

WHITE PAPER

Decentralized Reputation System

V 1.0.5

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What is DREP?

PART ONE

What is DREP?

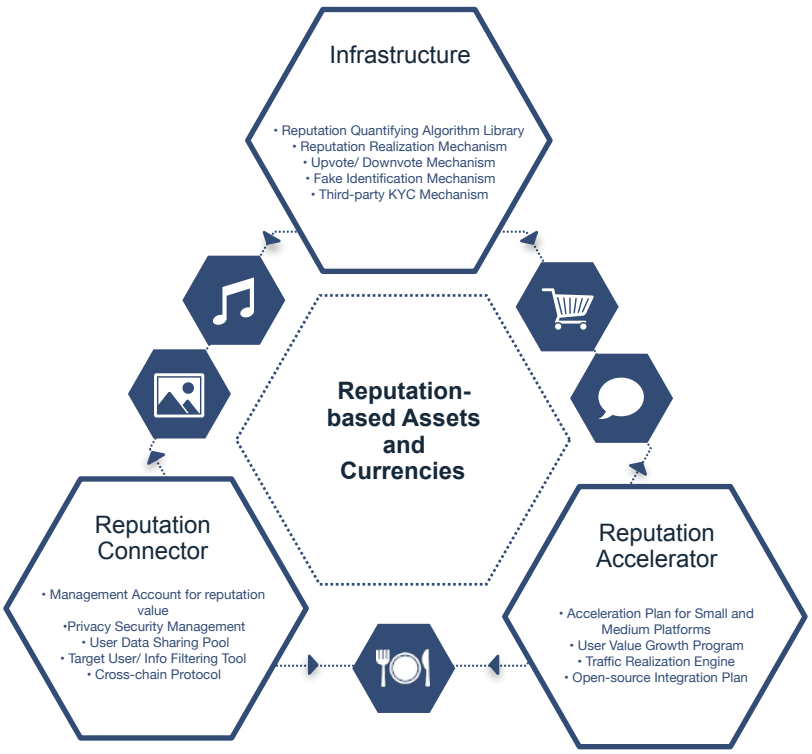
Abstract

DREP (Decentralized Reputation System) is a decentralized solution based on blockchain technology that aims to quantify and tokenize the value of reputation for a variety of online commerce, trading, investment and data sharing purposes. DREP aims to empower internet platforms to solve their pain points, restructure their value ecosystem and facilitate their transition and acceleration via reputation-centered tokenomics and blockchain technology.

The ultimate goal is to unleash the value of untapped internet reputation and push forward a more engaging, high-quality, interconnected internet community, benefiting both platforms and users.

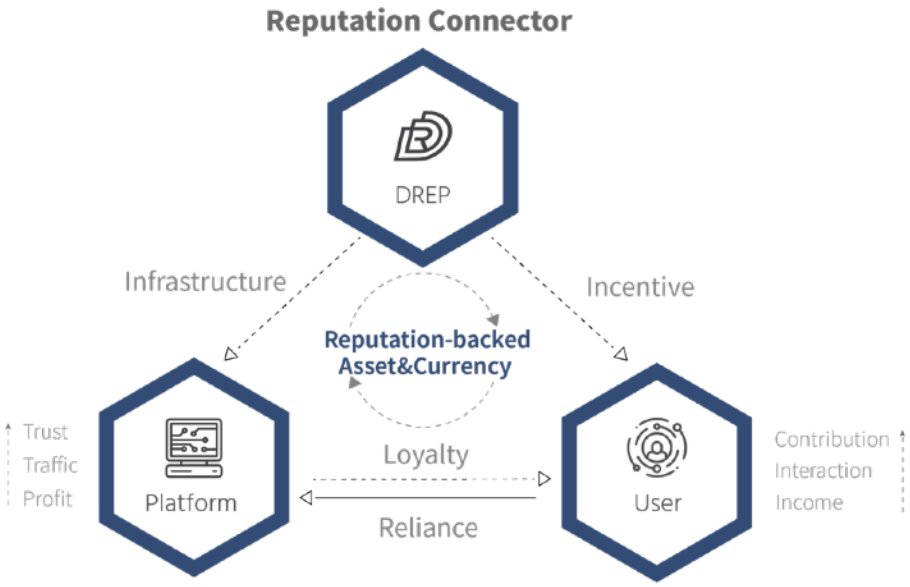
DREP Foundation proposes to provide a suite of facilities to help internet platforms not only tokenize their own platform traffic and online reputation but also connect with other platforms, also known as applications or Decentralized Reputation Apps (DRApps).

- Infrastructure for Internet Reputation System
- Reputation Connector: Data Sharing Pool & Cross-chain Protocol
- Reputation Accelerator: User Growth Engine & Traffic Realizatdion Engine for Small and Medium Size DRAPPs
- Tokenomics: Reputation-backed Asset & Reputation-backed Currency
- The Hub for Reputation Data, Reputation-backed Assets and Currencies



DREP's vision: to build a blockchain platform based on reputation system for internet applications where values are redistributed and reactivated using the advantage of decentralized, economically-incentivized and data sharing blockchain technology.

DREP will ultimately build: a reputation connector that breaks the data barrier across platforms and chains, quantifying the reputation value of users, content, products, services and merchants to the blockchain network and building the value ecosystem backed by reputation. Meanwhile, DREP will provide a more customized and private control to the owner of reputation in order to increase the stability and security of DREP reputation value sharing network.



Core Concept

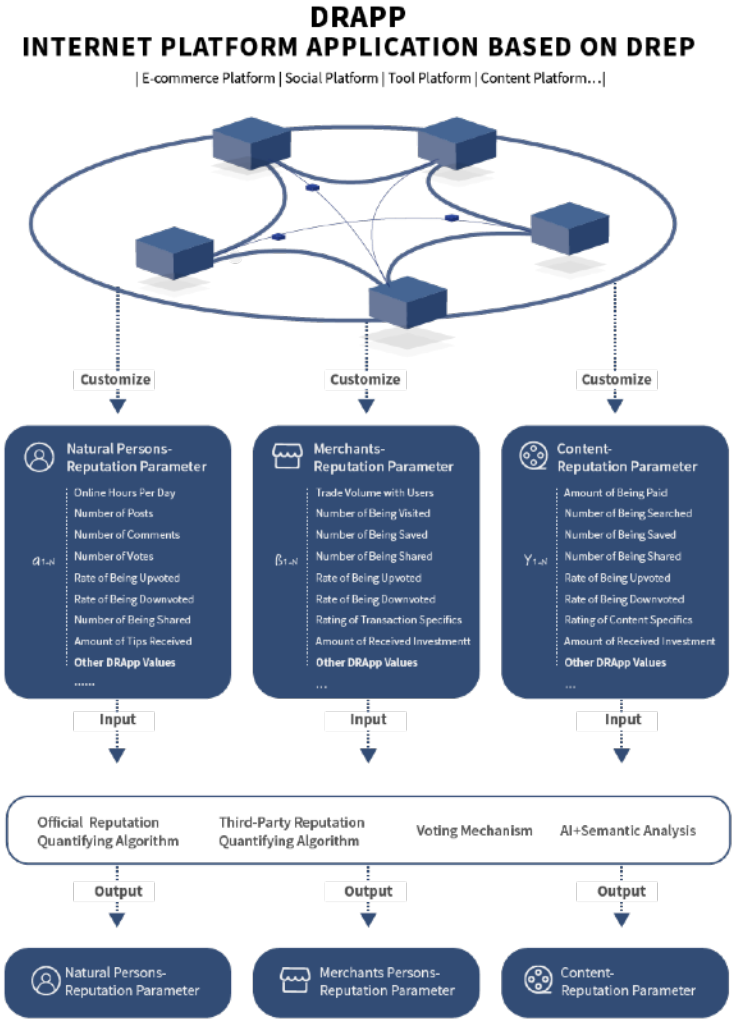
- **Definition of Reputation under DREP System**

The reputation under DREP is similar to the "goodwill" in intangible assets - it has intrinsic values assigned to it on the internet platform. The carriers of this reputation al value include natural persons or merchants in all forms of organizations and things such as novels, music, TV series in all forms of content. As a good reputation tends to have a positive overflowing effect on the things associated with it, it may be classified as a form of intangible assets in the social environments, being represented by the degree of its social impact or influence.

- **Reputation Quantifying Mechanism**

The proposed way to quantify reputation under DREP is mainly based on the behaviors of all participants on the internet, including publishing content, commenting, rating,

voting, sharing, tipping, and trading. By introducing an economic incentive mechanism, all participants are encouraged to value and maintain their own reputation because under the realization of smart contract and algorithm trust, participants with high reputation characteristics can accumulate relatively higher reputation value and gain the corresponding benefits proportionally. DREP quantifies reputation as follows:



Natural persons who possess high reputations tend to be aligned towards contributing high quality content to the platform and community, such as higher engagement, publishing reliable and high-quality content, posting rational and responsible comments, rating and voting fairly, contributing to a positive environment for the community.

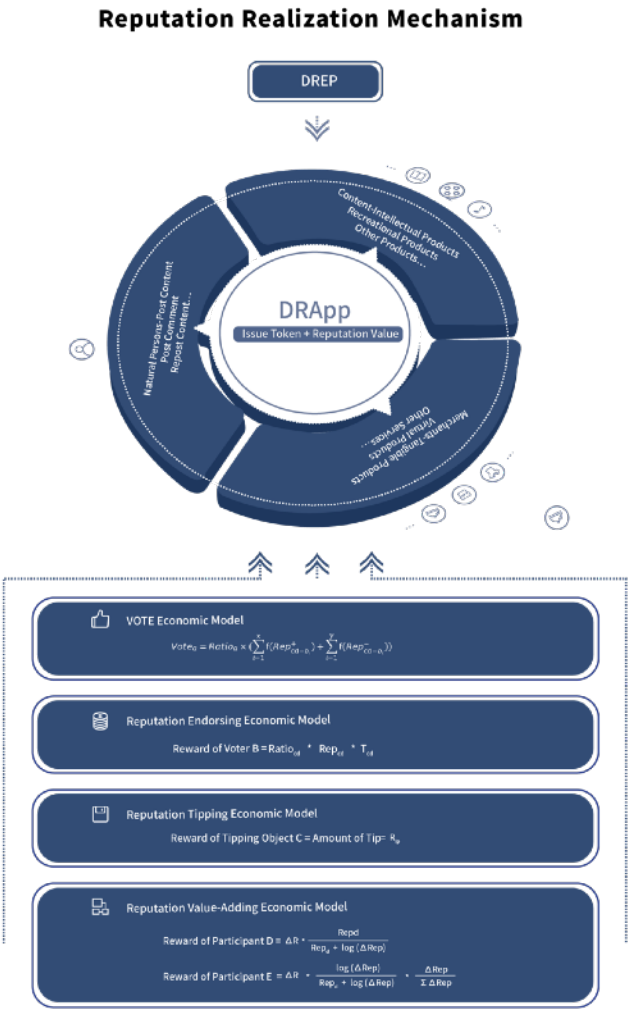
Highly reputable business organizations or merchants tend to provide high-quality physical products, virtual products or other services such as providing authentic product information, improving the quality of products and services, enhancing pre-sales and

after-sales support and awareness. They tend to exercise strict quality control on the upstream and downstream support services standards.

Similarly, content which are supported or endorsed by highly reputable actors, tend to possess better credibility, quality and a greater degree of positive influence. Most times, such content are highly original and are able to achieve a wider reach and higher user relatability.

- **Reputation Realization Mechanism**

DREP aims to design economic incentive modules centered on DREP tokens. Through smart contract control components and different types of smart contract templates, we aim to enable internet platforms to release their own tokens under DREP, which are linked to reputation values. As more internet platforms join, it enables us to build an ecosystem where internet participants on these platforms voluntarily maintain their reputation and conduct a series of activities around it such as voting, endorsements, tipping, publications and commerce. There are four main economic incentive models to support the ecosystem: the VOTE Economic Model, which encourages high-quality content, products and services; Reputation Endorsing Economic Model, which encourages participants to vote; Reputation Tipping Economic Model and Reputation Value-Adding Economic Model.



- **VOTE Economic Model：** Participants can “upvote” or “downvote” content and comments or services and products provided by others to help determine the subsequent social or commercial impact of such voting subjects. Before each vote, participants can decide on the amount of reputation value for endorsement and that value will be frozen. Therefore, only a limited number of votes can be made for a given reputation value. The voting subjects will gain the rewards from the rewarding pool based on their impact degree and the rewarding pool comes from 60% of rewards generated in each block.
- **Reputation Endorsing Economic Model:** To ensure the objectivity of each vote, participants need to stake an amount of reputation value to endorse the vote subjects. Eventually a result will be determined based on the final number of upvotes and downvotes, and the side with a higher amount of reputation value staked wins and will gain more reputation value proportionally while the other party will lose the staked reputation value to subsidize the winning party.
- **Reputation Tipping Economic Model:** Participants in the DREP system can also use the tokens on the DRApp platform to tip users, content, products and services that they support. The tips will go directly to those who get tipped.
- **Reputation Value-Adding Economic Model**: This model will allow supporters of certain users, content, products or services to stake part of their reputation value along with their favored subjects to demonstrate their support. Based on the log value of the staked reputation value, the supporters may get a corresponding reward from the increase in the overall repetitional value of the subjects over time.

- **Reputation Sharing Mechanism**

DREP aims to obtain users’ reputation data within the DREP ecosystem by retrieving each user’s reputation values, which are referenceable and linked to their public key addresses on every DRApp (internet platform). With this data, DREP is able to facilitate a reputation data pool where DRApps are able to index and reference each users' aggregated multi-platform reputation value. This platform overcomes the data barrier between blockchain applications and strengthens interconnectivity of data across DRApps. Internet platforms can then tap onto DREP's reputation data sharing pool to acquire users by targeting users according to custom-set reputation criteria. This function can strengthen the synergy among different DRApps.

DREP is also actively exploring and researching the Cross-Chain Protocol within the internet’s reputation systems. Since the development of blockchain industry, there have been several applications, public chains or private chains projects that have begun exploring the reputation quantifying mechanism within certain industries, generating to a valuable pool of reputation data. Starting off from its own reputation eco-system, DREP

will expand externally to ultimately reach the goal of establishing a cross-chain infrastructure or application within the reputation system. The long-term goal as part of DREP's expansion would be to construct a cross-chain infrastructure and cross-chain DRApps within the reputation system.

What Core Problem Does DREP Intend to Solve?

PART TWO

What Core Problem Does DREP Intend to Solve?

Pain Points Targeted by DREP

- **Lack of Community Growth Mechanism and Weak Tokenomics within Blockchain Applications**

One of DREP's goals is to establish a community user growth scheme within blockchain applications, converting tokens from weak transactional assets to reputation-backed assets, and enabling more stable tokenomics system via reputation system.

The community management within most blockchain applications at current stage is often loose. Before the launch of tangible applications, the primary existing means of group management is via messaging applications, with bigger groups forming organic communities on their own. Due to the lack of contribution incentives and growth mechanisms, members have a high tendency to speculate, with low user loyalty and switching costs. Meanwhile, the speculative value of tokens within the applications tends to be higher than the usage value, so much so that user loss rate becomes high when influenced by market fluctuations. Such is the reason why there are many cases of phenomenal blockchain applications while the failure rate remains relatively high. According to the Deloitte Insights report <Evolution of blockchain technology – Insights from the GitHub platform> published in November 2017, blockchain projects' failure rate is as high as 92%, mostly due to the lack of actual application scenarios and the quick loss of community members.

- **Higher Demand for Tokenization than Decentralization of Small and Medium Applications**

In response to the small and medium sized blockchain applications and traditional internet platforms' need for transition, DREP aims to provide smart contract components and internet platform user growth that are quick, simple with easy to access, to serve the community. In the one-stop value tokenization solution, these platforms can activate its existing users as well as obtaining more users via DREP's user data sharing pool so as to achieve sustainable community management. This will largely decrease the time it will take for them to learn about blockchain technology, understand the way to connect technology to existing business models, improve technology structure, organize the team and promote the project.

For many small and medium platforms transitioning from traditional internet platforms to blockchain applications, their core demand is to have a digital currency used internally for user activation and growth incentivization instead of building a complex and not necessarily effective decentralized ecosystem. These platforms might not be able to learn about blockchain technology quickly and find the most corresponding application

method befitting its business model, or they might spend such great efforts and time on preparing for digital currency offerings and miss out on running their own business, so much so that they end up gaining less than what they lose.

- **Expensive User Acquisition, Difficult Value-Realization and Prevalent Phenomenon of Commission Escape for Traditional Internet Platforms**

DREP aims to speed up the process of user growth and value-realization for traditional internet platforms as well as help prevent the case of commission escape through user growth incentives. With the trend of disappearing communities, these platforms face a severe “Matthew effect” where it has become increasingly difficult for small and medium internet platforms to obtain and retain new users and realize value from the previously obtained users through subsidized free services. Meanwhile, charging commission through connecting the supply and demand parties has been the main revenue source for internet platforms as the information exchange hub, yet users are highly likely to circumvent such systems after the initial connection by trading offline so as to avoid paying commission to the platform.

Based on DREP’s Reputation Connector, traditional internet platforms will have a built-in DREP user growth system which is similar to “social mining”: users will gain proportionate reputation value bonus based on their contribution and impact level. This means the more engaged a user is, the more contribution or transactions they contribute, or more promotions they bring, the more they can increase their reputation value and obtain a higher “social mining” reward. Thus, users are more incentivized to spend more of their limited time and energy on the platform instead of switching to others or trading offline. With DREP, the platform hopes to achieve higher user loyalty, acquire more quality and target users through the user data sharing pool and tokenize the platform data so as to facilitate data aggregation.

- **Common Problems Faced by Existing Reputation Systems**

Currently, some of the internet platforms have a built-in reputation system such as the rating and grading mechanism of platform users, shared content, online shops and registered organizations. However, the internet environment is open to the public and its reputation governance cannot evade problems such as “prisoner’s dilemma” and the issue of collective actions. Participants are not given incentives to continuously make positive contributions to the platforms, i.e. they lack the motivation to maintain a high reputation; participants do not have to pay much for their bad behaviors such as providing wrong information, posting biased comments, malicious manipulation, defamation and other “negative external” behaviors.

The cartoonist Peter Steiner has a famous comic piece published in July, 1993, called “No one knows you are a dog on the internet”. It means that even back to the 1990s when there were only 1.31 million computers connected to the global network, untrustworthy reputation info already became a typical concern. Some platforms copied offline “word of mouth” reputation mechanism online, trying to solve information

asymmetry in the user grading and rating system. However, in practice, it is observed that data used in the grading and rating system tends to be unreliable. First, platforms lack an incentive mechanism to motivate participants to comment. According to Dellarocas and Wood (2007), less than 3% of the users participate in their transaction evaluation on eBay. Second, based on research done by Cabral and Hortacsu (2010), there is a subtle strategic interaction between platform users. For example, the user evaluation of e-commerce platforms will be massively distorted by human intervention. Some shops will take the initiative to contact their customers for good ratings and continuously pester and even threaten the customers who give them negative or mediocre ratings.

At the same time, the existing evaluation system design on the internet platform that can calculate the reputation value is relatively monotonous. It fails to truly and comprehensively measure the reputation value of participants. When e-commerce platforms consider users' engagement in giving comments, they would set a very limited number of transaction evaluation metrics, usually no more than three. Take Taobao as an example, there are only have three rating options for buyers to conduct evaluation, which are "matching with description", "logistics service" and "service attitude". Other forums, communities or social applications also simply consider limited factors such as "online hours", "number of posts" and "membership subscription and renewals" in the reputation accumulation mechanism.

The most obvious flaw on the Internet platform is a series of reputation distortion problems brought by "centralization":

- **Search Engine Optimization Cheating:** Centralized platforms such as search engines and APP stores conduct auction rankings or other cheating behaviors to increase their advertising revenue. They can change and manipulate the real search data.
- **"Fake Army" Phenomenon:** There are a great number of fake accounts on various platforms such as forums, social media, or content communities. They can create tons of fake or malicious content to create heated topics or drive fake traffic for ads and sales.
- **"Fake Order" Phenomenon:** Some e-commerce or sharing economy platforms would use fake accounts to create fake orders to achieve goals in the number of orders or boost` sales volume.
- **"Bad Reviewer" Phenomenon:** There are shop-grading mechanism in platforms such as e-commerce and O2O. Therefore, jobs specializing in deliberately giving bad reviews or getting rid of bad reviews emerged, which results in malicious competition and the distortion of the reputation system.
- **"Pusher" Phenomenon:** The existing internet platform has had a mature "pusher" industry in place. For example, you can have a one-stop service from creating a great number of fake accounts, trading followers, creating PR stunts and fake reputation for internet celebrities.

- **Platforms in Silos:** Also known as “Isolated Island Effect”. It refers to the difficulty to communicate between different platforms because, at the moment, every internet platform has its own set of user system and the reputation accumulation happens in its own ecosystem. However, if we manage to communicate users’ reputation value over different platforms, it would benefit both platforms and users regarding reference value, management value and motivational effects. Currently there is no mainstream way to convert or aggregate reputation values of the same user across different platforms. For example, there is no connection between the reputation systems of Amazon and Alibaba; the reputation of one user on one platform cannot be referred to on the other.

The Feasibility of Building a Decentralized Reputation Mechanism

- **Reputation value is the basis of trust judgment**

Since its birth in 2009, blockchain technology has been exploring revolutionary ways in trust to achieve low-cost, automated and intelligent value interactions. On the application layer, apart from being used to authenticate, authorize and monitor tangible assets, blockchain technology is also urgently needed in intangible assets to achieve accreditation, recording, storage, transaction and circulation. The current applications of digitalizing intangible assets include intellectual property protection, credit management and domain management, mainly focused on enterprise-level services.

Reputation, as the basis of trust judgment in social environment, has a screening and self-reinforcing effect to attract high-quality stakeholders. It can be regarded as the intangible assets which create added value for reputation owners but there are limited cases of the actual application of blockchain to its value management. Scholars who focus on the blockchain application have discussed about how to value and store reputation and the design of reputation system on a technological level.

Ernesto Damiani and other scholars mentioned in a research article published in 2003 that the first p2p-network-centered reputation system mainly focused on selecting reliable variables to ensure the user reliability and the quality of shared content. Later studies also touch upon how to keep the time effectiveness, accuracy and universality of source data. The Trust Guard’s Model proposed by Jordi Sabater and Carles Sierra achieves valuing trust and quantifying reputation based on BETA Reputation Engine through Transaction Manager, Trust Evaluation Engine and Feedback Data Storage Service. Soska and Christin (2015) proposed a system called Beaver that protects user privacy and at the same time can defend Sybil Attack by charging fees. Dennis and Owenson (2016) used the infrastructure blockchain technology to design reputation systems that generate and broadcast binary P2P ratings when receiving correct documents.

- **User reputation systems on different platforms can be connected to get large user base and facilitate monetization**

According to Mary Meeker's 2017 internet Report released at the Code Conference in the United States, by 2017, the number of internet users exceeded 3.4 billion; the internet penetration rate reached 46%; and there is sufficient data base to quantify reputation based on the internet user system. DREP seeks to target diverse internet platforms and vastly different platform governance mechanisms and user groups. Therefore, building a common mechanism to value reputation is the key to achieve cross-platform application of DREP network.

Currently, we observe the mainstream internet platforms are broadly categorized mainly into the below four categories. The core governance objectives for all platforms are increasing the number of user and user engagement rate, encouraging users to contribute high-quality content and large-sum transactions, and avoiding poor content and malicious user activities.

- **E-commerce Platform:** All internet platforms trading physical products/ virtual products/ any kind of services are based on B2B/ B2C/ C2C/ O2O models and the operation is dependent on the trust mechanism of both parties. The reputation value history of every platform participant serves as a natural reference for trust. Similar types of platforms will have overlapping users and these platforms can reference each other's user reputation value to establish a comprehensive trust network.
- **Social Platform:** Social type platforms are most relevant to "people" and the direct product of social reputation. Open source DREP network can increase trust for social network naturally.
- **Tool Platform:** Users on these platforms are more purpose-oriented. The user persona can be described as "I will come if I need it and I will leave once I am done". There is a natural gap between user vitality and monetizing channels. To tackle the problem, the DREP network's reputation algorithm for tool type platforms introduces parameters for these disadvantages and uses economic incentives for these platforms to provide customization and derived services.
- **Content Platform:** With OGC/ PGC/ UGC as the core output, the key of these platforms is to focus on content rather than users. To secure the information sources, it is essential to motivate the content producers and activate the information consumers. "Paid content" is the main way to keep the vitality on these content type platforms. The DREP reputation network for content platform includes a natural paid content models to achieve the goal of attracting high-quality users and generating high-quality content.

DREP will derive a set of reputation quantifying algorithms for various types of platforms based on the concept for basic user management on the internet. Individual platforms can also customize their own reputation algorithms and parameters. DREP aims to not

only build user reputation network for different types of platforms, but also to enable the reputation assessment of content through designing mechanisms such as voting.

- **The barrier of entry for decentralized reputation can be lowered by provide Internet platforms with smart contract templates to release reputation tokens**

As an open source network, DREP aims to support various platforms to release tokens on the network to achieve reputation management of its internal ecosystem. Meanwhile, DREP will provide different types of platforms with smart contract templates for token sales to simplify the digitalization process of user reputation system and lower the barriers for platforms to enter the blockchain network.

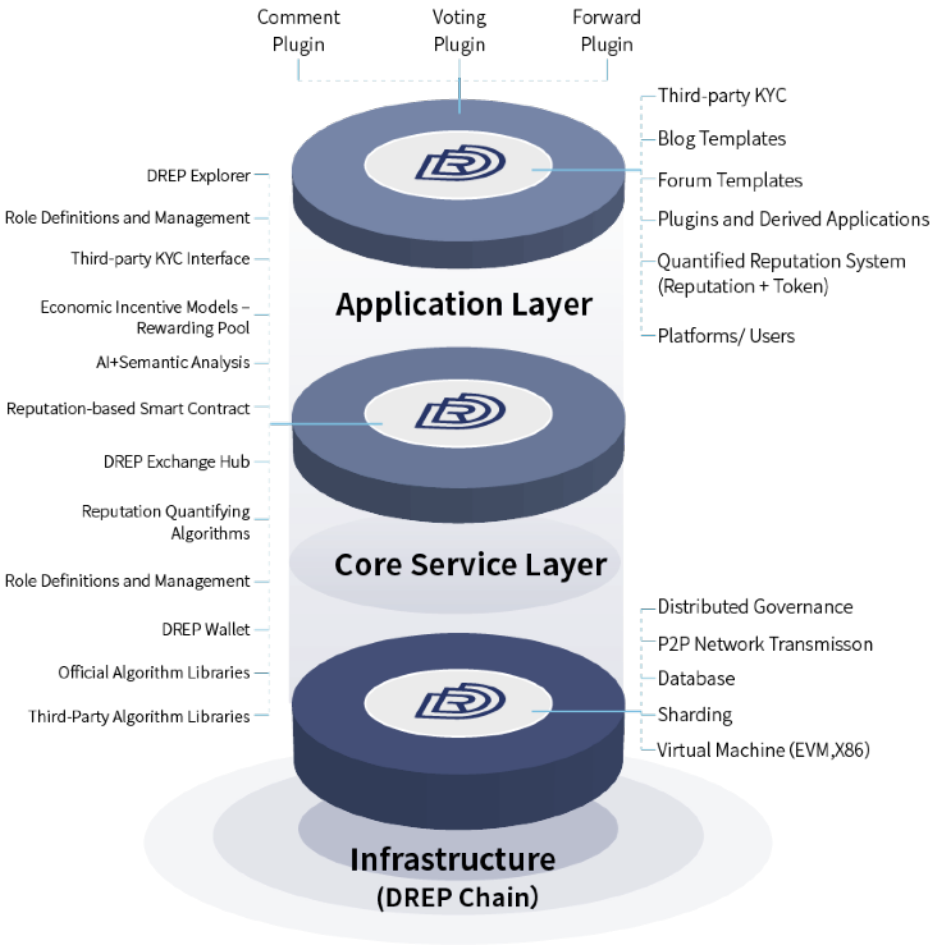
An increasing number of medium- and large-scale platforms with user base want to use the blockchain technology to release internal digital currencies for economic incentive purposes. However, it takes a long time for platform operators to learn blockchain technology and use it to issue tokens. Therefore, the DREP network will provide a one-stop service to cater to this need, which significantly shortens the cycle for platforms to build a tokenized reputation system for its own services. In addition, the DREP network also provides a diverse set of tools centered around building reputation ecosystem.

How Does DREP Intend to Solve Problems?

PART THREE

How Does DREP Intend to Solve Problems?

As a platform providing decentralized solutions to quantify and realise the value of reputation for commerce, positive community participation and data sharing, DREP can be introduced to all kinds of internet applications, such as the previously mentioned e-commerce platforms, social platforms, tool platforms, content platforms, etc. DREP aims to develop its reputation infrastructure network from scratch and builds its core service layer which includes reputation quantifying algorithm library, reputation realization mechanism, voting mechanism, fake account identification mechanism, AI + semantic analysis, smart contract templates and components, role definition and management, management account for reputation value, user information sharing pool (token holder sharing pool), user growth system, traffic realization engine, and open source code integration solution. On top of the core service layer, DREP supports decentralized reputation applications (DRApps), DREP trading platform, blockchain explorer, wallet, plug-ins and derived applications, developer tools, etc.



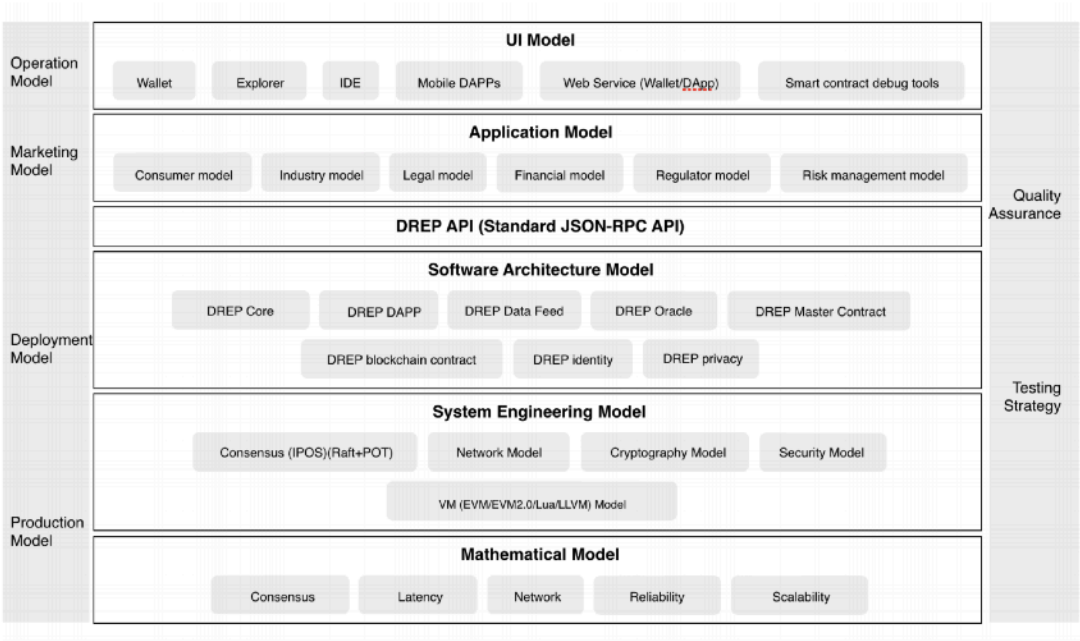
DREP Blockchain Infrastructure Network

In terms of a blockchain project, it is essential to choose a suitable technology platform that matches its business. To most applications targeting specific scenarios, there is no need for them to develop the infrastructure blockchain network from scratch; it is more feasible to choose a public blockchain platform to set up the products.

As a decentralized reputation system, DREP faces complicated business scenarios. The following technical factors need to be taken into consideration:

- concurrency and response speed
- security and privacy
- network upgrade and maintenance
- scalability
- smart contract
- built-in token
- incentive

Considering all these factors, DREP chooses to build the infrastructure network from scratch.



In order to address the challenges brought by complicated scenarios and the massive number of users, our main design features include:

- Use sharding to enhance the parallel scalability of the network
- Adjust the ways to generate tokens and incentive mechanism and allow reputation to run in the DREP underlying network

- Extend distributed governance protocol to add more feature control functions on DREP user cases
- Add support for distributed file storage systems such as IPFS
- Add DREP ID control and management functions

In summary, DREP will build a more efficient and practical infrastructure blockchain network in accordance with DREP's business features.

DREP Core Services Layer

The Core Services Layer plays the most important role in the whole system and it is also the most innovative part of DREP.

- **DREP Infrastructure for Reputation Systems**

Reputation Quantifying Algorithm Library

Calculating reputation value is a very focused part of the DREP system, which is directly related to the core interests of DREP users.

DRApps cater to various industries and even in the same industry, they are very different. Therefore, it is impossible and unscientific to calculate reputation value with a single algorithm. In the DREP system, the algorithm for calculating reputation value will be provided for DRApps, so that they could make customized designs according to their business models and characteristics. Meanwhile, DREP system will produce algorithm templates designed for a few major types of industries and provide DRApps with the below options:

- E-commerce;
- Online Q&A;
- Blog;
- Forum;
- Entertainment (video, music, game, etc.)

In addition, we will also develop an algorithm platform for third-party algorithm library with an attempt to encourage developers and DRApps to develop their own algorithms and make them open-source. DREP will also have economic incentives for third-party algorithm libraries joining the platform.

Reputation Realization Mechanism

The key concept of DREP is to realize the intangible value of reputation in the form of platform RepToken. That's why we created and designed the incentive module based on reputation. Centred on DREP token and complemented by the tokens released by DRApp (RepToken) together with reputation value, the incentive module forms a complete economic system. Economic module is a generic term abstracted from modules that are relevant to economic incentives in the DREP system. Below is the specific explanation of the mechanism.

VOTE Economic Model

$$Vote_a = Ratio_a \times (\sum_{i=1}^{x} \mathrm{f}(Rep^{+}_{\mathrm{cd}-b_i}) + \sum_{i=1}^{y} \mathrm{f}(Rep^{-}_{\mathrm{cd}-b_i}))$$

- **VOTE Economic Model**: This model is the basic model of DREP economic incentive system, targeting VOTE behaviors conducted by participants on different types of DRApps (internet Platforms) and measuring the distribution results of the reward pool. A VOTE behavior means a participant upvoting or downvoting a user, commodity services or content. The VOTE behavior to the final realization of reputation value, it can be divided into the following steps:

  ① **Endorsing Reputation**: When participants, B1 and B2, VOTE for A respectively, they have to set a certain amount of reputation value used for endorsement (no higher than their respective total reputation value), which will then be frozen, and therefore each participant can only VOTE for limited times in a period of time. Let us assume that B1 upvotes A and endorses a reputation value of $Rep^{+}_{\mathrm{cd}-b_1}$; B2 downvotes A, and the amount of reputation value endorsed is $Rep^{-}_{\mathrm{cd}-b_2}$.

  ② **Calculation of Reputation Endorsement**: In a DRApp-defined cycle, there will be ultimately X participants upvoting and Y participants downvoting A. The total reputation value endorsed by the X participants will be $\sum_{i=1}^{x} Rep^{+}_{\mathrm{cd}-b_i}$, and that of the Y participants will be $\sum_{i=1}^{y} Rep^{-}_{\mathrm{cd}-b_i}$。During the calculation, we use the function *f* to process each endorsed reputation to prevent extreme values.The function *f* maps all reputation values to a range of 0 to 0.8 to avoid extreme influences created by extreme values. In the low reputation range, function *f* is approximately proportional to the reputation value of the endorsement. Within the range of higher reputation value, *f* gradually stabilizes. In this case, we make sure extreme values cannot distort the system and discourages users who want to try their luck. *f* is defined as follows:

  $$\mathrm{f}(x) = (\frac{1+a}{1+a\,e^{-bx}} - 1) \cdot \frac{1}{a}$$

  Where A and B are determined based on the endorsed reputation value.

  If we take out the max R_{max} and medium of these endorsed R_{mid}, frozen reputation value will meet:

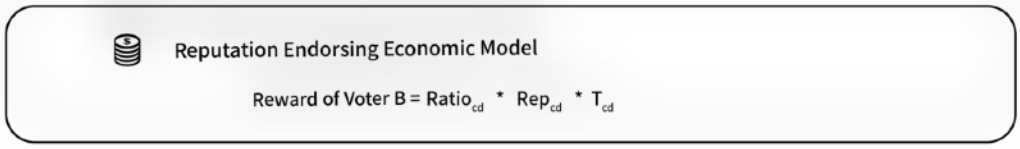
  $$0.8 = (\frac{1+a}{1+a\,e^{-bR_{\mathrm{max}}}} - 1) \cdot \frac{1}{a}$$

  $$0.5 = (\frac{1+a}{1+a\,e^{-bR_{\mathrm{mid}}}} - 1) \cdot \frac{1}{a}$$

  a > 0; b > 0

If finally, it shows $\sum_{i=1}^{x} \mathrm{f}(Rep^{+}_{\mathrm{cd}-b_i}) > \sum_{i=1}^{y} \mathrm{f}(Rep^{-}_{\mathrm{cd}-b_i})$, it means that subject A's reputation influence is positive and those who downvote A will lose their endorsed reputation value $\sum_{i=1}^{y} Rep^{-}_{\mathrm{cd}-b_i}$ which will be rewarded to the X participants proportionately to the amount they endorse, and vice versa. To avoid cheating, all participants can only see either the number of participants who upvote or that of those who downvote, without the right of knowing the total amount of endorsed reputation value set by all participants

③ **Calculating the Reward of the VOTE Subject:** Firstly, 60% of the reward generated by each block flows to the rewarding pool, and the amount of VOTE subject A's reward is determined by its influence weight $Vote_a$ .If $\sum_{i=1}^{x} \mathrm{f}(Rep^{+}_{\mathrm{cd}-b_i}) < \sum_{i=1}^{y} \mathrm{f}(Rep^{-}_{\mathrm{cd}-b_i})$, then $Vote_a = 0$; If $\sum_{i=1}^{x} \mathrm{f}(Rep^{+}_{\mathrm{cd}-b_i}) > \sum_{i=1}^{y} \mathrm{f}(Rep^{-}_{\mathrm{cd}-b_i})$, then $Vote_a = Ratio_a \times (\sum_{i=1}^{x} \mathrm{f}(Rep^{+}_{\mathrm{cd}-b_i}) + \sum_{i=1}^{y} \mathrm{f}(Rep^{-}_{\mathrm{cd}-b_i}))$. Then DRApp will define a VOTE influence parameter, and finally calculate the reputation $Ratio_a$ influence weight of subject A. In the end, VOTE subject A will gain the reward according to the ratio of his/her influence to the total amount of influence of all VOTE subjects, i.e. VOTE subject A revenue = rewarding pool* $\frac{Vote_a}{\sum_a^{\infty} Vote}$.



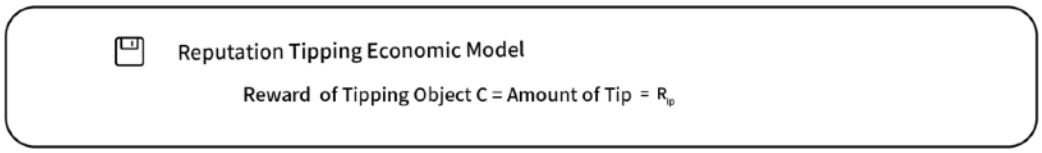
- **Reputation Endorsing Economic Model:** This model is based on the VOTE Economic Model. It mainly measures the reward of participant B who VOTE according to its endorsed reputation value. Quantifying this proportioned reward requires several steps listed as follows:

① **Endorsing Reputation:** Participant B's DRApp reputation value account will receive reward according to the DRApp-defined yield $Ratio_0$. Before participant B VOTE A, B will define a certain amount of reputation value used for endorsement (no higher than B's total reputation value) which will be frozen and gain reward $Ratio_{\mathrm{cd}}$ according to the yield defined by DRApp. To present the opportunity cost of reputation endorsement, DREP set $Ratio_{\mathrm{cd}} < Ratio_0$.

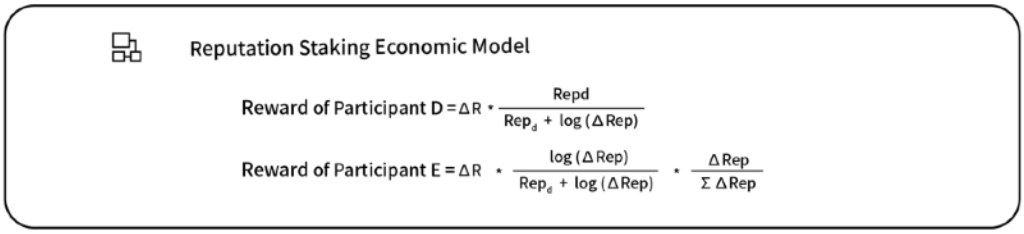
② **Reputation Endorsing Economic Model:** The reward that participant B can gain rewards from the VOTE endorsement is calculated with a single payoff function. The function is positively related to the length of the frozen period$T_{cd,}$ As for the frozen period of endorsed reputation, if the sum of the endorsed reputation value from one side is lower than the other side, then $T_{cd}=0$; Otherwise,

participant B will receive the reward of $Ratio_{cd}{}^{*}Rep_{cd}{}^{*}T_{cd}$ during the fixed period T_{cd} defined by DRApp.

- **Reputation Tipping Economic Model:** The tipping model is similar to the existing tipping on internet platforms. The tipped objects can be users, products, services and content. The reward is the token issued on DRApp. The entire amount of the tip R_{tip} will go directly to the tip objects.



- **Reputation Staking Economic Model:** Staking one's own reputation value in the reputation of the specific subjects to enjoy the potential spillover benefits. Users may stake part of their own reputation on certain subjects and share the additional rewards generated by the increase of reputation with the investment target.



① **Repetitional Staking Behavior:** Participant E can stake part of its reputation value ΔRep_e on object D and D's reputation value ΔRep may rise correspondingly. During a DRApp-defined cycle, D may receive a high repetitional staking value and gain additional rewards $\Delta R$from it while E has the right to an allocation of the reward ΔR.

② **Quantifying Process of Reputation Staking:** To prevent cheating and abuses, DREP will help to ensure that the influence of reputation staking is limited. We set the increase of D's reputation value is$Rep_d + \log(\Delta Rep)$, then D will gain the additional reward in a ratio of $\frac{Rep_d}{(Rep_d + \log(\Delta Rep))}$ while E can gain the reward in a ratio of

$$\frac{\log(\Delta Rep)}{(Rep_d + \log(\Delta Rep))} * \frac{\Delta Rep_e}{\sum \Delta Rep}$$

Voting Mechanism

The voting system is a portal to transform users' comments to feedback about reputation.

The DREP system introduces a reputation-based economic incentive mechanism that encourages users to take an active part in voting, so that high-quality content and high-reputation users or services gain matching rewards. By voting, the value in the rewarding pool can be rationally distributed. The biggest problem with all voting systems is that users abuse their voting rights and conduct bad behaviors. To tackle the problem, DREP will adopt the following methods:

- **Limit Number of Votes:** In order to vote, a user needs to lock a certain amount of reputation value, which is set by the user and determines the voting weight each time. In other words, the user is responsible for every vote by staking his or her own reputation. The locked reputation value will slowly unlock at a constant rate, so that large-scale malicious voting can be avoided.
- **Two-way Voting Mechanism:** The user can vote for or against the content or services. Under such mechanism, the negative influence of malicious votes will be offset by the majority's votes.
- **Map Voting Mechanism:** Once the system has detected a group of unanimous voting behavior under one piece of content (possibly done by "fake army/ paid followers"), the system will push the content to a certain number of randomly selected users. This kind of distributed voting neutralizes any possible manipulative voting landslide victory.
- **Economic Incentive for Voting:** To encourage users to vote as frequently as possible, users may gain discretionary rewards at a fixed rate during the time when the reputation value is locked. This incentive is beneficial to motivate users, build a healthier reputation system, and improve the user vitality and social feature of DRApps.

Fake Account Identification Mechanism

Fake account identification is a model for continuous research and improvement. With the evolution of the internet platforms and the increasing popularity of blockchain technology and internet of Things, fake account identification mechanism will also adapt accordingly.

DREP has multiple definitions of "fake accounts" in the network:

- "Fake army" accounts comprised of bots/ paid accounts that are suspected of being manipulated to distort the reputation value from its reality
- Low quality accounts that deliberately disturb the order of the internet and flood the platform with fake news/ information
- Unverified accounts on KYC-required platforms

Targeting the above three types of fake accounts, the following solutions are proposed.

- **Reputation Threshold**: The reputation value range of an account in the DREP reputation system can be used as a referenceable criterion to determine whether

it is a fake account. DRApp can also decide to open different levels of functions or labels for users with different ranges of reputation value based on the platform features; for example, in e-commerce platforms, the platform can set the condition that if the users' reputation value is not over X, then they cannot comment/ review Y comments per day.

- **Sybil Attack Prevention Mechanism**: To prevent a person from having multiple accounts, only when DREP public key address is linked with DRApps can the person receive reputation value. If the users unbind, the reputation value will be set to 0. Therefore, one DREP address user can only have one account on the same DRApp platform.
- **Map Voting Mechanism**: Some users will be randomly chosen or invited to vote for some contents/ merchants/ products where large-scaled suspicious votes have been detected. Conducting distributed voting on the same voting object helps to neutralize or mitigate possible manipulative/ collusive actions.
- **Third KYC identification platform integration**: DREP will cooperate with high-quality KYC platforms in the reputation connector to cater to the needs of real name verification in some other DRApps such as e-commerce platforms or social networking platforms requiring proof of identity.

AI + Semantic Analysis

In different scenarios on the internet, reputation is not only reflected in votes. Many comments also contain a lot of useful information. With rapid development in AI technologies, text mining technology has been extensively applied in the field of content analysis. For instance, semantic analysis can detect emotional phrases in comments – positive or negative. Such technology can help dig out the reputation evaluation of the target object from text comments. At present, it is still rather difficult to quantify reputation in comments through semantic analysis. However, DREP will put this technology in its long-term planning for the future. DREP will also combine natural language processing and econometrics to build an econometric model to analyze the target object's reputation value through text analysis on comments.

Smart Contract Templates and Components

The module contains various smart contract control components and smart contract templates, such as the proposed reputation token RepToken, which may be created in the future.

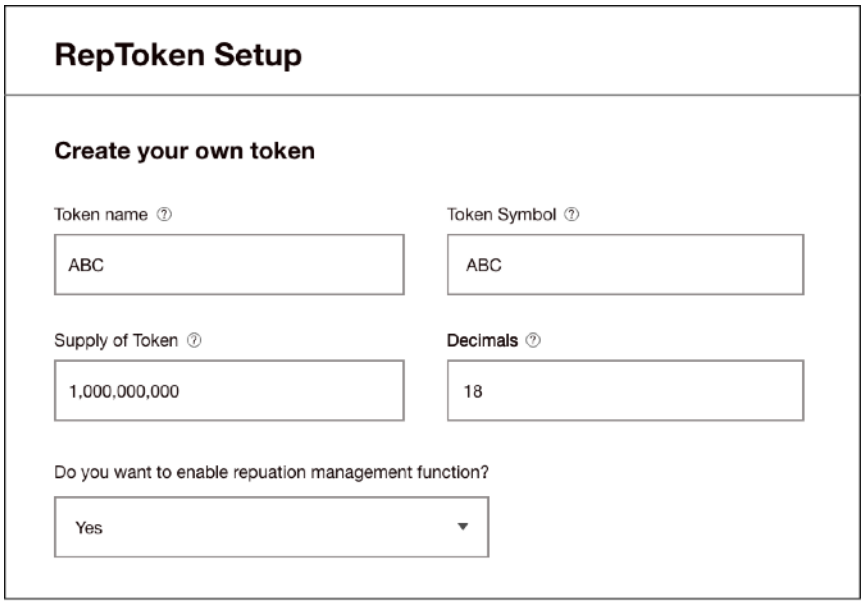
Blockchain technology has not become so popular until the birth of Ethereum Smart Contract. Smart contract greatly expanded the application of blockchain, which, despite all specific business scenarios, can be used extensively in two special types of contract: token contract and token sales contract.

The potential targets of DREP system are the innumerable internet platforms. As each platform varies in business scenarios and reputation systems, we need to provide specific economic incentives to each platform while we connect their reputation systems. Therefore, we aim to produce some common templates of token sales contract and token

contract to make it easier for cooperating platforms to release tokens of their own reputation systems swiftly and make one-click release of token sales contract.

RepToken

Let's look into token contract. At present, most blockchain projects release their tokens based on Ethereum's ERC20 token standard. However, ERC20 is a very simple token standard which cannot satisfy DREP System's management of reputation. We may, at some point in the future, release our own token template RepToken, compatible with ERC20. The RepToken takes reputation value management into account on top of the basic token. This means that the RepToken may also include information covering the whole reputation value system as well as the relevant incentive interface, authority management, privacy protection, etc.



This system could possibly suffer from Sybil attacks. Malicious users will create a large number of token addresses and link them with the same account on the platform to gain reputation. To prevent this from happening, a user is only allowed to gain reputation when the public key address is linked to the application platform. The reputation value of an account will be set as "0" when it remains unlinked or the user unlinks it. Therefore, there will be only one DREP address linked to an account's reputation on a DRApp platform at any time, which helps to effectively mitigate Sybil attacks.

Apart from token contract and token sales contract, DREP system will also involve many other smart contract modules, such as the distribution of incentives, the calculation of the weight of vote, recommendation algorithm of reputation, etc. All these relevant contracts are included in the system.

Role Management

Main roles in the system include:

- DRApp（Decentralized Reputation App）

  DRApp is an app developed upon the infrastructure of DREP blockchain. Each DRApp has the choice of using RepToken standard to launch its token and reputation system.

  - By issuing tokens, each DRApp is able to reform the economic system of the business it runs: tipping, paying for intellectual property, economic incentives, etc.
  - On a DRApp, each user can link one DREP public key address, i.e. the RepToken account, through which all DREP Token of that address can be reviewed. Users can then maintain the reputation value on the current application and check the users' reputation value on other DRApp systems.
  - DRApp is responsible for maintaining users' reputation value. It can either design the calculating method based on its business scenarios or use the general calculating templates provided for different industries by DREP platform.
  - When a new user links his/her DREP address to the account on a DRApp, the app can read data of the user's reputation status on other DRApps according to his/her privacy settings, which enables the system to develop user persona quickly so as to provide more precise customized services.
  - After a DRApp user links the DREP address to the account, reputation value will be generated according to the user's behavior, stored on blockchain, and presented by reputation value within the RepToken. Once the user unlinks the account and the address, DRApp will set the reputation value to "0" in RepToken, which prevents users from attacking the network by linking different addresses to gain reputation value repeatedly.
  - DREP system will be an open source platform, giving any DRApp free access and opportunity to issue RepToken. However, each DRApp needs to officially authorized before the app has access to DREP rewarding pool, through which the users are able to gain tokens by maintaining their reputation and creating high-quality content and services.

- Users

  Users play the main role on a platform. They have their own DREP address, which can be linked to their accounts on different DRApps. Users' behavior like creating content, reposting, commenting and voting will eventually turn into reputation value. Users' contribution to the ecosystem by maintaining reputation value will be rewarded with proportionate economic incentives. Therefore, users create and maintain value in the whole ecosystem.

- DREP Council

  DREP Council is responsible for the management and maintenance of the DREP

network. The founding team forms the DREP council. The main responsibilities of the council include:

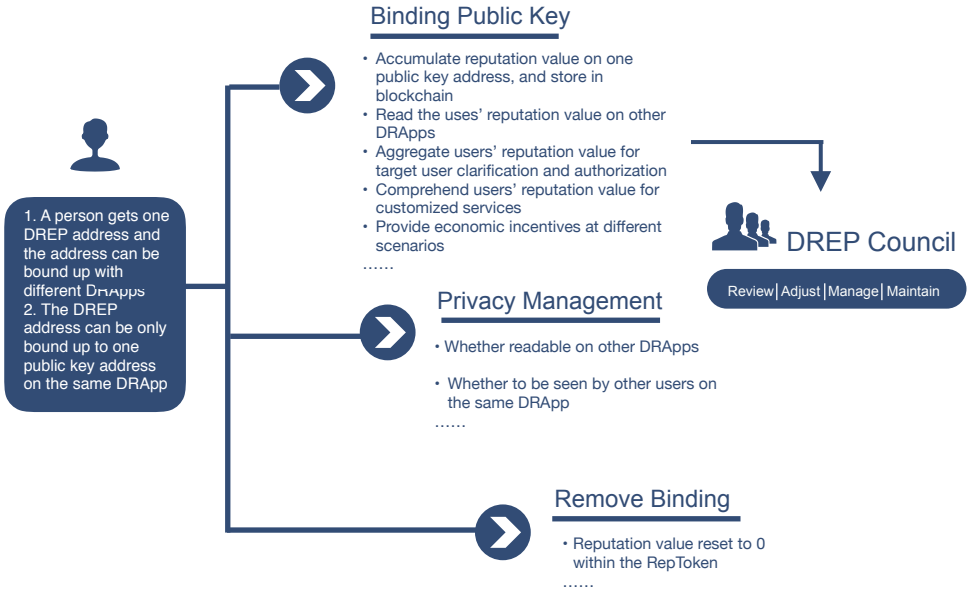
- reviewing the qualification of DRApps and deciding whether they can be given access to DREP rewarding pool;
- adjusting block parameters: block time, block size, block reward, etc.;
- adjusting smart contract operating fees;
- adjusting the configuration of economic incentives.

- **Reputation Connector**

Reputation Value Account Management Platform

DREP's reputation system will connect every user with reputation value by connecting with every DRApp platform. DREP will maintain a strict reputation value account management of the eco-system:

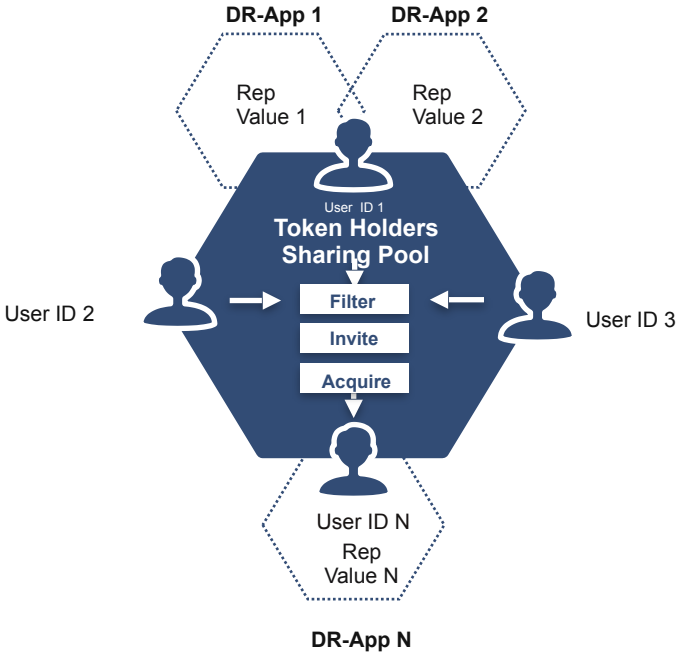
- Binding public key: every user within DREP's ecosystem will have a DREP address that can be authorized for binding on different platforms and applications; one account can only be bound with one public key address within the same DRApp.
  - Users can only accumulate their reputation value on one public key address that will be stored on blockchain network within the same DRApp.
  - Through the commonly used public key address bound by the same user, DREP can access the users' reputation values across all authorized DRApps.
  - DREP supports every DRApp to categorize, filter and authorize their users and provide customized services or economic incentives for particular scenarios.
- Privacy Management: users have the management right to their own reputation values and choose whether they authorize platform access to their reputation value on other DRApps, as well as whether their personal reputation value can be seen by other users.
- Parameter Configuration: The DREP Council will be responsible for reviewing, adjusting, managing and maintaining reputation system, as well as the configuration for different parameters within the system. The DREP Council will also be in charge of authorizing different DRApps access to the rewarding pool and providing users with contribution incentives.



User Data Sharing Pool

The core value of DREP's reputation sharing network is in its users and data. It's for this reason that DREP endeavors to establish a high-performing infrastructure for DRApps while breaking the "isolated island" effect of DRApps by connecting different platforms with a user data sharing pool. DREP plans to achieve this in different stages:

- **DRApp Reputation Sharing Pool:** Different DRApps that rebuild their user growth mechanism based on a reputation system will come into place within the DREP ecosystem while DREP Foundation will also internally incubate their own DRApps as representatives of reputation-based application. Finally, DREP aims to reach a big user community via multiple DRApps and obtain a great deal of reputation value data through the public key addresses. Reputation Value also serves as a bridge for reputation data pool to connect all users with DRApp tokens.
- **Cross-Chain Protocols or Applications:** Other than establishing information and user sharing within the DREP's ecosystem, DREP's reputation sharing network will also be targeting cross-chain infrastructure and applications to absorb reputation data accumulated from other public blockchains, private blockchains and consortium chains to its reputation sharing pool.
- **Data Filter Tool:** In order to help DRApps conditionally filter and acquire high-quality targeted users, DREP has provided a series of information filter tools based on token owner sharing pool, such as the reputation data source platform, conditional threshold for certain reputation values, etc.



- **Reputation Accelerator**

User Growth Mechanism

Based on reputation value system, DREP will establish a user value growth mechanism targeted at small and medium blockchain applications and traditional internet platforms. Its core elements are as follows:

- Acquiring high-quality new users
- Increasing user retention rate
- Increasing user purchase/repetitive purchase rate
- Avoiding user incentives of commission escape
- User contribution incentive mechanism
- User categorization and customized services

Traffic Realization Engine

The development of internet platforms will usually go through three stages: early stage of traffic attraction, traffic accumulation (increase user reliance by providing quality services and subsidies) and traffic value realization. As traffic becomes more and more heavily concentrated among the top applications, small and medium internet platforms find it more challenging to find ways to realize their traffic value. Based on this, DREP will provide the traffic realization engine for DRApps, which is essentially a one-stop solution of traffic tokenization combined with high user loyalty and purchase rate from the user growth mechanism. Thus, the rate and efficiency of value circulation can be increased, and user value realization can be accelerated.

Open Source Code Integration Solution

In the process of developing the reputation ecosystem, DREP will accelerate the acquisition of reputation users through joint efforts with developers. A major feature of DREP's reputation accelerator is the open source code integration scheme, which integrates reputation systems into open source code templates through a joint open source code platform such as Github. For example, developers are encouraged to integrate the reputation system into open source code templates that are widely used in blogs, forums, paid content platforms, etc. Therefore, platforms originally developed based on these open source code will have an opportunity to experience implantation of the reputation system interface after an update. This will help DREP to hasten its outreach quickly and expand its reputation system interface to a large number of target platforms.

DREP Application Layer

The application layer will serve users directly. It helps users to make better use of various services under the DREP ecosystem, mainly containing the following components:

- **DRApp Decentralized Reputation Application**

Reputation application is the most important component of the DREP ecosystem. We creatively name it as DRApp, decentralized reputation applications. Apart from the features commonly seen on DApps, there is a comprehensive reputation system which comprises of customized quantification, ratings, social mining, identification, endorsement transactions, data sharing and other functions. DRApp is the connection between users and the DREP network.

- **DREP Integrated Trading Platform**

The DREP Integrated Trading Platform, which may be developed, will provide a platform for users to carry out transactions relating to reputational value and data on different DRApps within the DREP ecosystem.

- **Wallet**
  - Mobile Phone
  - PC
  - Web

The Wallet is an important tool for users to store and use DREP tokens and RepToken. We will provide different versions for mobile phone, PC and Web users. Meanwhile, the wallet will also provide access to all the transactions services for token holders. It will later on become an integral and innovative part of DREP transforming to integrated commerce network when the DREP reputation sharing network is in place.

- **Blockchain Explorer**

The blockchain explorer makes the network more transparent. Users can review the operating status of DREP blockchain network on it, including trading records, block status and token status.

- **Developer Tool**

As we are running a platform, attracting more developers is our goal. We will spare no efforts to provide all kinds of developer tools and technical documentations.

- **Plugins and Derived Applications**
  - Comment plugin
  - Voting plugin
  - Forum templates
  - Blog templates

- Etc.

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The DREP ecosystem embraces reputation applications serving all industries. In order to reach as many users as possible, we will strive to develop high-quality plugins and derived applications.

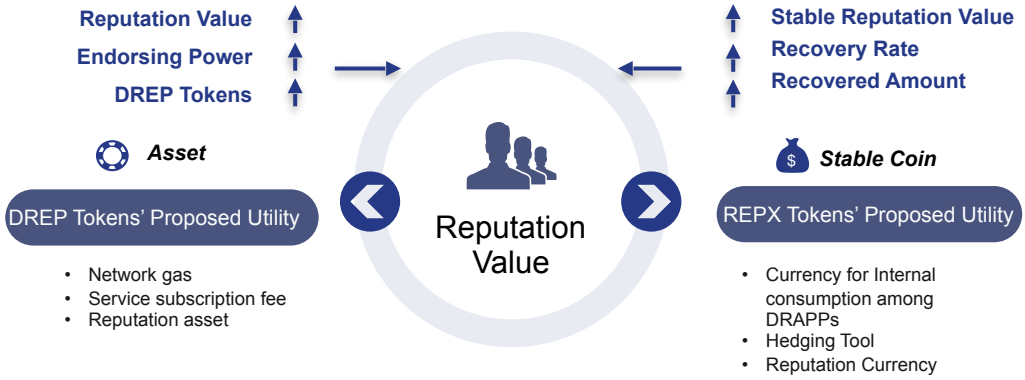
DREP Token Economy System

Before DREP's user information sharing pool starts to take shape, DREP's token economy will comprise primarily of DREP tokens reflecting the underlying reputation value. DREP's token economy system will aim to introduce its stable coin, REPX, at some point in the future, when more user reputation data is accumulated and more accounts are verified through third-party Know Your Customer (KYC) processes.

The core economic attribute of DREP token in the ecosystem is as follows: users are first credited with reputation value. They will then receive tokens, in the form of contribution rewards, through the mechanism of social mining (active participation and contribution) from the DREP network. Subsequently, the tokens can be used to execute transactions in the network as gas or be used to pay value-added service fee related to user information sharing pool or DREP's integrated commerce platform.

For some DRApps, (e.g. small or medium DRApps where the demand of tokenization is greater than that of decentralization, DRApps incubated or co-incubated within DREP) DREP will be the only form of payment and transaction currency.

The REPX token, when it is developed in the future, is proposed to be the stable currency that supports the DREP token. Its core economic attribute within the DREP ecosystem may be to act as the underlying stable currency for value measurement, payments, transactions, etc., within the ecosystem. DREP will continue to explore other stabilizing mechanisms or evolve on this basis, while optimizing REPX token's risk control system to ensure the stability of the REPX token's value.



User Cases of DREP

PART FIVE

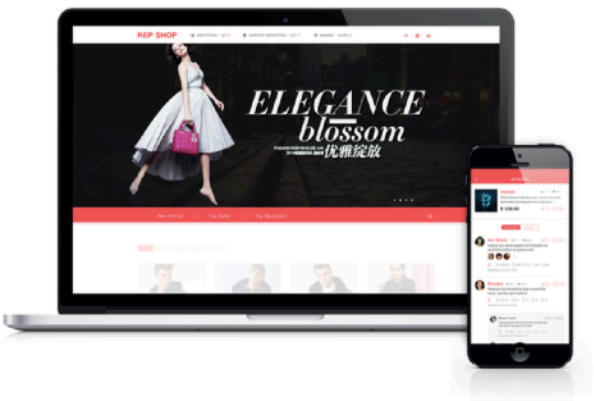
User Cases of DREP

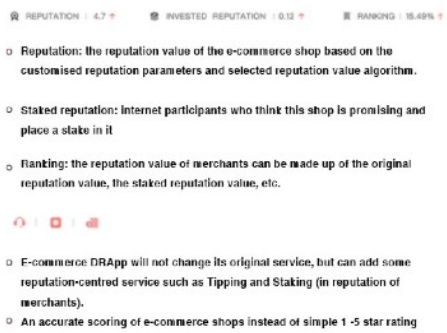
- **E-commerce Platform – B2B/ B2C/ C2C/ O2O, etc.**

No matter if your platform is B2B or B2C, once you join DREP network, you will be able to calculate user's reputation value and release your own token to encourage the development of your own platform. Trust is the basis on e-commerce platforms for different parties to conduct business. The ratings and reviews given after transactions are regards as a primary parameter to see if it is worthwhile to establish a long trusting relationship.

Take Amazon, Taobao and other B2C e-commerce platforms as an example, the most essential part is the user's ratings and reviews. The majority of the customers will read the reviews to understand the products and services before making a purchase. However, there are scenarios when people are paid to give paid positive/negative ratings and reviews and merchants manipulate the ratings and reviews themselves. Furthermore, the scoring metrics sometimes are far from comprehensive. Similarly, local platforms such as Yelp and dianping.com are also heavily reliant on user's ratings and reviews. Therefore, it is important to solve this information asymmetry.

To solve the issue, DREP aims to provide a reputation calculation algorithm database, VOTE system, AI + semantic analysis. It will allow the platforms to unify the quantifying mechanism and enable its user to give reputation ratings. The VOTE economic model and reputation endorsement model will also greatly incentivize users to endorse for the merchants' reputation and meanwhile maintain a high reputation value for themselves.





- **Social Platform – Instant Messaging/ Vertical Social/ Comprehensive Social, etc.**

Social network is a complex relationship structure formed by human interactions, which is similar as a topological structure composed of nodes. Social network, to some extent, is close to the spirit of blockchain, where everyone relies on consensus mechanism to achieve ecological governance of the community. However, the common problems of

existing internet platforms are malicious manipulations brought by centralization and Matthew effect due to traffic monopoly done by big platforms.
Therefore, DREP aims to build a fair, transparent and trustworthy social network. In this network, every user will need to contribute and engage more to gain a higher reputation value so as to be more influential. They will also need to refrain from negative behaviors on the internet. Those Key Opinion Leaders or influencers will not be having fake fans any more. Instead, they can more accurately present their actual contribution value and influential power.

The traffic on social network has monetization value. For example, the internet Celebrity Economy, also called “WangHong Economy”, is meant to commercially cash out on the internet celebrities’ reputation. DREP is also a natural tool to realize the value of social traffic and it is not just limited to tipping, gifting on live video streaming. In the meantime, DREP also helps to tune down the traffic-driven “fake fan army” and “pushers” phenomena. The teams behind who maliciously manipulates multiple accounts will pay a high price for their disruptive behaviors.



- **Tool Platform – System/ Work/ Life/ Entertainment, etc.**

The main value DREP brings to these tool platforms are the objective sequencing of the tools based on their practicality, utility as well as the economic rewards generated to the tool producers. For example, in a tool platform providing design services, the sequencing of different PowerPoint templates, poster templates and video templates will be more objective and brings more reference value to platform users. Besides, both tool producers and users who have given reviews will have a chance to gain economic incentives. Thus, they will be more encouraged to contribute more to the tool platforms and give reviews.

- **Content Platform – OGC/ PGC/ UGC, etc.**

Content platform, in particular, requires economic incentives to enrich its content ecosystem, as paid content generation has become a norm nowadays. For instance, the we-media platform powered by Occupationally Generated Content (OGC) mechanism for

brands or corporates, professional content generation platforms powered by Professionally Generated Content (PGC) mechanism, and UGC platforms powered by users' generation, are in this category. However, the way to provide incentives for the content producers are fairly monotonous, usually in the form of tipping. However, this model is heavily dependent on the people's spontaneity to tip and has a certain threshold so some content producers may gradually lose their enthusiasm. Further, usually content producers with a long term of operation will cash out with their high traffic and that inevitably influence the content quality to some extent. With the reputation calculation algorithm, content can gain the reputation index which reflects its influential level and can gain tokens as incentives, which has potential to truly realize the value of paid content generation.



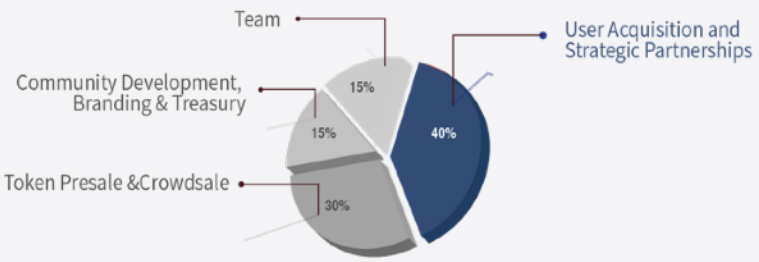
Proposed Token Allocation

PART SIX

Proposed Token Allocation

DREP TOKEN CONTRACT

Percentage	Quantity (billion)	Purpose
40%	4	User Acquisition and Strategic Partnerships
30%	3	Token Presale & Crowdsale
15%	1.5	Community Development, Branding & Treasury
15%	1.5	Team



The proposed initial supply of DREP tokens is 10 billion, with specific allocation shown above. The above allocation is subject to change without notice.

- 40%, 4 billion for platform promotion, and strategic partnerships. The DREP platform will introduce a significant number of DRApps. In order to encourage more reputation applications built on DREP, this part will mainly go to relevant promotion and project support.
- 30%, 3 billion for token sale. The proceeds for token sale may be directed towards platform research and development, market expansion and promotion, legal and consultation, operation and management, etc.
- 15%, 1.5 billion for long-term budget community development, branding and treasury. The foundation reserves this part of funds to prepare for the operation, administration and management of community.
- 15%, 1.5 billion for the funding team and early contributors.

Token Sale Allocation

Total Token Supply	10 billion
Total Tokens for Sale	3 billion
Token Unit Price	$ 0.0077

Proposed Roadmap and Targets

PART SEVEN

Proposed Roadmap and Targets

2017 Q3

Initiate DREP project, design project framework, and draft the whitepaper

2017 Q4

Project framework design including four economic incentive models and reputation-based smart contract

2018 Q1

Register DREP Entity in Singapore;
Private sale at a discounted pricecontract

2018 Q2

1. Case sponsor for Shanghai-Singapore Business Forum x Hackathon 2018
2. Co-establishment of Sino-Singapore Innovation Alliance (SSIA)

2018 Q3

1. Cooperation with Nanyang Center for Public Administration to establish a joint blockchain lab and training center
2. Further enrichment on Reputation Quantifying Algorithm Library
3. Development of plugins on application layer
4. Launching of first internally incubated DRApp

2018 Q4

1. Deployment of third party KYC interface
2. Deployment of third party IP Protection for content platforms
3. Beta test of reputation infrastructure network

2019 Q1

1. Main net launch
2. DREP Wallet/Explorer
3. Introduction of third party reputation algorithm library

2019 Q2

1. Development of more plugins and derived applications
2. Cross-chain interoperability

2019 Q3

1. AI + Semantic Analysis to do text mining for more accurate quantified reputation
2. User profiling and filtering mechanism in reputation connector

* The above roadmap is subject to change without notice.

Core Team

PART EIGHT

Core Team



Matt Bennice
Co-founder

Senior Software Engineer at Google X, the Moonshot Factory

Expert Technologist in distributed and embedded systems. 10 years of experience in software development. Participated in core product development of Google+, YouTube, etc. Former technical architect at Accenture.



Stephen Xu
Co-founder

Former Lead Developer at QTUM Foundation in China

Master of Chinese Academy of Sciences. Former lead developer at QTUM, with extensive experience in blockchain technology. Previous software development at Microsoft and Tencent.



Momo Chang
Co-founder

Former Securities Analyst at Orient Securities

Master of Nanyang Technological University of Singapore. Core member of SingCham Shanghai, 4 year serial entrepreneur. Expert of Fintech. She worked as a securities analyst in Orient Securities and has gained rich experience in blockchain, internet Finance and pan-entertainment industry.



Lien Siaou Sze
Core Business Advisor

Vice President at HP Asia Pacific, Member of Board of Trustees, Nanyang Technological University of Singapore

Ph.D of University of Cambridge, Bachelor of Physics and Master of Computer Science of Imperial College London. For three consecutive years, she ranks the Top 10 of the Fortune's Top 50 Women in business outside the U.S.



Qi Zhou
Advisor

CEO and Founder of QuarkChain

Software engineer and an expert in high performance systems, and carries over 15 years of development experience. Former software engineer in Google, DELL, and Facebook. PhD at Georgia Institute of Technology.



Nicola Bettio
Advisor

Director of KAUST Innovation Fund

MBA of INSEAD. Early stage investor in fast-growing technology-driven companies worldwide. Former management consultant focused on strategy, innovation, and technology.



Joel Ng
Advisor

Chief Investment Officer and Corporate Finance Director at XSQ

Expert of private equity in Finch and SMEs growth in Southeast Asia. Joel is currently focused on developing blockchain infrastructure and cryptocurrencies communities in Asia.



Adrian Lam
Advisor

Professional Blockchain Investor, Founder of Workzspace.com

Adrian specializes in blockchain consultation. Founder of Workzspace.com, independent council member of the Gerson Lehman Group, director of TradeHero in Shanghai.



Genlin Shen
Advisor

President of STK Group

Chairman of Nanyang Technological University Shanghai Alumni Association, former Director of Shanghai Culture Development Foundation Office Professor, engaged in macro-strategic research, has published a number of individual monographs.



Eric Chao
Core Developer

Former senior engineer at iQiyi, Qihoo 360 and Ele.me

Master of China University of Science and Technology, Eric learnt programming and algorithm at the age of 13, has won ACM-ICPC, MCM and many other influential programming contest awards. He is also the core developer on a number of well-known open source projects in GitHub.



Yue Wang
Core Developer

Former Lead Developer at LeetCode

Lead developer in Tencent and LeetCode. Extensive experience for the architectural design of distributed machines. MA at CMU.



Xuan Zhang
Lead UI/UX Designer

Co-founder of Doisk

Master of Human-Computer Interaction from University of Maryland. Xuan is a creative UI/UX designer with great design and computer science background. She focuses on user-centered design and contextual design.



Belinda Zhou
Lead BizDev

Middle East BizDev, Consultant for Emirates Airline and Dubai Tourism

Trained by PwC Academy and Cambridge University Leadership Programme. She has long been engaged in the PR and marketing industry in Dubai. Previous trans-editing experience in Finance channel at Global Time.



Ricial Fan
PR&Marketing

Expert of PR, working experience in SMG and start-up

Ricial is an expert of PR with 8-year experience of branding, marketing and media relations operation. During her stay in SMG(Shanghai Media Group), she specialised in media relations management & operation. She also worked as a PR director at a start-up company.



Akmaral Orazaly
Data Analyst

Data Integration Specialist, Consultant for Smart Dubai

MBA at Nazarbayev University. Akmaral has previous experience in data management, data integration for business intelligence solutions for companies such as Tengizchevroil and HSBC. Extensive working experience both in CIS and Middle East regions.



Jingsi Wu
Community Manager

Consultant for Golf in Dubai

Previous experience in Walt Disney World (US), Falcon and Associates and Golf in Dubai. Extensive working experience in article/video content creation, social media marketing, cross-cultural community management, event planning and promotion.

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