } (p_i) = f(x) \left( \frac{1-q}{N} + q \sum_{p_j} \frac{e \text{FACTS Rank}(p_j)}{L(p_j)} \right)$$

q is the damping factor<sup>33</sup>, generally expressed as q=0.85.

f(x) is the function<sup>34</sup> of the calculation facts coefficient

e is the user-related coefficient

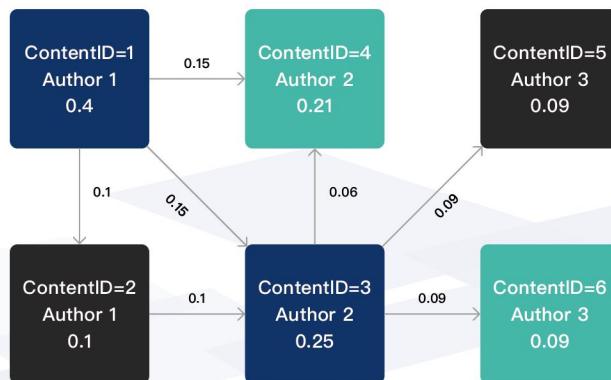
p<sub>i</sub> is the current calculation weight content

p<sub>j</sub> is the referenced content of p<sub>i</sub>

N is the number of all pages

L(p<sub>j</sub>) is the number of p<sub>j</sub> references

The example of calculating the article weight according to the derivation of this formula is as follows:



(Figure 5: Example of FACTS Rank Calculation Graph)

<sup>32</sup> A-Search Engine baik.com, referenced on Jul. 2, 2018, FACTS Rank:0.932

<sup>33</sup> A-Damping Factor Wikipedia, referenced on Mar. 30, 2018, FACTS Rank:0.945

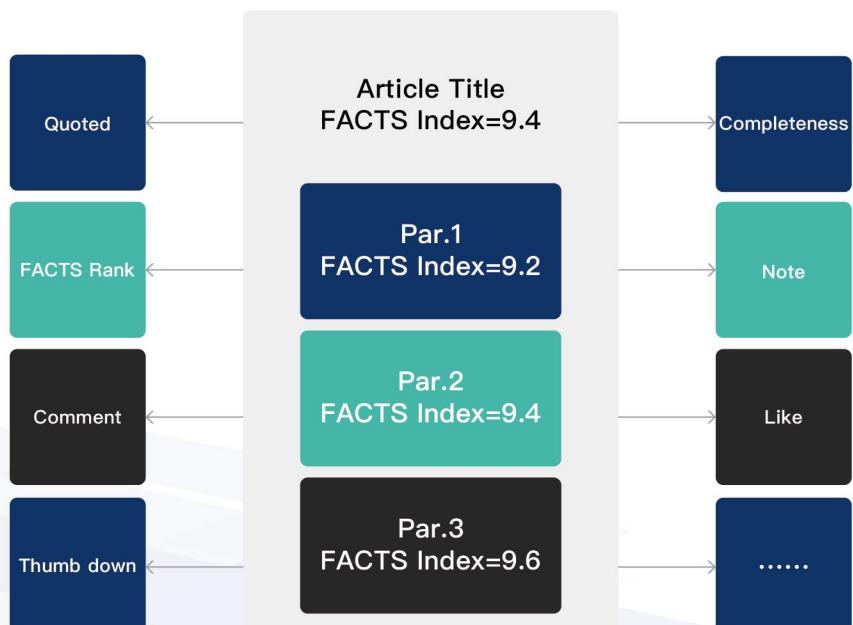
<sup>34</sup> A-Function Wikipedia, referenced on Mar. 30, 2018, FACTS Rank:0.945

The article weight calculation of FACTS shows that the weight index of an article is obtained by calculating the weight indexes of other articles referenced therefrom. FACTS calculates the weight index of each article by iteration<sup>35</sup>, and through multiple recursive computations, the weight indexes of these articles tend to stable limit<sup>36</sup> values, which refer to the weight indexes of a series of cross-referenced articles.

### 2.3.2 FACTS Index

FACTS Index is the assessment index of the authenticity of article content, with the numerical values from 0 to 10. It represents the assessment index of authenticity and credibility of articles, which is obtained by weighting the parameters such as the completeness of content, the rationality of references and the interaction between users and error correction by them that are combined by the current content and the referenced content according to the degree of correlation between relevance and rationality. To a large extent, FACTS Index embodies the authenticity and reliability of content to provide strong reference for users.

The influencing factors of FACTS Index are shown below:



(Figure 6: Influencing Factors of FACTS Index)

<sup>35</sup> A-Iteration Wikipedia, referenced on Mar. 30, 2018, FACTS Rank:0.945

<sup>36</sup> A-Limit Wikipedia, referenced on Mar. 30, 2018, FACTS Rank:0.945



## 2.4 FACTS User Model

### 2.4.1 Content Author

Content authors are the core users of FACTS, and contribute content by publishing or improving subjects. If the content produced by content authors is voted by Content Review Panel and receives no complaints during the review period, the basic reward, FACTS Tokens, will be granted by the system. The real content produced is used to attract Content Consumer for interaction and sharing, and additional FACTS Tokens will be granted according to such relevant data parameters<sup>37</sup> as interaction and sharing. If the content produced is good enough and the basis of the content is enough, it will be marked as the facts content. Once the content in the Facts Pool is referenced by other users again, the corresponding FACTS Tokens will be granted to the stakeholders of the content.

The content produced by content authors is not limited, which means that they either can create new facts subjects or can cooperate with others in creating the existing facts subjects in the form of subject creation, new addition, modification, error correction, and supplement of content pieces. Based on the content constantly created and improved by content authors, the facts content in the Facts Pool is ultimately formed into the Facts Graph of network structure.

### 2.4.2 Content Consumer

Content consumers, the screeners of platform content, can browse content, interact with it and encourage the high-quality content, and the platform will grant additional FACTS Tokens to the content authors according to the interaction parameters produced. Content consumers can receive FACTS Tokens by voting for content and sharing it. In order to encourage content consumers to find high-quality content, the earnings ultimately made by a piece of content will be proportionally distributed to the users who give their likes to, share and comment the content within the first few days after it is published. In the information explosion and information fragmentation era<sup>38</sup>, it is high time cost<sup>39</sup> and energy that content consumers devote to fully understanding an article, and FACTS provides perfect annotation features for content consumers, for example, content consumers can select certain unfamiliar nouns or events, and the system will take corresponding content annotations from the Facts Pool to provide background content for content consumers quickly, which will reduce the cost of reading for content consumers significantly.

<sup>37</sup> A-Parameter Wikipedia, referenced on Mar. 30, 2018, FACTS Rank:0.945

<sup>38</sup> A-Information Fragmentation Era baike.com, referenced on Apr. 1, 2018, FACTS Rank:0.932

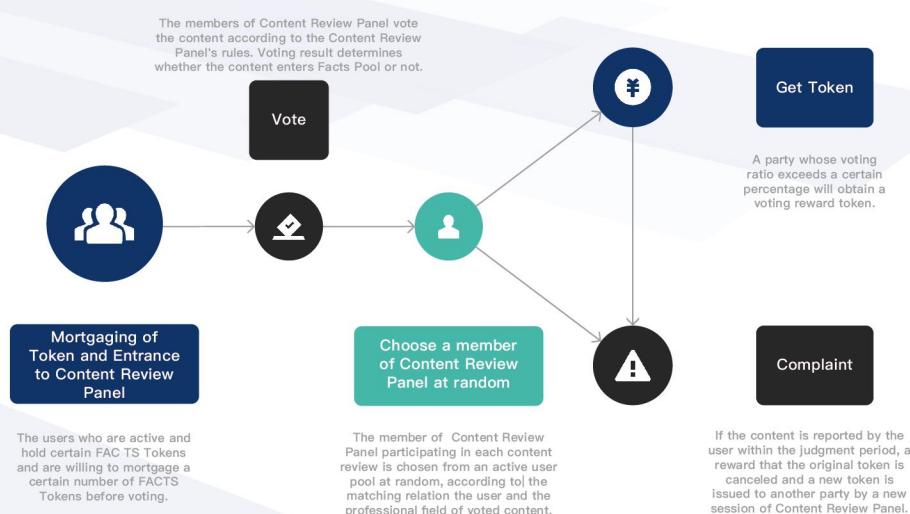
<sup>39</sup> A-Time Cost baike.com, referenced on Apr. 1, 2018, FACTS Rank:0.932

### 2.4.3 Content Review Panel

Content Review Panel is the content control agency of FACTS, its members are elected according to fair and transparent principles and the number of its members for each content is required according to the upper and lower limits. Several Content Review Panels work on an active content platform simultaneously. Each time a content is generated in the network, Content Review Panel is required to cast facts-finding votes to determine if such a content can be marked as a FACTS content. The eligibilities of the members of Content Review Panel and the general principles of facts-finding votes cast by Content Review Panel are as follows:

- 1.The users who are active for a certain period of time, hold certain FACTS Tokens and are willing to mortgage a certain number of FACTS Tokens before voting;
- 2.Whenever Content Review Panel draws votes from the pool of users who are active for a certain period of time by randomness<sup>40</sup>, while the matching relation between users and the professional field of voted content is referenced, until a certain proportion of such users have finished determination, and if the corresponding number of users fail to complete facts-finding votes within the set time, the user pool will continue to provide substitutes;
- 3.FACTS Tokens will be granted to Content Review Panel. The members of Content Review Panel follow the rules of Content Review Panel to cast facts-finding votes. The corresponding token reward is granted to content authors according to the passing rate of facts-finding votes, and each member of Content Review Panel receives the corresponding token reward according to the degree of consistency between the passing rates of their facts-finding votes and the general facts-finding votes of Content Review Panel. If the content is informed against by users within the review period, which is passed by the new Content Review Panel, the original token reward will be deducted and the tokens will be granted to each member of the new Content Review Panel according to the above-mentioned rules.

After the mortgage is passed, FACTS Tokens are not transferable and separable, and only if the members of Content Review Panel quit and all the voting content in which the members of Content Review Panel are involved passes the appeal period, such FACTS Tokens will be unfrozen. If the members of Content Review Panel require compulsory unfreezing, then the members of Content Review Panel are involved in the reward granted by voting, and the review reward corresponding to the content during the appeal period will be deemed waived.

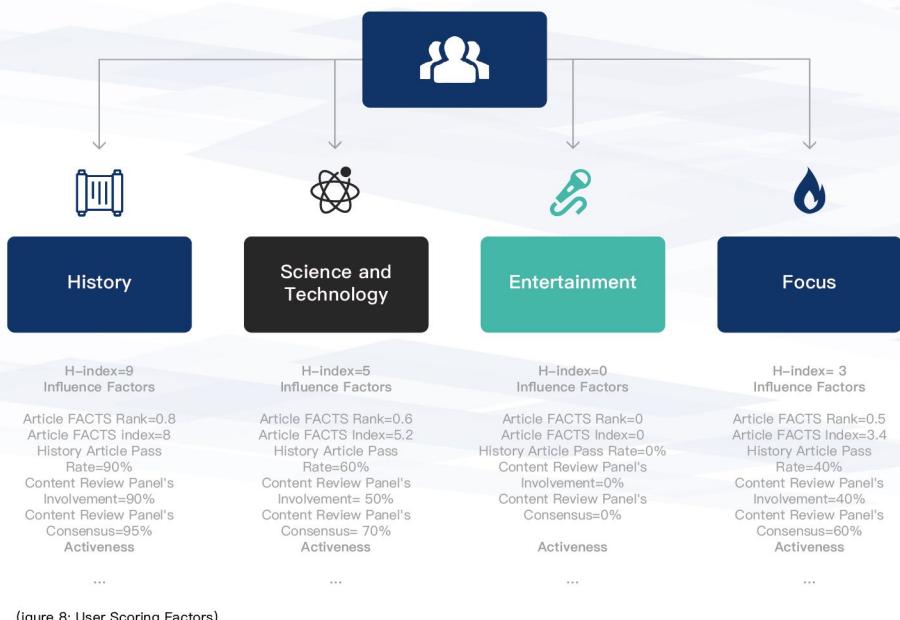


(Figure 7: Business Model of Content Review Panel)

<sup>40</sup> A—Randomness Wikipedia, referenced on Apr. 1, 2018, FACTS Rank:0.945

#### 2.4.4 User Credit

User Credit: Both Content Review Panel and FACTS Index are required to assess a user's expertise in a particular content domain. Assess the professional competence of users in different content domains, perform professional rating of users by user tags, user behavior, H-index<sup>41</sup> algorithm, etc., and combine user domains to score the relevant domains. The domain score of users is as follows:



(figure 8: User Scoring Factors)

H-index is an algorithm for evaluating the academic<sup>42</sup> achievements of scientists. H represents high citations, and the H-index of a researcher means that he has at most H papers separately cited for at least H times. H-index reflects one's academic achievement with comparable accuracy.

In FACTS, the analogous mechanisms can be used to assess an author's academic authority in a certain content domain. The H-index of an author represents the number of times that the content of his multiple papers is separately cited. The higher one's H-index is, the bigger content influence he has in a certain content domain and the higher authority<sup>43</sup> he has in a certain content domain.

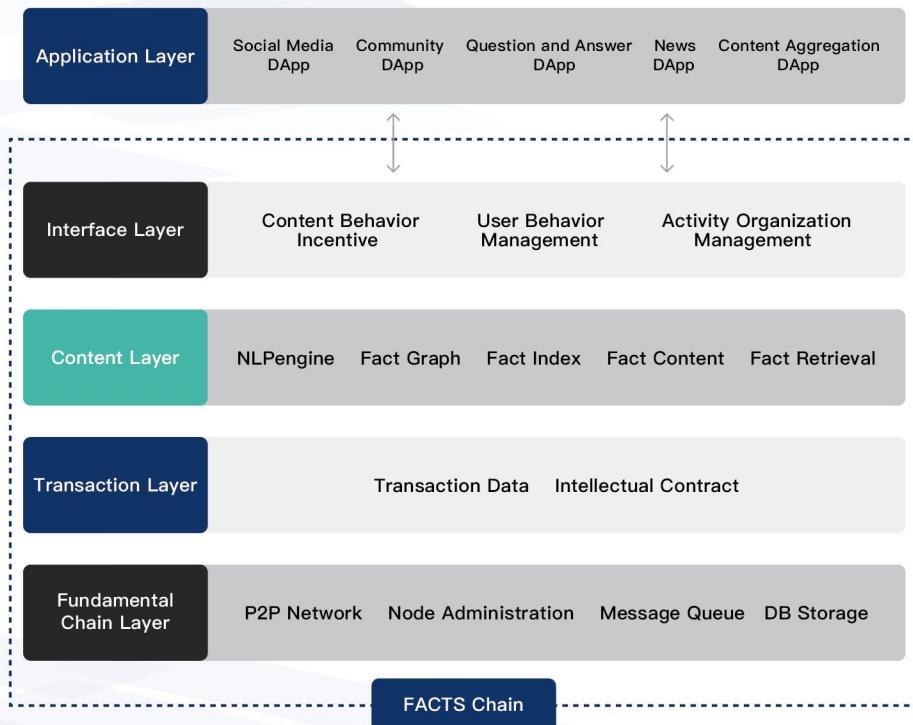
<sup>41</sup> A-H-index Wikipedia, referenced on Jul. 10, 2018, FACTS Rank:0.945

<sup>42</sup> A-Academic baike.com, referenced on Jul. 10, 2018, FACTS Rank:0.932

<sup>43</sup> A-Authority Wikipedia, referenced on Jul. 10, 2018, FACTS Rank:0.945

# Chapter 3 FACTS System Architecture: Application of Mature Block Chain Technology in Content Domains

## 3.1 Technical Architecture Diagram of FACTS



(Figure 9: Technical Architecture Diagram<sup>44</sup>)

As shown, the technical architecture can be divided into the following layers:

- 1.Application Layer: User Ecological DAPP Application
- 2.Interface Layer: Its main service logics include treatment of user behavior, behavioral motivation, treatment of various organizational activities, etc., and the interface layer provides these service logics for accessed DAPP by opening access to the interface.
- 3.Content Layer: Based on NLP engine, it constructs Facts Pool, Facts Graph, FACTS Index, Facts Rank, and other content cores and also includes content review, content index, content version, assessment content reference, assessment index, etc.
- 4.Transaction Layer: It is based on content transaction mechanism and smart contract mechanism.
- 5.JI Chain Layer: Packaging, consensus, storage, index<sup>45</sup>, etc. of block chain.

<sup>44</sup> A-P2P Wikipedia, referenced on Mar. 28, 2018, FACTS Rank:0.945

A-Database Wikipedia, referenced on Mar. 28, 2018, FACTS Rank:0.945

A-Social media Wikipedia, referenced on Mar. 28, 2018, FACTS Rank:0.945

<sup>45</sup> A-Index baike.com, referenced on Jul. 10, 2018, FACTS Rank:0.932



## Underlying Block Chain Architecture of FACTS

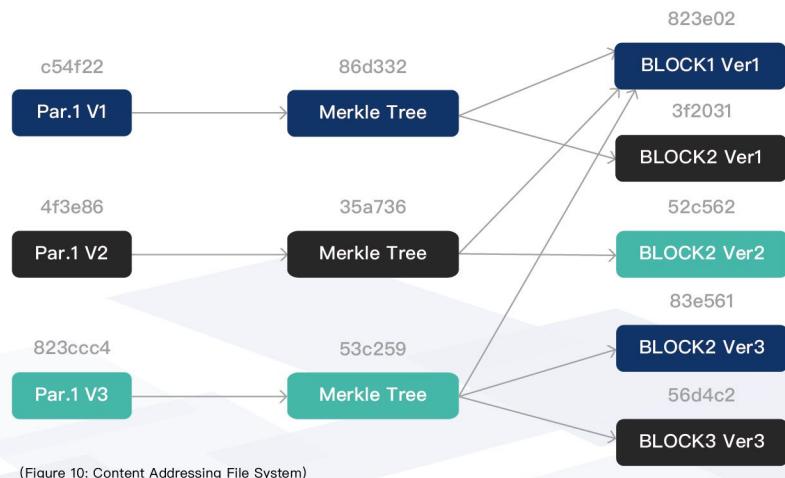
The underlying block chain of FACTS adopts [graphene technology](#)<sup>46</sup>. Graphene is the block chain toolkit developed by [Bitshares](#)<sup>47</sup> Team [cryptonomex](#)<sup>48</sup> putting the DPOS Consensus Mechanism into the actual application scenario. FACTS adopts graphene technology as the underlying block chain layer which is characterized by fast transaction, strong concurrency capabilities, high TPS, large data throughput, etc. Meanwhile, FACTS will optimize the efficiency of content operation such as content transmission, content storage and quick content retrieval to enable the transaction velocity to reach 10000 TPS, support the access by one hundred million users and provide high-performance underlying technology guarantee for the behavior of the high-concurrency content of massive users.



### 3.3 FACTS Content Addressing Storage System

The file system of FACTS is required to support the multi-version management of content in order for multiple persons to create and modify the content collaboratively; and the file system of FACTS is required to support the content index in order to retrieve and manage content more efficiently. The file system of FACTS is required to perform division storage in order to reduce the storage space for repeated content. The file system of FACTS is required to guarantee the accuracy of the files in order to guarantee the integrity of the files.

A content-addressable file system is built in FACTS, splitting files into Blocks, calculating the Hash of every Block and then finding them by means of [Merkle tree](#)<sup>49</sup>. Every file is a Merkle tree , and every Block is a node of Merkle tree, which enables both verification of the accuracy of files and reduction of file storage space during the period of file modification and version iteration. The multi-version storage diagram is as follows:



<sup>46</sup> A-[What is graphene technology](#) 8btc.com, referenced on Apr. 21, 2018, **FACTS Rank:0.917**

<sup>47</sup> A-[bitshares](#) bitshares.org, referenced on Jul. 10, 2018, **FACTS Rank:0.920**

<sup>48</sup> A-[cryptonomex](#) cryptonomex.com, referenced on Jul. 10, 2018, **FACTS Rank:0.918**

<sup>49</sup> A-[Merkle Tree](#) Wikipedia, referenced on Jul. 10, 2018, **FACTS Rank:0.945**

### 3.3.1 Content Directory Tree

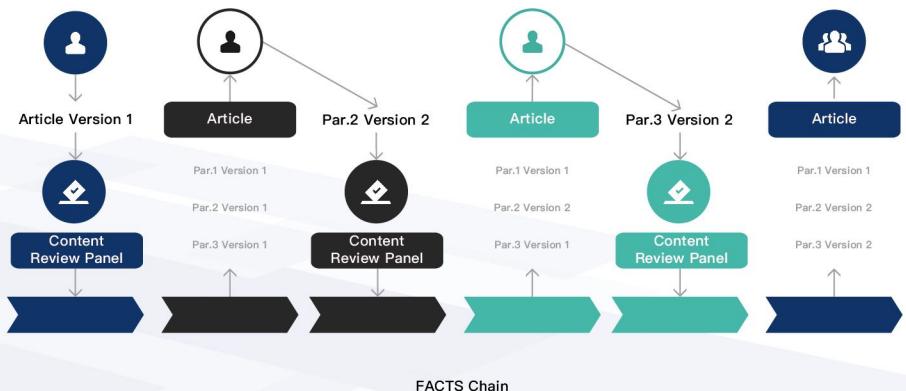
For better structuring, the content of FACTS is managed in the form of multiple fragmented versions, and the fragmented review, fragmented citation, thumb-up and thumb-down and tip-offs can be used to optimize user experience and improve efficiency. For the incentive system, there will be incentive methods with finer granularity to ensure that every small contribution of users can be rewarded correspondingly.

FACTS internally uses [Deep Learning](#)<sup>50</sup> algorithm to solve the problems of automatic classification and clustering of content, splits the paragraphs of articles to translate them into [word embedding](#)<sup>51</sup>, and uses the classification models of [CNN](#)<sup>52</sup>/[RNN](#)<sup>53</sup> and other deep learning networks to automatically extract the content features and classify the characteristic approximation content to automatically cluster as content directory tree.

### 3.3.2 Content Multi-version Collaboration

[Wikipedia entries](#)<sup>54</sup>, event topics and other content are often required to be constantly supplemented and completed by multiple users, and in order to accomplish fast iteration of the content and the orderliness in the iterative process, FACTS introduces a concept of [Version](#)<sup>55</sup> to the content, that is, users can constantly improve the content produced by themselves or others and use a new version number to record the new content in the block chain. If certain users constantly improve a piece of content in an iterative way, the facts content can be constantly enriched and improved, and finally, the massive users can read the high-quality content that is formed by the involvement of countless persons in the improvement of iteration.

The content collaboration process is as follows:



(Figure 11: Content Collaboration Process)

Content versioning in user collaboration: When multiple users participate in modification and improvement of the same content, the progressive increase and management of versions are the key part. Multi-version design can help us record the complete history of any content in order to track the status of content at any time in the future, and if necessary, the current version can roll back to the previous one.

<sup>50</sup> A-Deep Learning Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)

<sup>51</sup> A-Word Embedding Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)

<sup>52</sup> A-Convolutional Neural Network Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)

<sup>53</sup> A-Recurrent Neural Network Wikipedia, referenced on Jul. 10, 2018, [FACTS Rank:0.945](#)

<sup>54</sup> A-Wikipedia Entries baike.com, referenced on Mar. 4, 2018, [FACTS Rank:0.932](#)

<sup>55</sup> A-Version baike.com, referenced on Mar. 4, 2018, [FACTS Rank:0.932](#)

However, in the modification of content and the iteration of content version, the same content in the multiple versions is, as it were, recorded as the same copy by the content addressing storage system of FACTS, and the paragraphs of different content are recorded, respectively. Organize each paragraph of the current content version of the index, and cross-reference the paragraphs of the same content, which finally ensures the accuracy of the content algorithmically and reduces storage space.



## 3.4 FACTS AI-Based Automation Tool

**Automatic spamming and garbage prevention:** through artificial intelligence algorithm<sup>56</sup>, identify the spamming behavior<sup>57</sup> feature and garbage content, automatically mark the spamming and garbage content, and reduce the content judging panel's stress, so as to guarantee the FACTS quality.

**Automatic duplicate checking of subject and content:** through the feature extraction of subject and content (word segmentation, hash, weighting, merging, and dimension reduction), document the fingerprints, calculate the similarity of checked content, automatically perform the duplicate content checking, increase the checking efficiency, and reduce the checking cost.

**Automatic reference generation:** automatically identify the correlation between user participation content and existing facts content, and mark their reference relations.

**Automatic fact index assessment:** according to the existing correlation and its direction, automatically assess the authenticity and quality score of the user participation content.

**Providing API for external access:** provide the content-based API interface<sup>58</sup> capable of batch query, search and analysis.



## 3.5 FACTS Platform Model for Constructing Facts Graph Based on NLP

FACTS technology is innovated and upgraded continuously based on the existing mature block chain technology, and focused on the content value to carry out its own mission. The quick retrieval and content processing is achieved through a powerful content addressing file system, which increases the content processing capability, such that confirmation and feedback on user behaviors may be completed in a very short period. Based on the content processing mechanism of artificial intelligence algorithm, the unstructured content is converted into a Facts Graph, to excavate the true value of content.

### 3.5.1 Facts Pool and Facts Graph

Facts Pool refers to an aggregation<sup>59</sup> of all content passed after the Content Review Panel's vote, and Facts Graph refers to the network-structure content which is stored in the Facts Pool after the structuration based on artificial intelligence technology. Facts Pool also adopts a complaint mechanism to guarantee the authenticity of content, and is unable to perform self-cleaning.

<sup>56</sup> A-Artificial Intelligence Wikipedia, referenced on Mar. 28, 2018, FACTS Rank:0.945

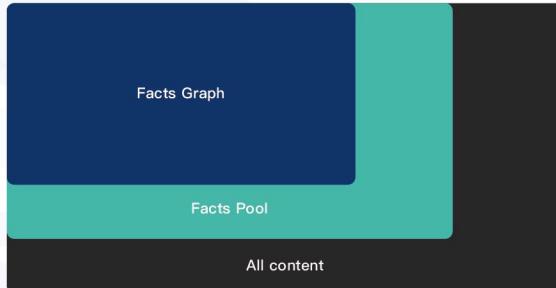
<sup>57</sup> A-Spamming baike.com, referenced on Mar. 28, 2018, FACTS Rank:0.932

<sup>58</sup> A-Application Programming Interface Wikipedia, referenced on Mar. 28, 2018, FACTS Rank:0.945

<sup>59</sup> A-Analysis of Website Content Aggregation Technology aliyun.com, referenced on Mar. 23, 2018, FACTS Rank:0.893

### 3.5.1 Facts Pool and Facts Graph

Facts Pool refers to an aggregation of all content passed after the Content Review Panel's vote, and Facts Graph refers to the network-structure content which is stored in the Facts Pool after the structuration based on artificial intelligence technology. Facts Pool also adopts a complaint mechanism to guarantee the authenticity of content, and is unable to perform self-cleaning.

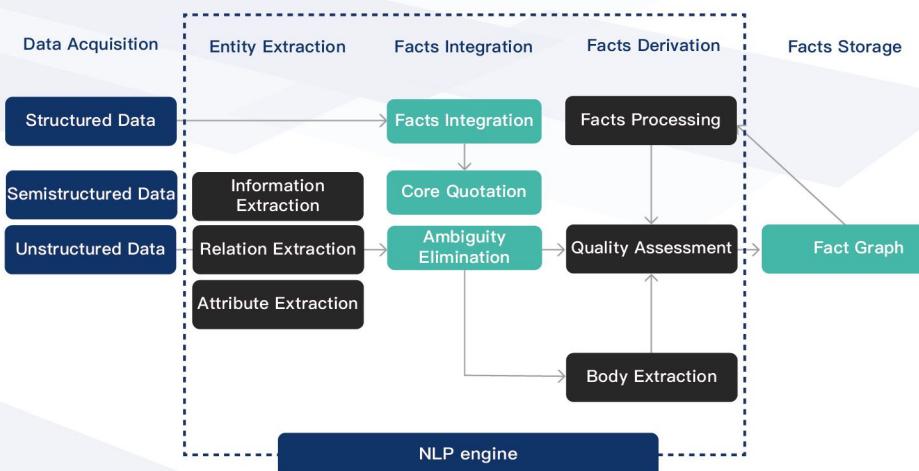


(Figure 12 Relations of Facts Pool and Facts Graph)

Facts Graph is constructed through the relation between content based on a facts content structuration relation map, to structurize, correlate, and prove massive large spacenetwork content each other. The superior fact structuration content is combined with the artificial intelligence technology, to achieve such functions as automatic indexing<sup>60</sup>, autoquote, and knowledge reasoning<sup>61</sup> via an optimal path.

### 3.5.2 Construction of NLP Facts Graph

The construction and use of Facts Graph involves a Natural Language Processing (NLP) engine. When new content is constructed as a Facts Graph, the FACTS will extract the key elements of the new content and the existing fact, such as association content, association attribute and association relationship, through deep learning algorithm according to the existing content in Facts Graph, and perform such operations as integration, redundancy elimination, conflict removal, and standardization, finally integrating with the existing Facts Graph and completing the precipitation of facts content. The process of constructing Facts Graph for new content is as follows:



(Figure 13 Construction Diagram of Facts Graph)

<sup>60</sup> A–Automatic Indexing Wikipedia, referenced on Jul. 8, 2018, FACTS Rank:0.945

<sup>61</sup> A–What is Knowledge Inference igi-global.com, referenced on Jul. 8, 2018, FACTS Rank:0.918

# Chapter IV Application Scenarios of FACTS Vertical Public Block Chain: Prevailing Internet Content Industry

FACTS, as a content vertical public block chain very influential in the industry, may attract entrepreneurs and community users in the field of global block chain to develop various innovative applications (DAPP<sup>62</sup>) for resolving users' pain spots of different areas, and emerging more innovative authentic content applications. It is also important that FACTS may use the block chain technology and an unique incentive mechanism to change the current production relation in the existing Internet content industry, and enable various Internet content applications, making these applications capable of being "block chain" at a minimum cost and successfully creating a typical guidepost "Block Chain as a Service (BaaS)" of the block chain era 3.0.



## 4.1 News Platform

Traditional web portals<sup>63</sup> always take advertising as their major income sources, and the portals' gathering and editing agency also lacks appropriate incentives<sup>64</sup>. Traditional web portals cannot only provide the gathering and editing agency with incentive channels and increase revenue through the content incentive mechanism introduced to FACTS, but also build a community platform or issue an intellectual contract token of the community platform. With the intellectual contract token, the earnings from the content incentive and rewarding mechanism may be impartially and fairly assigned to each and every link of the gathering and editing agency through intellectual contracts. The FACTS Facts Pool is used to provide the platform content with more real and effective content basis, and such the content will provide the Facts Pool with more real and superior content precipitation.

FACTS Foundation will carry out the deep strategic cooperation with ShiLiu Finance, the youngest "professional team" of block chain financial media, to build the most professional credible block chain facts graph network.



## 4.2 Social Media Platform

Through the FACTS content incentive and token distribution mechanism, the platform may construct a social media platform such as a verbal content-oriented platform<sup>65</sup>, and even further to construct a social network, such as Twitter, Facebook. Besides, the FACTS Facts Pool can be used to provide the platform content with more real and effective content basis, and such the content will provide the Facts Pool with more real and superior content precipitation.

<sup>62</sup> A-Decentralized Application Wikipedia, referenced on Jul. 8, 2018, FACTS Rank:0.945

<sup>63</sup> A-Web Portal Wikipedia, referenced on Mar. 14, 2018, FACTS Rank:0.945

<sup>64</sup> EF-Mobile advertising becomes main business income of web portal xinhuanet.com Nov. 24, 2015, referenced on Mar. 13, 2018, FACTS Rank:0.938

<sup>65</sup> A-What is Steemit steemit, referenced on Mar. 16, 2018, FACTS Rank:0.910



## 4.3 Blog, Encyclopedia and Forum Content Platform

Blog<sup>66</sup>, encyclopedia<sup>67</sup> and forum<sup>68</sup> content platforms still take a large of network flow shares, especially blog and encyclopedia class content platforms are main approaches for common users to issue serious text content. For many years, these content platforms can be sustained only by advertising revenue, and a large number of users cannot gain benefit from these platforms. The introduction of FACTS content incentive and token distribution mechanism to such platforms will bring more benefits to users who publish content and platform builders. Besides, the Facts Pool is used to provide the platform content with more real and effective content basis, and such the content will provide the Facts Pool with more real and superior content precipitation.

FACTS Foundation will conduct in-depth strategic partnership<sup>69</sup> with HDwiki<sup>70</sup>, the world's largest Chinese encyclopedia website, and rapidly build the world's largest fact map network on the solid foundation of the 12 million knowledge volunteers<sup>71</sup> and 17 million Chinese dictionary entries from HDwiki.



## 4.4 Question and Answer Content Platform

Cashing the content published on the question and answer communities, such as Quora and ZhiHu, remains a problem to be solved. With the FACTS assessment and token distribution mechanism, excellent respondent can obtain reasonable returns. Compared with direct payment, higher transfer ratio and higher degree of participation can be obtained, by rewarding based on content evaluation. The Facts Pool is used to provide the platform content with more real and effective content basis, and such the content will provide the Facts Pool with more real and superior content precipitation.



## 4.5 Content Aggregation Platform

The platform can use the FACTS reference function to provide content aggregation functions similar to Today's Tops<sup>72</sup> and can use automated programs to pick out the appropriate content and push<sup>73</sup> it to readers. With the reprinting function, both the author and the reprinter can get relevant evaluation and reward. The Facts Pool is used to provide the platform content with more real and effective content basis, and such the content will provide the Facts Pool with more real and superior content precipitation.

<sup>66</sup> A-Blog Wikipedia, referenced on Mar. 13, 2018, FACTS Rank:0.945

<sup>67</sup> A-Online Encyclopedia Wikipedia, referenced on Mar. 13, 2018, FACTS Rank:0.945

<sup>68</sup> A-Internet Forum Wikipedia, referenced on Mar. 13, 2018, FACTS Rank:0.945

<sup>69</sup> A-Strategic Partnership Wikipedia, referenced on Jun 2, 2018, FACTS Rank:0.945

<sup>70</sup> A-HDwiki baike.com, referenced on Jun 2, 2018, FACTS Rank:0.932

<sup>71</sup> A-Knowledge Volunteer baike.com, referenced on Jun.2, 2018, FACTS Rank:0.932

<sup>72</sup> A-Today's Tops Wikipedia, referenced on Mar. 14, 2018, FACTS Rank:0.945

<sup>73</sup> A-Push technology Wikipedia, referenced on Mar. 14, 2018, FACTS Rank:0.945



## 4.6 Specialized Industry Information Retrieval and Reference

The writing of thesis<sup>74</sup> and patent<sup>75</sup> requires a large amount of reference materials and citations. Since a large amount of real content in the Facts Pool is a net-interconnected structured fact map, the corresponding content can be quickly retrieved. The FACTS Facts Pool is used to provide the platform content with more real and effective content basis, and such the content will provide the Facts Pool with more real and superior content precipitation.



## 4.7 Serving as Basic Content Provider of AI Industry

In the era of rapid development of artificial intelligence, a large number of structured facts are needed for AI to analyze and interpret for generating more value<sup>76</sup>. The content in Facts Pool and Facts Graph will serve as an important content provider for AI. A large amount of content can be exported as structured data , and can also be combined with AI technology to form more valuable content, for adding it to the Facts Pool and the Facts Graph.



## 4.8 Commercial System

FACTS commercial system is divided into two main modules: on-line advertising and content promotion, which can enhance the FACTS Token liquidity and increase the platform revenue.

### 4.8.1 On-line advertising

FACTS will provide an advertising market in the wallet, selling advertisements to be paid by duration and position for the platform. In the advertising market, the advertising position options and fees that each platform can provide will be displayed, as well as the performance of these platforms in the block chain and historical data will be displayed for the user's reference. The user can directly pay for the FACTS Token to purchase, the advertisement can be served after it is reviewed by the platform, and the display duration and position of the advertisement are executed by the smart contract<sup>78</sup>.

### 4.8.2 Content promotion

FACTS content system is very complicated. If the users want their content to stand out from many pieces of content, in addition to the enough-high quality, such means as content referrals, and payment forwarding are also needed to obtain more users and traffic. The platform will provide promotion channels like GuangDian Tong<sup>79</sup> and Fans Tong<sup>80</sup> for common users.

<sup>74</sup> A-Thesis Wikipedia, referenced on Mar. 14, 2018, FACTS Rank:0.945

<sup>75</sup> A-Patent Wikipedia, referenced on Mar. 14, 2018, FACTS Rank:0.945

<sup>76</sup> EF-Visit FB Artificial Intelligence Data Center: Promote Deep Learning Engine 163.com Jul. 16, 2016, referenced on Mar. 3, 2018, FACTS Rank:0.895

<sup>77</sup> A-Structured Data webopedia, referenced on Mar. 6, 2018, FACTS Rank:0.915

<sup>78</sup> A-Smart Contract Wikipedia, referenced on Mar. 10, 2018, FACTS Rank:0.945

<sup>79</sup> A-Introduction to GuangDian Tong qq.com, referenced on Mar. 16, 2018, FACTS Rank:0.894

<sup>80</sup> A-Sina Fans Tong sina.com.cn, referenced on Mar. 16, 2018, FACTS Rank:0.904

# Chapter V FACTS Global Ecologic Development Plan



## 5.1 FACTS Community: Global Facts Expert Building Plan

Whether at the publishing house<sup>81</sup> era, the Internet era or the block chain era, the content industry requires a large number of content creators to provide content services for more content consumers. The main responsibility of the FACTS contributor community is to provide preferable services for the generation of content creators to produce more and more high-quality facts content.

The FACTS Foundation will launch a Global Facts Expert Building Plan to provide the excellent content creators with more token supportive incentive and brand support to help them expand staff, improve output of high-quality content and form a brand effect<sup>82</sup>.



## 5.2 FACTS "Classical Application Block Chain" Cooperative Development Alliance

FACTS wants to be a bridge between centralisation<sup>83</sup> application and block chain technology to achieve the block chain of applications in the traditional content field at the lowest possible cost and the highest possible efficiency. The FACTS "Classical Application Block Chain" Cooperative Development Alliance will be the promotional organization that undertakes this mission. FACTS will develop in-depth cooperation with global leading enterprises in the content field, including but not limited to technical cooperation, shared content and users, capital connection, etc. At present, FACTS has established cooperation with multiple partners in the Chinese language field, such as well-known Internet companies in knowledge field, new media information companies, internationally recognized content reader companies, etc.



## 5.3 FACTS Global Ecology Investment Funds

FACTS global ecology investment funds will formulate a friendly positive incentive mechanism for developers to motivate them to continuously develop high-value applications, so as to form more diverse community ecology. At present, development of demonstrative developers in industries such as information content, knowledge content and aggregation content has been completed.

<sup>81</sup> A-Publishing House Wikipedia, referenced on Jul. 10, 2018, FACTS Rank:0.945

<sup>82</sup> A-Brand Effect baike.com, referenced on Jul. 10, 2018, FACTS Rank:0.932

<sup>83</sup> A-Centralisation Wikipedia, referenced on Jul. 10, 2018, FACTS Rank:0.945

FACTS global ecology investment funds will provide [one-stop services](#)<sup>84</sup> for developers, including professional guidance, compliance and strategy consultancy, technical support, user support, etc.

Based on the ranking of DAPP community list of FACTS public block chain, the FACTS global ecology investment funds will also provide corresponding token reward to encourage the contribution of developers.

## Chapter VI Allocation Plan of FACTS Tokens

A total of 9 billion ERC20 FACTS Tokens (hereinafter referred to as FACTS) will be released, among which:

1.8 billion ERC20 FACTS Tokens will be held in the foundation pool, which account for 20% of the total. As a non-profit organization, the foundation will use all the FACTS Tokens it holds for the continuous operation and maintenance of the FACTS community, and make receipt and payment following a strict, transparent and compliant financial management mechanism.

1.35 billion ERC20 FACTS Tokens will be held by the founding team, which account for 15% of the total and will be unlocked in 4 years from the date of grant, i.e. 25% will be unlocked each year.

3.15 billion ERC20 FACTS Tokens will be held in the community operation and ecological construction pool, which account for 35% of the total, among which 5% of FACTS Tokens will be used for compliance and strategy consultancy, 30% of FACTS Tokens will be used for community operation and promotion, product promotion, reward for user behavior before launch of main chain, and ecological construction (including such as incubation, investment within ecology, strategic resource cooperation, etc.).

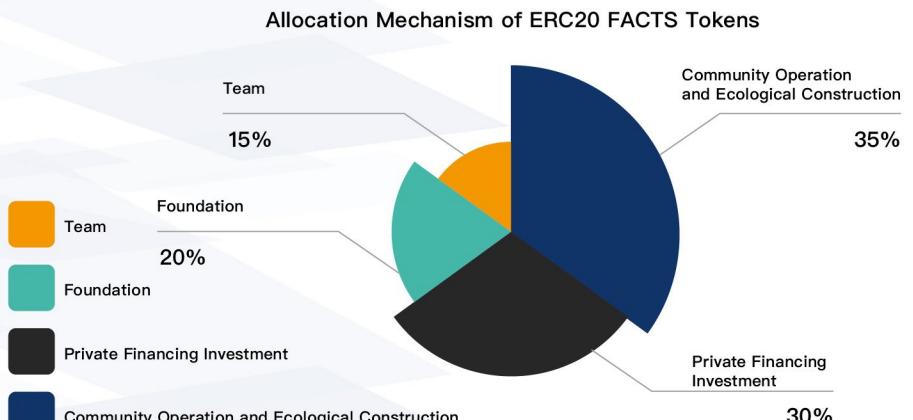
2.7 billion [ERC20](#)<sup>85</sup> FACTS Tokens will be held in the [private placement](#)<sup>86</sup> investment pool for the industry's outstanding institutional investors and directional private placement, which account for 30% of the total.

A total of 5.96 billion ERC20 FACTS Tokens in the main chain reward pool will be activated after the launch of the main chain to motivate users to release and disseminate excellent content. All the ERC20 FACTS Tokens in the reward pool will be locked by a smart contract before the main chain is launched. After the launch of the main chain, these FACTS Tokens will be released step by step. 10% of the remaining ERC20 FACTS Tokens in the reward pool will be released each year, i.e., 596 million ERC20 FACTS Tokens will be released in the first year; 546.4 million FACTS Tokens will be released in the second year, and so on. The release will be carried out permanently.

<sup>84</sup> A-[One-Stop Service](#) baike.com, referenced on Jul. 10, 2018, [FACTS Rank:0.932](#)

<sup>85</sup> A-[ERC20](#) Wikipedia, referenced on Mar. 4, 2018, [FACTS Rank:0.945](#)

<sup>86</sup> A-[Private placement](#) Wikipedia, referenced on Mar. 4, 2018, [FACTS Rank:0.945](#)



(Figure 14: Allocation Mechanism of ERC20 FACTS Tokens)

## Chapter VII FACTS Roadmap: Step Run, Great Leap

- February, 2018 Official project launch
- May, 2018 Design of product model
- July, 2018 Completion of white paper V1.0
- August, 2018 Completion of foundation stone and release of tokens based on ERC20
- September, 2018 Listing on the exchange
- Q4 2018 Formal release the first version of content product
- Q1 2019 Completion of launch test of test chain
- Q2 2019 Launch of FACTS 1.0, and incubation of content product that is based on FACTS

# Chapter VIII Advantages of FACTS Core Team: International Background and Native Experience



## Team Advantages

The core members of the FACTS team are all executives or team leaders from various Internet platforms, and experienced investors and experts are invited to be advisors. The team is headed by Yuan Du who is an Internet security expert, and built based on the core development team of open source software HDwiki<sup>87</sup> having a user community of millions of developers at baike.com and the former Rising<sup>88</sup> security development team. The team takes the years of mature frontline Internet content strategy and the research results of block chain technology as the core advantages to build a unique product of block chain + content. The advisory team includes top-level content entrepreneurs and investors both at home and abroad, who combine industry experience and human resources to provide strong support for the development of the project.



## Founding Team

**Yuan Du:** Senior expert in the field of mobile Internet security, and block chain technical architect. Used to be the Vice President of Cloud Security Division of Rising, and has been responsible for the product design, algorithm research, project organization and other work of Rising mobile Internet products, Rising personal product line products, Rising artificial intelligence business and other frontier fields.

**Sweeny Li:** Community operation and product expert with 10 years of experience in community operation. Used to be the National Director of the SFUN<sup>89</sup>, a listed company on the NYSE; the Director of Operations of the website of TAL; and the Director of Community Operation of Moji Weather. Has been in charge of the overall operation and product planning of many ten-million-level communities, and has led many projects that have been developed from 0 to 1 to tens of millions.

**David Dai:** Full stack engineer<sup>90</sup>, former Chief Architect of open source software HDwiki, and has multiple software-related invention patents. Begun to study BTC transaction mode and technology in 2013. Has profound understanding of block chain technology.

**Jason Xu:** Information security<sup>91</sup> technologist. Former Chief Architect of baike.com, has led several Internet projects for government. Has created the future group technology community of baike.com to introduce multiple new technologies including block chain and combined them with actual businesses. Has implemented multiple intellectual property projects.

<sup>87</sup> A-HDwiki baike.com, referenced on Mar. 22, 2018, FACTS Rank:0.932

<sup>88</sup> A-Rising baike.com, referenced on Mar. 22, 2018, FACTS Rank:0.932

<sup>89</sup> A-SFUN baike.com, referenced on Mar. 22, 2018, FACTS Rank:0.932

<sup>90</sup> A-Solution stack Wikipedia, referenced on Mar. 24, 2018, FACTS Rank:0.945

<sup>91</sup> A-Information security Wikipedia, referenced on Mar. 24, 2018, FACTS Rank:0.945

**Mona Lan:** Senior expert in the field of investment banking. Has many years of experience in primary and the secondary security market. Has once worked in the investment department and investment banking department of many domestic and oversea large-scale securities firms including Morgan Stanley<sup>92</sup> Huaxin Securities and Huarong Securities, and has manipulated ten billions of funds to lead to complete multiple major investment, merger and public offering projects.



## Advisory Team

**Liren Chen:** Graduated from Carnegie Mellon University<sup>93</sup> and Tsinghua University, with major in computer science. Used to be CTO of Passiontec, technology leader of 360 mobile search and CTO of Panguso. Former technical director and software engineer at Google headquarters, and co-founder and CTO of Hubat.

**PHD:** The founder of baike.com. Masters student at Tsinghua University and doctoral student at Boston University. High-level overseas talent of Recruitment Program of Global Experts<sup>94</sup>. "Young Global Leader" of Davos World Economic Forum.

**Yuqian Xiong:** Founder of Foxit Software, previously engaged in research and development of astronomical software at NAOC, served as the Technical Director at Lyreco and Bexcom from 1995 to 2000, and returned to China in 2001 and founded the Foxit Software Inc. At present, Foxit Software has already become China's first and the world's second largest developer and supplier of technical solutions for PDF documents.

**Binsheng Wang:** Distinguished Professor at Graduate School of Chinese Academy of Social Sciences<sup>95</sup>, and block chain torchbearer and early investor.

**Xin Wen:** Graduated from University of Texas System<sup>96</sup> and majored in computer science. Partner at Ceyuan Ventures and Ceyuan Digital Assets. Senior serial Internet entrepreneur. Has rich experience in leading a team to start a business from nothing and long experience in first line enterprise management. Founded Light In The Box<sup>97</sup> in 2007 and served as President and Director of the company which was listed on the New York Stock Exchange<sup>98</sup> in 2013. Co-founder and Vice President of Products of blogchina.com, and well-known angel investor<sup>99</sup> who has invested in dozens of startup companies including Tuniu.com, Snaptube, WallWa, MetaApp. Director and Vice President of Asia America Multi-technology Association (AAMA).

<sup>92</sup> A-Morgan Stanley Wikipedia, Referenced on Jun. 13, 2018, FACTS Rank:0.945

<sup>93</sup> A-Carnegie Mellon University Wikipedia, referenced on Mar. 7, 2018, FACTS Rank:0.945

<sup>94</sup> A-Recruitment Program of Global Experts baike.com, referenced on Mar. 24, 2018, FACTS Rank:0.932

<sup>95</sup> A-Graduate School of Chinese Academy of Social Sciences Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>96</sup> A-University of Texas System Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>97</sup> A-Light In The Box Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>98</sup> A-New York Stock Exchange Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>99</sup> A-Angel investor Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

**Liang Lu:** Received a Ph.D. in particle physics from the Southern Methodist University<sup>100</sup> in 2005. Participated in the theoretical and experimental research of Higgs bosons<sup>101</sup> when worked for the European Nuclear Research Group. Co-founder and former Chief Technology Officer of the NYSE listed company Light In The Box. Used to be the first General Manager of Alibaba's<sup>102</sup> Taobao mobile platform and the General Manager of another Alibaba business unit. Founded 5miles in 2014, which was named the top 10 wireless dealer in the US in 2017. Created the Cybermiles block chain project in 2017, which became the first public block chain on the e-commerce system.



## Risk Warning

### Policy Risk

At present, various countries' regulatory policies on block chain projects and swap financing are not yet clear, and there are certain possibilities of a loss for participants due to policy reasons<sup>103</sup>. In market risk, if the overall value of the digital asset market is overestimated, then the investment risk will increase and participants may expect an over-rapid growth of swap projects, but these high expectations may not be realized.

### Regulatory Risk

The transaction of digital assets<sup>104</sup> including FACTS Tokens has extremely high uncertainty. Due to the lack of strong supervision in the field of digital asset transaction, there are risks of rapid rise and fall and manipulation by dealer with respect to the Tokens. It may be difficult for inexperienced individual participants to resist the asset shocks and psychological pressure brought about by market instability. Although experts from the academic circles, official media and the like sometimes give suggestions for careful participation, there are no written regulatory methods and regulations. Therefore, it is difficult to effectively avoid such risks.

It is undeniable that in the foreseeable future, regulations will be published to restrict and regulate block chain and Token fields. If the supervising subject regulates the block chain and Token fields, Tokens purchased during the swap period may be affected, including but not limited to fluctuations or restrictions on prices and easiness of sale.

### Team Risk

FACTS Foundation has gathered a group of technical teams and expert advisors with leading advantages and rich experience in their respective fields of expertise, including many professionals who have been engaged in the block chain industry for a long time and core teams with extensive experience in the development and operation of Internet products. The stability of core team and the advisor resources are of important significance to maintain core competitiveness of FACTS in the industry. Loss of core staff or advisory team may bring a negative impact on the stable operation of the platform or future development.

<sup>100</sup> A-Southern Methodist University Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>101</sup> A-Higgs Boson Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>102</sup> A-Alibaba Group Wikipedia, referenced on May 20, 2018, FACTS Rank:0.945

<sup>103</sup> EF-South Korea bans all forms of ICO: Bitcoin plunges again ifeng.com Sep. 29, 2017, referenced on Mar. 26, 2018, FACTS Rank:0.918

<sup>104</sup> A-Digital asset Wikipedia, referenced on Mar. 24, 2018, FACTS Rank:0.945

## Network Hacker Risk

The Foundation will establish a comprehensive security framework to guard against hacker attacks<sup>105</sup>, Trojan horses and other external intrusions. However, the security vulnerabilities of underlying open source world that the project relies on will continue to appear. The project team will follow up and fix the security vulnerabilities in time, but this may affect the overall progress of the project<sup>106</sup>.

## Technical Risk

The project team has completed the technical white paper, fully investigated the technologies used, and clarified the project implementation plan. However, due to the technical iterative development speed and the popularity of new technologies, there may be risks that may affect the overall progress of the project.

## Uninsured Loss Risk

Unlike bank account or other financial institution's accounts, there is usually no insurance coverage for storage in FACTS accounts or related block chain network. In any case of loss, there will not be any public individual organization to cover your losses.

## Systematic Risk

Neglected critical defects in open source software<sup>107</sup> and a large-scale failure of a global network infrastructure will result in systematic risks. Although some of these risks will be greatly mitigated over time, such as fixing vulnerabilities and breaking computational bottlenecks, other risks remain unpredictable, such as political factors or natural disasters that may cause partial or global Internet disruption.

## Vulnerability Risk or Risk due to Accelerated Development of Cryptography

The accelerated development of cryptography<sup>108</sup> or the development of science and technology such as the development of quantum computers<sup>109</sup> may bring the risk of cracking to the FACTS platform, which may result in loss.

## Unforeseen Other Risks

Cryptography-based Token is a new and untested technology. In addition to the risks mentioned in this white paper, there are some risks that the founding team has not mentioned or has not yet foreseen. Furthermore, other risks may also appear suddenly, or appear in the form of a combination of several already mentioned risks.

<sup>105</sup> EF-CoinCheck is robbed: Remedial Regulation and Distressed Hackers ifeng.com Feb. 29, 2018, referenced on Mar. 26, 2018, FACTS Rank:0.918

<sup>106</sup> EF-Binance suspended withdrawal reportedly due to hacking attacks sina.com.cn Mar. 8, 2018, referenced on Mar. 26, 2018, FACTS Rank:0.904

<sup>107</sup> A-Open-source Software Wikipedia, referenced on Mar. 24, 2018, FACTS Rank:0.945

<sup>108</sup> A-Cryptography Wikipedia, referenced on Mar. 26, 2018, FACTS Rank:0.945

<sup>109</sup> A-Quantum Computing Wikipedia, referenced on Mar. 26, 2018, FACTS Rank:0.945



# FACTS

Constructing Authentic Internet Content Ecosystem