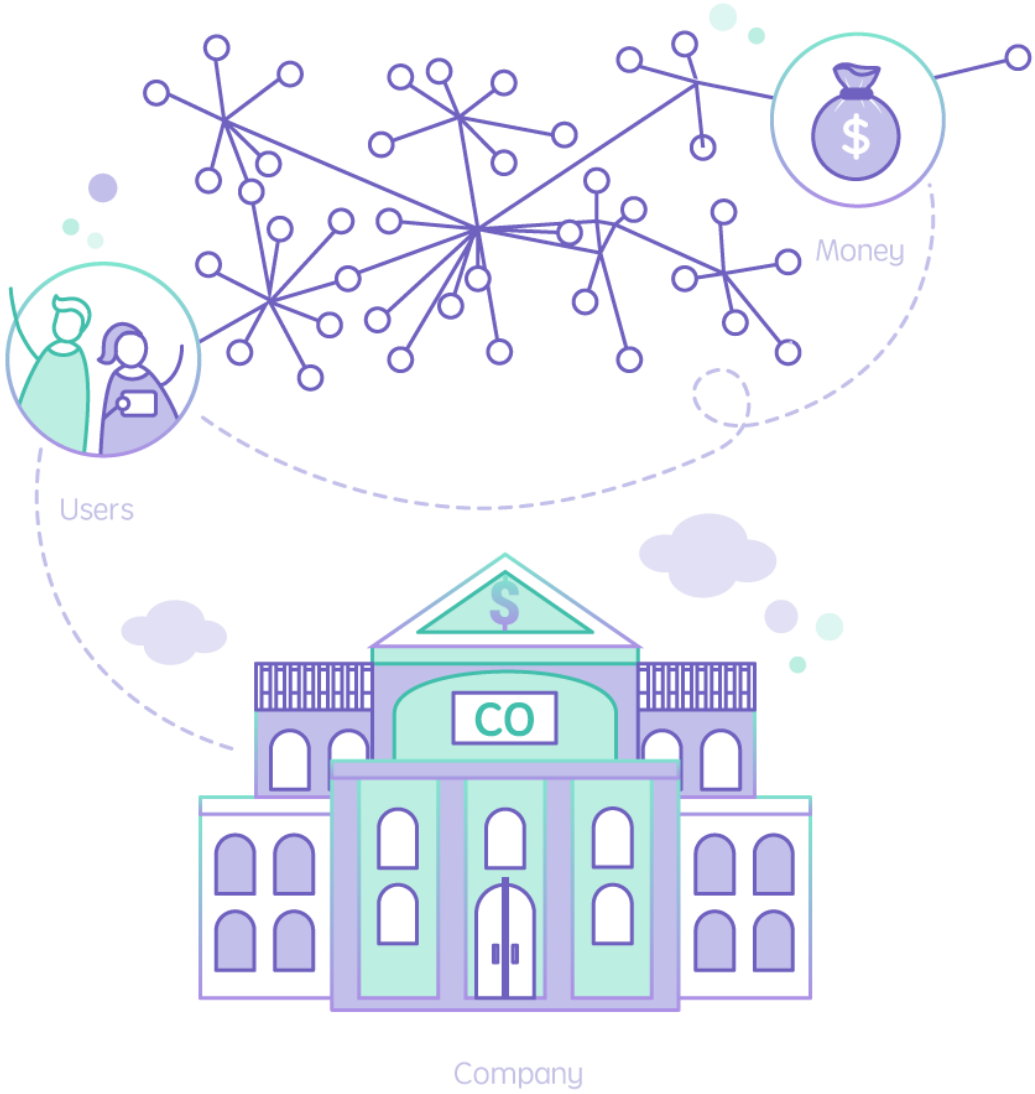

ProChain - The Precise Marketing Blockchain Based on Big Data

Team PRO
2017/8/21

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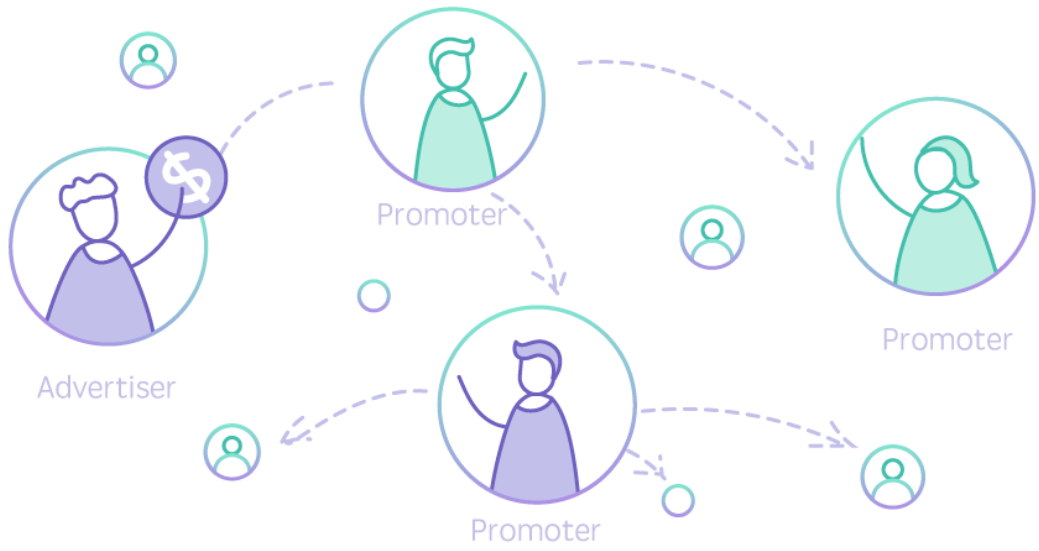
INTRODUCTION

The Original

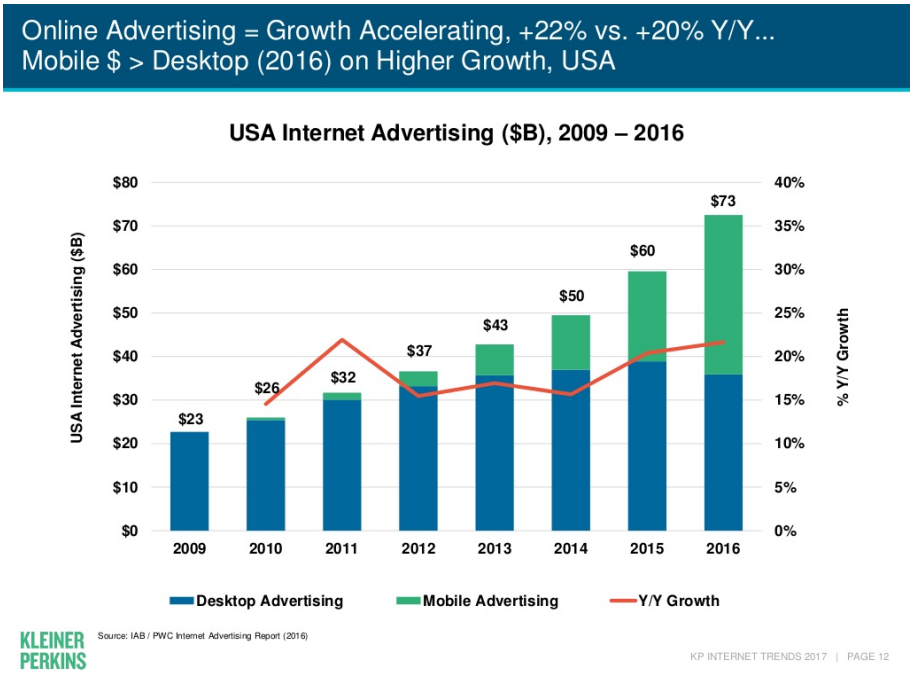
In the global trillions of the advertising market, the marketing budget is partially earned by the search engine, advertising and other technical intermediaries. User privacy and their data are continuing leaking. Advertising fraud clicking occurred frequently. According to the recent data, a single App installation costs as high as 2 to 3 USD, and some special types of users, the cost is even up to hundreds of dollars. So whether there is a mechanism to eliminate the intermediary costs of the platform, with technical means to reduce advertising fraud, reduce marketing costs, meanwhile reducing user privacy disclosure?

From the point of view by enterprise, how to distribute marketing budget and optimize the channel so that it can accurately and quickly convey to the target customers has always been a strong demand. In the history of the Internet, the search engine like Google has successfully verified the feasibility of the PPC business model. But as time goes by, search engine marketing has gradually become a minority groups' game, especially the platform and the bidding alliance. The threshold for small or medium enterprises to enter is too high. So is there a mechanism to optimize the enterprises' marketing resources, so that the effectiveness can be tracked, quantified, and regardless of the size of the enterprise can benefit from it?

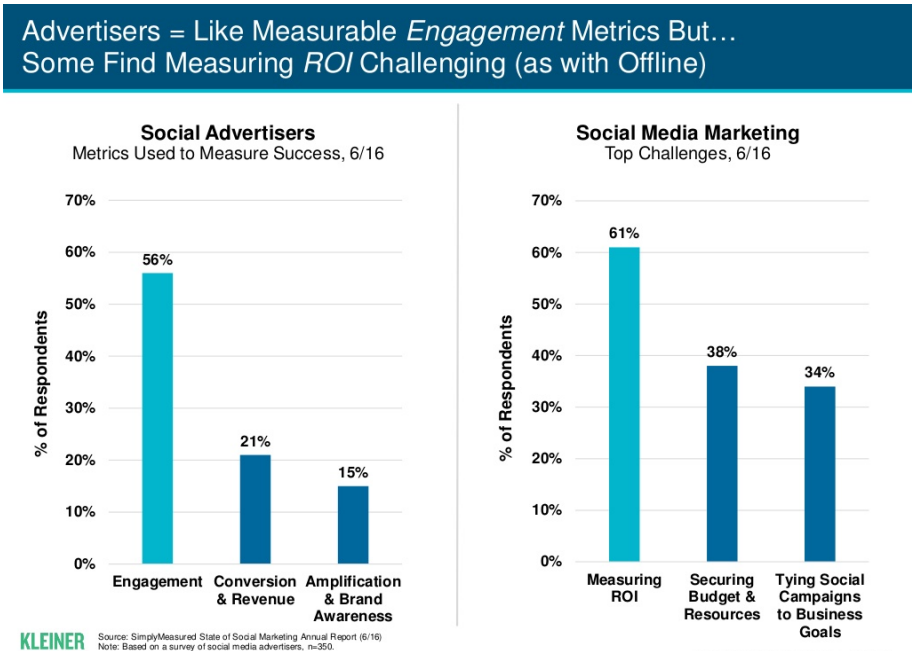
On the other hand, internet users often will be interrupt by advertising.So far in internet history, the users' attention (traffic) did not bring the users themselves any benefits. More and more users choose to use AdBlock to block the advertising content on the webpage, the advertising effect is getting worse. So, is there a solution to return the value of traffic to the users their own, meanwhile users could have the option to receive the content related to themselves, and therefore receive the bonus?



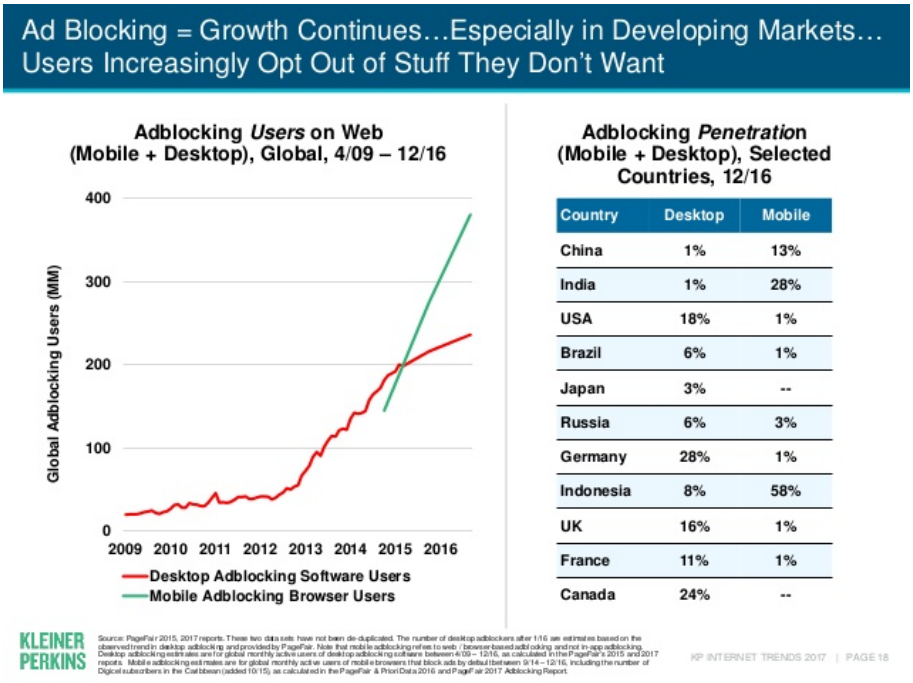
The Product / Market Fit



According to Mary Meeker 2017 Internet Trends report, the US Internet advertising market has reached 73 billion USD in 2016, Chinese Internet advertising market capacity reached 43 billion USD, the global Internet advertisement market is more than 150 billion USD. According to the financial releases, Google's global AD revenue reached $79.4 billion in 2016 and Facebook's global AD revenue reached 26.9 billion dollars, both a total of 100 billion USD. Google's online AD business gross margin is surely no less than 25%, which means the enterprises' marketing budgets for the intermediaries are far more than 35 billion USD.



From the viewpoint of advertisers, the ROI measurement of online advertising is the most concerned (61%) issue, followed by the security of the budget (anti-fraud), and finally the marketing campaign itself.



Internet users who has installed AdBlock to block ADs grows rapidly, the traditional Internet advertising's effectiveness is weakening. As the core value of Internet industry, the value which created by users' attention should be refunded to the user themselves rather than platform's profit.

Mission

Based on the Ethereum blockchain, we'll establish a decentralized marketing campaign distribution blockchain "**ProChain**". To release marketing quests by smart contract, real-time reward the promoters who have finished the quests. The token of ProChain is named "**PRO**", which meets the standard of ERC-20 token and can be traded through the Ethereum Blockchain. The share of no less than 60% of the PRO will be issued through the ICO, and the total amount of the token is limited to 10 billion. Advertisers can participating in the ICO to acquire tokens or buy tokens from cryptocurrency exchanges for marketing. The Promoters who complete the quests will earn PROs as a reward based on the quests' unit price and their influence. Meanwhile, the promoters are basically the customers themselves of the advertisers.

Why Blockchain

① Real-time settlement through smart contracts deployed on the Ethereum blockchain to avoid delays or fall into contractual disputes
② Eliminate no less than 25% of the intermediary costs by blockchain's natural features, saving business owners' budget, increase the promoters' revenue
③ Establish an account rating mechanism based on blockchain data analysis and machine learning. Advertisers can determine the delivery range by ProChain's data analysis platform, and identify the target users' characteristics
④ Through the unique POSt mechanism, eliminate the fraud risk in advertising totally

Solution

For Advertisers:

- Create an account
- Charge PROs to the account
- Create Quest's Smart Contract
  - Set up the start time & ending time
  - load PROs into the contract
  - Set up the unit price of the quest
  - Set up the bidding prize for ranking
  - Set up the threshold of promoters
  - Set up quest tags
  - Design promotional materials
  - Set up the core indicators of the quest such as views, clicks, app downloads, token distribution
- Release the contract
- Quest rankings by bidding prize
- Quest effectiveness assessment when it's finished
- Promoters' automatic rating

For Promoters:

- Create an account
- Charge a small security deposit to the account for Anti-Spam
- Enter ProChain DApp to claim quests which meet the requirements
- Complete the quest
- Promoting quests in his/her social network for bidding prize

- According to the power of spreading to gain the corresponding share of bidding prize

$$YourPrize = \frac{ln(PPL_n)}{\sum_{n \in N} ln(PPL_n)} \times BiddingPrize$$

  - The bonus share is positively correlated with the Natural logarithm of the users who are following you meanwhile completed the quest
  - The bidding prize is an important part of the contract, when the quest completed, the promoters can call the smart contract to claim their prize

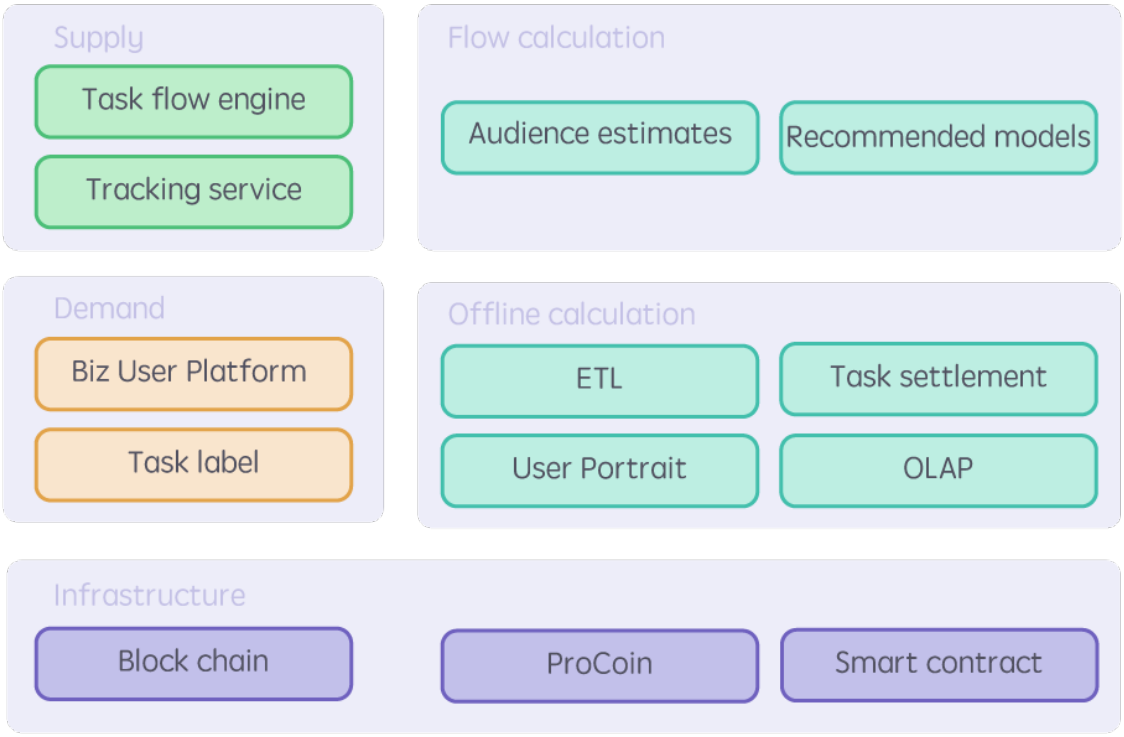
For a special account, it can be used as a quest issuer, but also as a quest promoter. ProChain will deploy a bidding mechanism to ensure the quests away from abusing. Each release of a contract is required to charge at least 1PRO. The full reward which divided by the target promoters' number can calculate the unit price. Each public quests can be sorted by time, unit price or bidding prize. Bidding prize is an additional bonus for promoters.

For enterprises, they can also choose private promotion mode. The project's promotion would only been informed by the users who know the quests' link, private contract will not show in the ProChain DApps.

Accounts

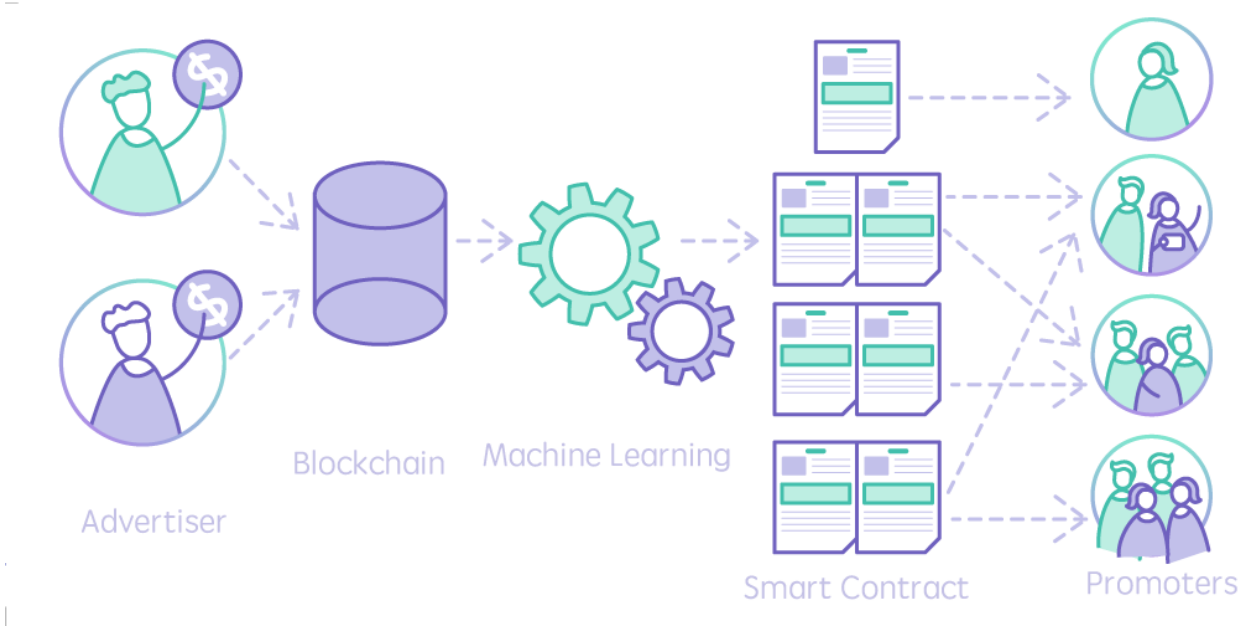
Through the ENS account system, we'll provide unique nicknames for accounts which are willing to pay a small amount of fees on ProChain. Based on the account system, relationships could be established between promoters. When a promoter complete a quest, all his/her friends will receive a notification. If one completed a quest through the promoter's notification or shared link, he/she will become a sub-member of the promoter on this quest. During the quest's viral spreading process, each account has only one unique precursor account. These information will be fully recorded into the ProChain's blockchain.

Decentralized Quest Flow

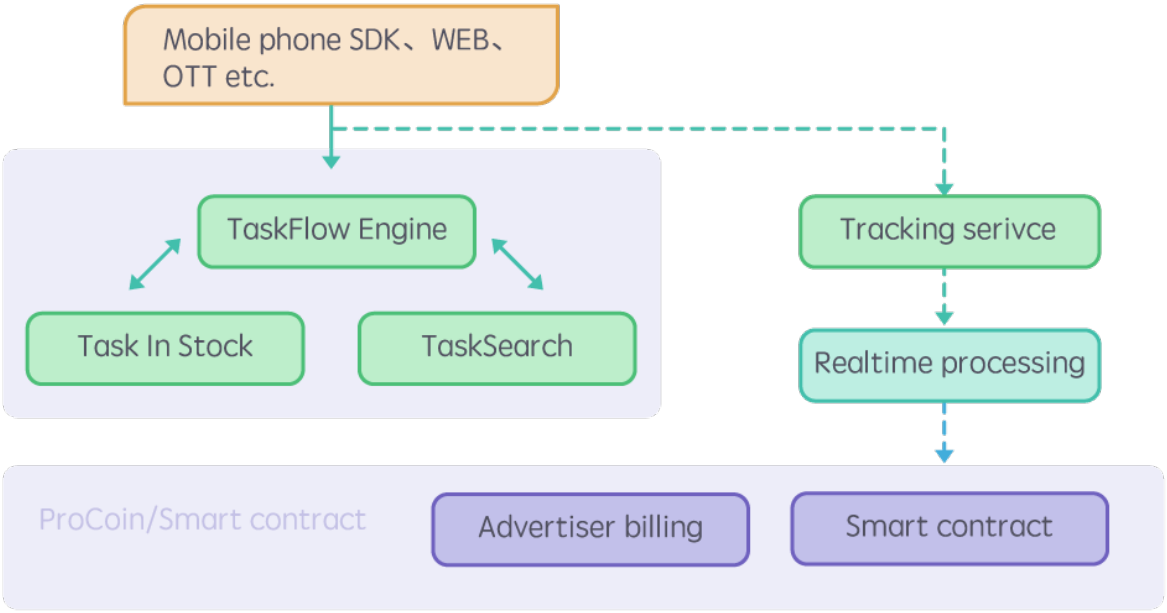


The blockchain itself is naturally a database. In the process of both sides by the transaction, the third party must know and verify the authenticity and legitimacy of the transaction. Therefore, based on the full-chain data, a decentralized quest flow engine can realize the personalized quest recommendation according to the user's preference through the data mining/analysis and the machine learning algorithm.

DQF data processing flow:



DQF distribution and tracking technical plan:



Quest Matching Mechanism

In order to precisely locate the customers, ProChain will provide filters for the quest publishers. Such as account balance, POSt weight, whether this account has finished a similar quest, credit rating, label settings and many other filters.

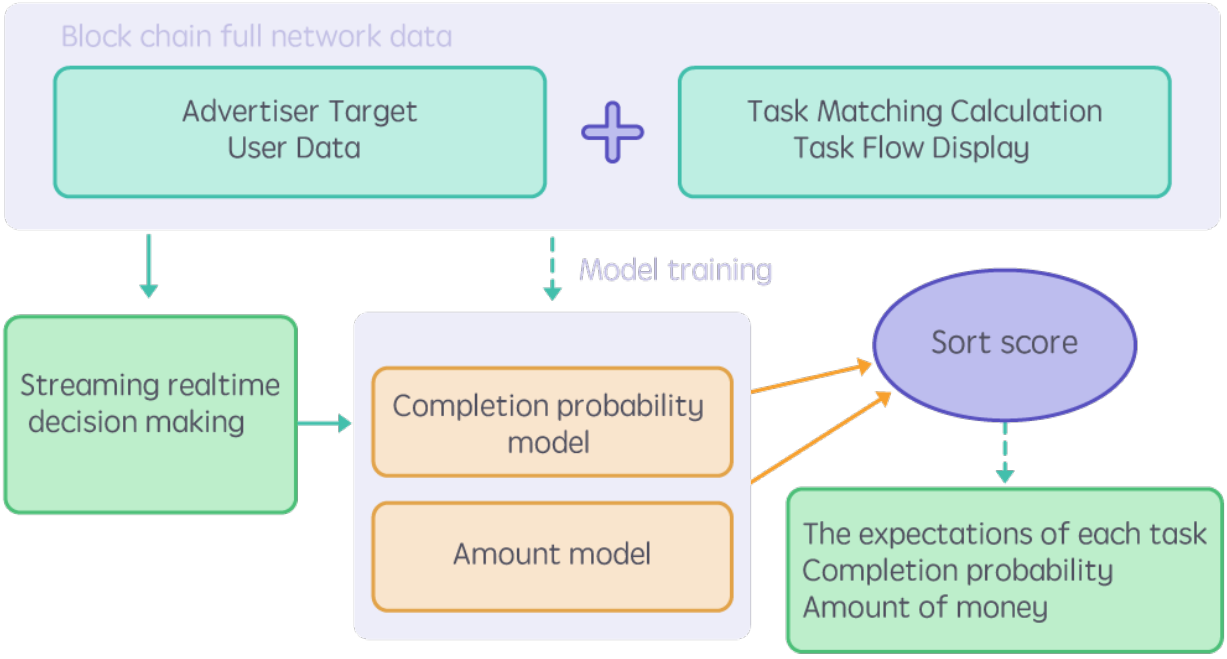
- Account balance: accounts should be above a certain limit which can claim the quest
- POSt threshold: accounts should be above a certain POSt weight that can claim the quest
- Whether have taken a similar quest: only new promoters can claim the quest
- Credit Ratings: according to ProChain's credit rating system, only high rating accounts can claim the quest
- Label matching: each quest can set up three labels (similar to the keywords in search engines), the promoters can query specific type of quests through the labels

According to the Pearson formula, calculating the similarity between user and tags

$$sim(u,v) = \frac{\sum_{a \in P_{uv}} (R_{u,a} - \overline{R_u})(R_{v,a} - \overline{R_v})}{\sqrt{\sum_{a \in P_u} (R_{u,a} - \overline{R_u})^2} \sqrt{\sum_{a \in P_v} (R_{v,a} - \overline{R_v})^2}}$$

Machine Learning Model (GBDT)

Model explanation: According to the full data of blockchain, as well as the advertiser's goal, the user's behavior preference, training sorting model to calculate the probability and amount of a quest's completion



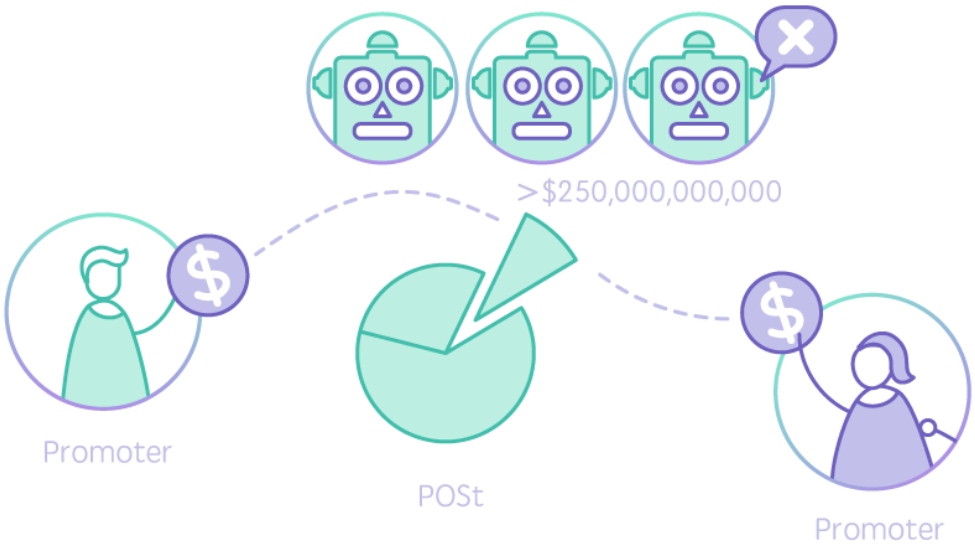
Using the GBDT model, the AUC (Area Under Curve) index was used to evaluate and validate A/B test in time.

POSt Mechanism

POSt is based on the account balance "POS" and period that the balance stayed in the account. The specific calculation is:

$$POSt = \sum_{n \in N} PRO_n \times (TimeStamp_2 - TimeStamp_1)$$

In other words, an account that wants to claim a quest requires holding PRO, and ensure this part of the PRO is not traded for a certain period of time. This strategy can effectively prevent from bulk claiming quest by robots. When an account complete a specific quest, the account's POSt will be reset to zero and recalculated. The higher unit price of a quest, the higher POSt weight will be required.



Refund Confirmation Mechanism

Promoters

- For a certain quest, all users who meet the POSt requirements of the quest can be promoters.
- A promoter can use PC / Html5 / SDK to generate a referrer link or QR-code.
- The users who complete the task by referrer link will be marked on the ProChain in order to determine the final reward share

Users

- A user can complete a quest with referrer link or QR-code and associate it with the promoter.
- After a quest is completed, the user can generate their own referrer links for delivering the quest to more social relationships.

User Growth

The seed users of ProChain comes from the community and ICO participants. At the initializing period of ProChain, we will provide a small share of tokens for enterprises for testing their marketing campaigns. The promoters who complete the quests can forward the quest to their own social network via Facebook, Twitter, Snapchat and any other social media in order to get more PROs and enlarge their followers.

System Design

We will develop an ETH-based blockchain Dapp which is connected to the quests' database through a local synced blockchain or JSON-RPC. All contracts can be dynamically synchronized to the local database for efficient queries. Through the ProChain, the advertiser can query the status of a certain quest in real time. And the promoters can also check their sub-members who has completed the quest and calculate their shares of bidding prize. Before the blockchain storage scheme landing such as IPFS, ProChain will store high-volume static data such as images and vidETH through the traditional storage method. When IPFS deploys, ProChain will connect to these service for quests' data Storage and distribution

User Client and SDK

Full platform coverage, including Mac, Windows, iOS and Android. We will provide SDK for other ETH Dapps to access ProChain. At the same time, ProChain will provide API data interface. Advertisers can directly dock their CRM system with it. Before the client releases, the ProChain users can claim or create quests via any ETH blockchain browsers such as Metamask.

SCENARIO FOR USAGE

Mobile App Installation

A mobile internet company has developed a new App, and willing to distribute this new App through ProChain. The enterprise set $500,000 marketing budget and expect to get 500K installations. Then the advertiser buy $500,000 equivalent PROs (assume 500,000 units) from the cryptocurrency exchange. Through ProChain the advertiser set up the evaluating method and promoting period, releases a smart contract with 500,000 PROs as a mortgage, the unit price for each installation will be 0.96 PRO. Of which 20,000 PRO as bidding prize for ranking a good position.

Alice noticed this quest among the biddings on ProChain Dapp, and her account meet the requirements. Then Alice click on the quest to learn more. After installing the app and move back to quest page, Alice click on "mission accomplished" at the bottom of the page, immediately get 0.96 PRO. And her friends on ProChain will received a message: "Your friend Alice just completed a quest, get 0.96PRO in reward, would you like to learn more?" So more and more people complete the quest and spread to their friends until the budget of 500,000 PROs exhausted. When the campaign finished in putting up, the PROs binding with the bid of 20,000 PROs will be allocated to Alice and other promoters who has completed the quest and succeed in developing sub-members.

Token Distribution

A team is developing a decentralized application, the token is called CAT. The team hopes to get the Dapp's seed users, and willing to put 10M CAT tokens for early promotion. The team buy 100,000 PRO from the cryptocurrency market with the minimum amount 1 PRO to release a new quest. All the other 99999 PROs are set up for bidding prize. The one who watch the AD for 30 seconds can receive 1000 CAT with a total of 10,000 units.

Bob noticed the quest, watch the ad for 30 seconds, and then pop-up a "mission accomplished" button below. Bob gets 0.0001PRO after clicking meanwhile sends a transaction to the contract for claiming the CAT tokens. And then bob deliver the quest to his friend. When the quest completed, 99999 PRO will be distributed according to promoters' influence. Bob can claim his share by calling the smart contract. And the team will send CAT tokens later or automatically send them by smart contract in order to reach their goal.

PROCHAIN DEV TEAM AND ICO RELATED

Purpose for Crowdfunding

Raising funds through the ICO to initiate the ProChain project and distribute PROs. All funds raised will be put into product's development, team expansion, blockchain initialization, inviting consultants and so on. As the project carry forward, our team will gradually release reserved tokens for inviting and motivating high-level engineers to join the development team.

ICO Schedule

The total amount of PRO is **10 Billion**, and the ICO will last for **30 days**. The fund-raising target is **40000 ETH**, with the minimum of **20000 ETH**. During the period of ICO, once the fund raised has been more than **40000 ETH**, the ICO process will be terminated. No more than 40000 but more than 20000 ETH, according to the number of ETH invested to calculate the share of PROs with allocating a total of 6 billion tokens. In the premise of raising 40000 ETH, each ETH can be converted into 150K PROs; if we raises 30000 ETH, each ETH can be converted to 200K PROs; if we raises 20000 ETH, every ETH can be converted into 300K PROs

Budget Allocation

Core Development Team 10%, all shares will be locked for one year and then release 1/12 per month

Early Investors and consultants 10%

Operating Fee 20%, Including advertisers' subsidy 2%, partners' subsidy 2%

ICO Crowdfunding 60%

Team Members

David Qi

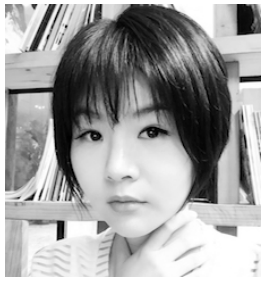
Data system designer, former Tencent strategy & big data analyst. Created music-DAO GRASSU in 2009

Jinglei Zhang

Core system designer, Full stack engineer, former Tencent engineer and engaged in the backend, search and recommend system development

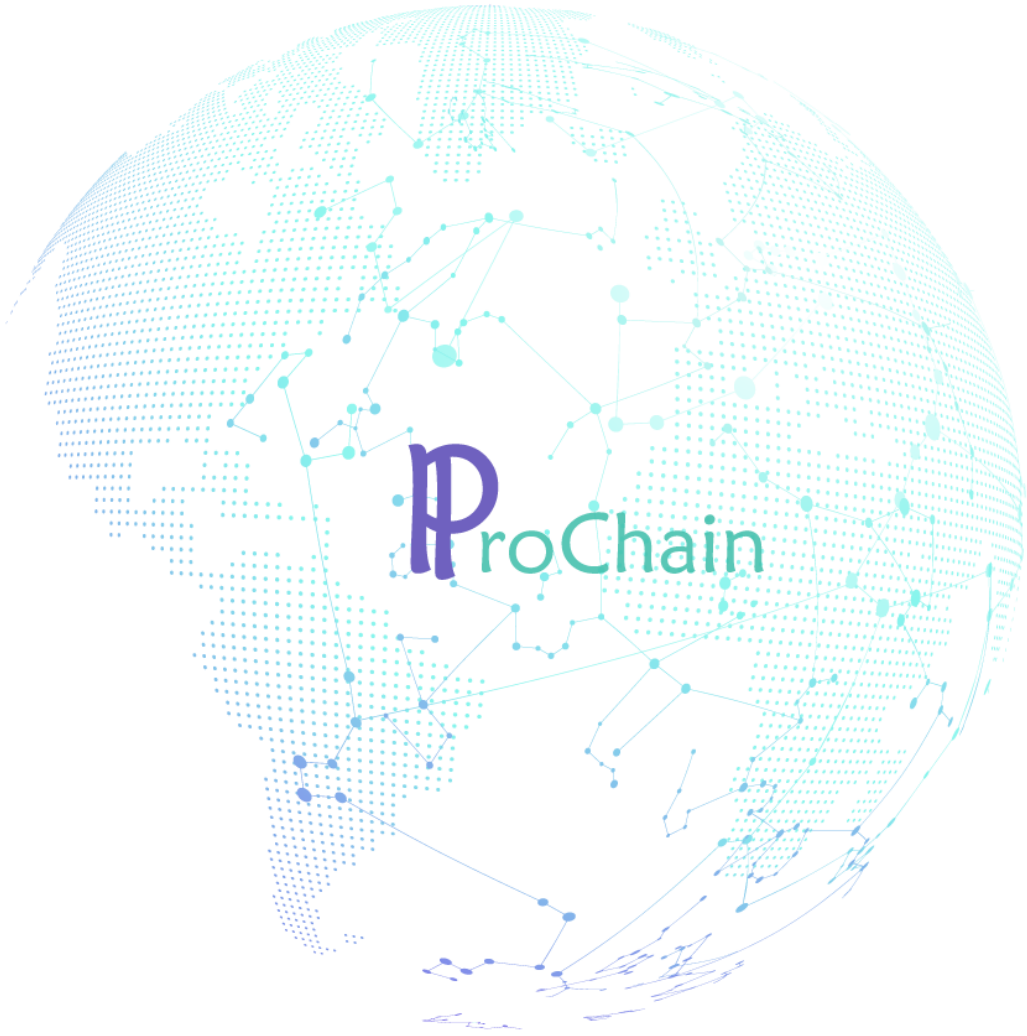
Yuyao Yang

ProChain Dapp designer, Dummi Studio co-founder, Bitshares senior player, 6 years' experience in cryptocurrency investment



Jiaying Liu

Marketing, former NCFGroup TWT founder, ChunYu doctor co-founder, former Tencent user experience designer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