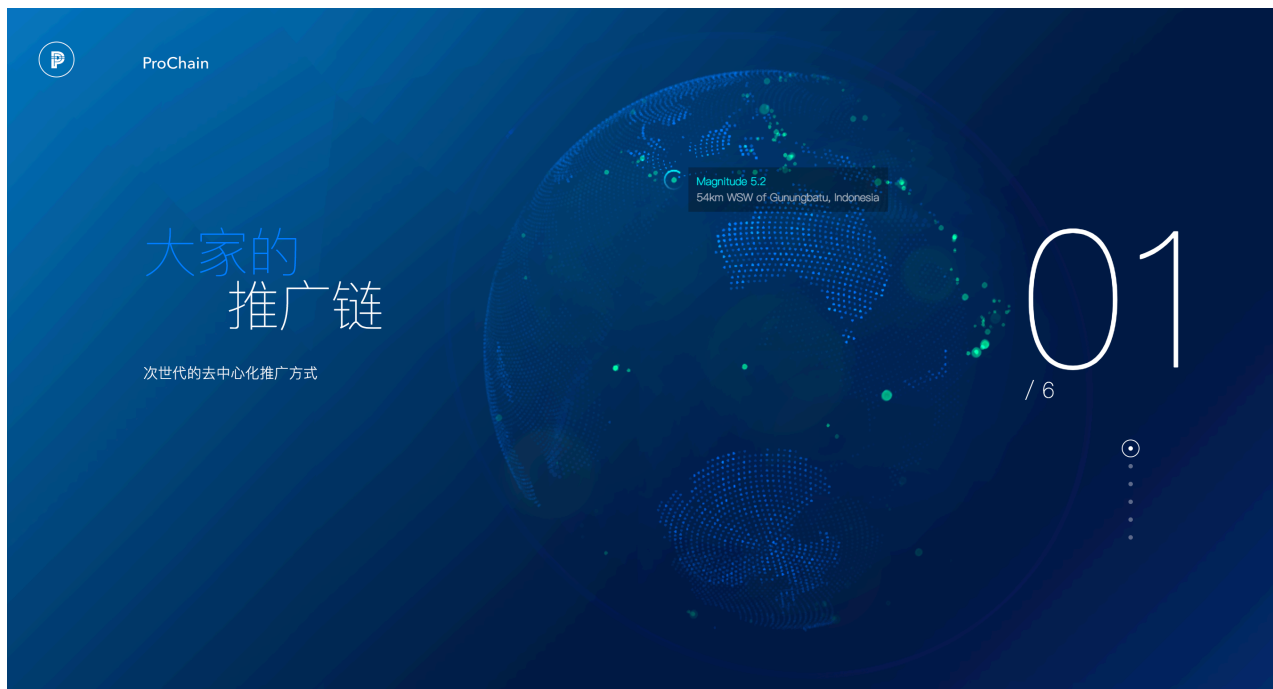# ProChain - The NextGen Decentralized Blockchain for Promotion

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INTRODUCTION

The Original

From the enterprise point of view, how to distribute marketing budget and optimize the channel, so that it can accurately and quickly convey to the target customers has always been the rigid 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 and medium enterprises to enter is too high. So is there a mechanism to optimize the enterprise's marketing resources, so that the results can be tracked, quantified, and regardless of the size of the enterprise can benefit from it?

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, an App user installation costs as high as 2 to 3 USD, and some special types of users, the cost is even up to hundreds of dollar. So whether there is a mechanism to eliminate the intermediary costs of the platform, with technical means to reduce advertising fraud, reduce business costs, while reducing user privacy disclosure?

On the other hand, in the process of building social relations, people tend to pay a lot of money and energy. In fact, the vast majority of online social relations such as WeChat, microblogging is inefficient or even ineffective. So whether there is a method, in cooperation with friends on win-win situation, at the same time monetize the social relations?

The Product/Market Fit
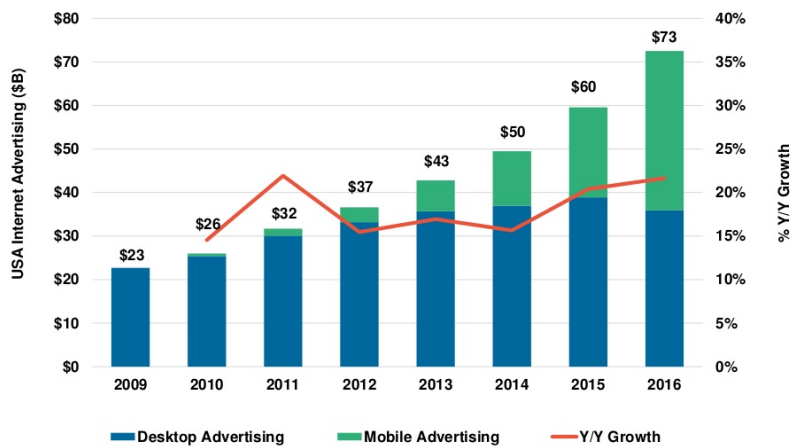
According to Mary Meeker 2017 internet trends reported in 2016, the US Internet advertising market reached 73 billion US dollars, China's Internet advertising market capacity reached 290 billion yuan, the global Internet advertising market more than 1 trillion yuan. According to the financial releases, Google global advertising revenue reached $ 79.4 billion in 2016, Facebook global advertising revenue of 26.9 billion US dollars, both a total of 734 billion RMB. Google's online advertising business gross margin is surely not less than 25%, which means that the enterprises' advertising cost to the platform is far more than 250 billion RMB.
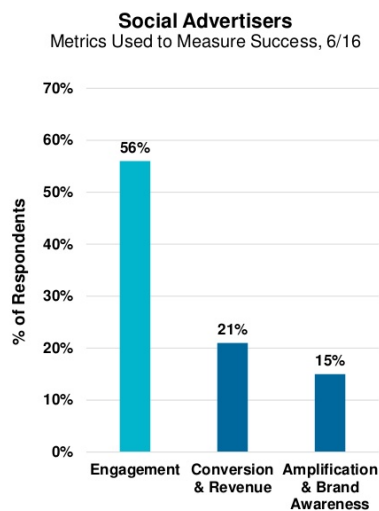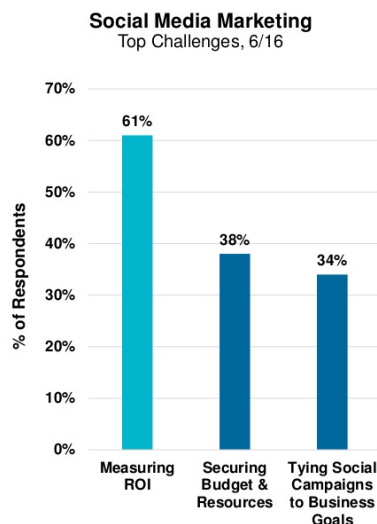
From the point of view of business needs, the ROI measure of online advertising is the most concerned (61%) issue by the advertisers, followed by the security of the budget and resources (anti-fraud), and finally the marketing scheme itself.
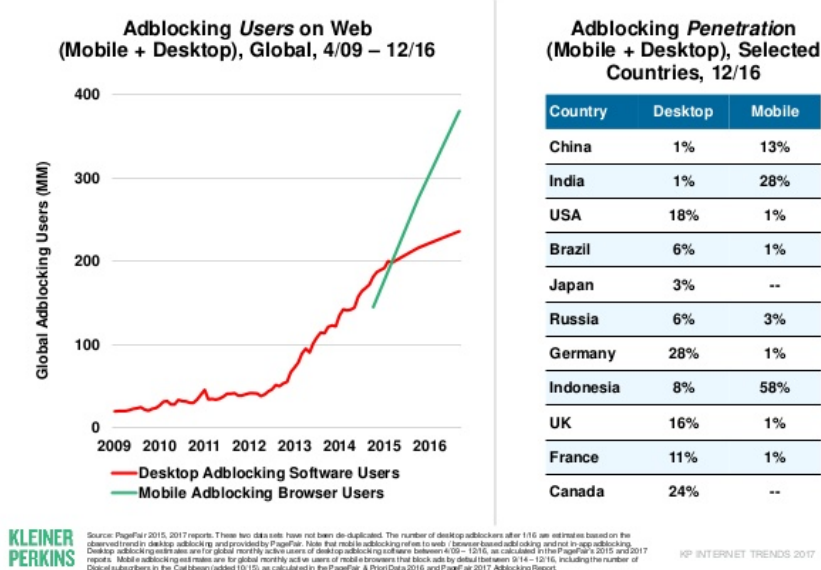
Global Internet users use AdBlock to block online advertising trends rapid growth, the traditional Internet advertising's effectiveness is weakening. As the core value of the Internet industry, the value which created by users' attention should be returned to the user themselves rather than platform profit.

Mission

Based on the EOS blockchain, we'll establish a decentralized marketing campaign distribution platform "ProChain". To create marketing campaigns by smart contract, real-time reward the tasks which have been completed. The token of the platform is named "PRO", which meets the standard of upcoming EOS application tokens and can be traded through the EOS system. 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 Crypto Market for marketing. The Promoters who completes the task will receive the corresponding PRO token as a reward based on the completion of the task and the power of the individual influence.

Why Blockchain

① Real-time settlement through smart contracts deployed in the EOS blockchain to avoid delays or fall into contractual disputes
② Eliminate no less than 25% of the intermediary costs by Blockchain features, saving business owners' budget, increase promoters' revenue
③ Create an account rating mechanism based on big data analysis and machine learning. Advertisers can determine the delivery range by ProChain 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 PRO tokens to the account
- Create Campaign Smart Contract
  - Set up the start time & ending time
  - load PRO tokens into contract
  - Set up the unit task price
  - Set up the bidding prize
  - Set up the threshold of target promoters including wallet balance, Coinday, whether have finished a similar task, Anti-Spam ranking…
  - Set up campaign tags
  - Design promotional material
  - Set up the core indicators for the campaign such as views, clicks, share to the social media, app download, token distribution…

- Release the contract
- Campaign rankings by bidding prize
- Task finished and effect assessment
- Promoters' automatic rating

For Promoters:

- Create an account
- Charge the security deposit for Anti-Spam
- Enter ProChain DApp for claiming the campaigns which meet the requirements
- Complete the task
- Promoting campaigns in his/her social media for bidding prize
- According to the power of spreading to gain the corresponding share of bidding prize

$$YourPrize = \frac{log(Num)}{\Sigma(log(Num))} * BiddingPrize$$

- The bonus share is positively related to the logarithm of the users who are following you
- The bidding prize is an important part of the contract, when the task is fully completed and into the completion of the state, the promoters can call the smart contract to obtain the award

Anti-Spam mechanism: account balance need to reach at least 1PRO to accept a mission

For a special account, it can be used as a task issuer, but also as a task executive. ProChain will introduce a bidding mechanism to ensure the task away from abusing: each release of a contract are required to charge the bottom of the amount of 1PRO, this amount divided by the target user number can calculate the advertising unit price. Each of the public tasks can be sorted by time, unit price or bidding prize. Bidding is an additional bonus for promoters

For enterprise, it can also choose a private promotion mode. The project's promotion would only been informed by the users who know the campaign's link, private contract will not listed in the ProChain DApps.

Accounts

Through the EOS account system, we provide a unique nickname for accounts that are willing to pay a small amount of fees on the ProChain. Based on the account system, relationships could be established between users. When a user complete a task, all his/her friends will receive a notification. If one completed a task through the user's notification or shared link, he/she will become the user's sub-member on this campaign. In the campaign's viral spread process, each account has only one unique preamble account, the mission accomplished information will be recorded one by one into the blockchain.

User Growth Hack

The seed users of the ProChain comes from the community and ICO participants. At the initializing process of ProChain, we will provide a small share of tokens for enterprises to test their campaigns. The promoters who complete the task can forward the task into their own social network via Wechat, Weibo, Twitter, Facebook and any other social media in order to get more PROs and enlarge their network.

Campaign Tags

In order to locate the customers, ProChain will provide filtering for the campaign publishers. Such as account balance, Coinday weight, whether the account has finished a similar campaign, Anti-Spam rating, label settings and many other filters.

- Account balance: accounts should be above a certain limit that can claim the task
- Coinday threshold: accounts should be above a certain coinday that can claim the task
- Whether have taken a similar task: only new user can receive the task
- Anti-Spam Ratings: According to ProChain's big data rating system, only a high rating account can claim the task
- Label matching: each task can be set up three labels (similar to the keywords in search engines), the user can query a specific type of task through the labels

去中心化任务流（Task Feeds Flow）

区块链本身是一个数据库，在区块链双方交易过程中，第三方必须知晓并核实交易的真实性、合法性。因此基于全链数据，一个去中心化的任务流引擎，能够通过数据挖掘分析和机器学习算法，以智能合约的方式实现，计算出符合用户偏好的个性化任务流。

它的数据处理流程如下：
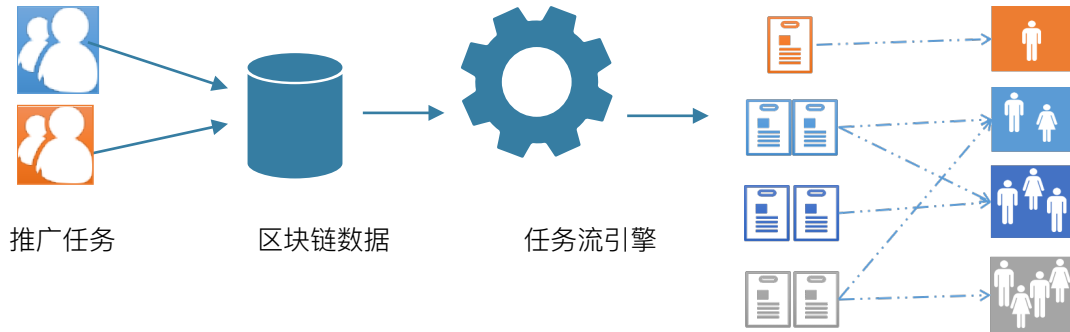
其中，对任务相似度的计算逻辑如下：

任务u和v的相似性

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

对任务偏好的分析逻辑如下：

基于区块链任务数据的机器学习方式

任务完成的程序识别技术方案：

POSt Mechanism

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

$$COINDAY = \Sigma(Balance * (Timestamp_2 - Timestamp_1)$$

In other words, an account that wants to receive a task requires holding PRO coin, and it is necessary to ensure that this part of the ProCoin is not traded for a certain period of time. This strategy can effectively prevent the bulk establishment of the robot account and also the bulk claim task. When an account completes

a specific task, the account's coinday will be zeroed and recalculated. The higher the unit price of a task, the higher coinday will be required

System Design

We will develop an EOS-based blockchain browser that connects to the task database through a local sync blockchain or JSON RPC. All campaign contracts can be dynamically synchronized to the local database for efficient query. Through the txID, the advertiser can query the status of a certain task in real time. And the promoters can also check their sub-members who has completed the campaign and calculate their share of the bidding prize. Before the blockchain storage scheme landing, such as IPFS, ProChain will store high-volume data such as images and videos through the traditional storage method. When IPFS deploys, ProChain will connect to these service for campaigns' data Storage and distribution

User-Client and SDK

Full platform coverage, including Mac, Windows, iOS and Android. We will provide SDK for other Dapp developers to access ProChain, providing an API for advertising. At the same time, ProChain will provide API data interface. Advertisers can directly dock their CRM system with SDK. Before the client is released, the ProChain users can claim or create campaigns via metamask or other EOS blockchain browser.

SCENARIO FOR USAGE

Promotion for New Product

A firm has developed a new product, and willing to promote the products through the ProChain. The enterprise set $500,000 marketing budget and expect to attract 100,000 customers concerned. Then the firm buy $500,000 equivalent PRO tokens from the coin exchange. Through the ProChain Dapp the enterprise set up the evaluation method and promoting period, issue smart contract with ProCoins as a mortgage, the price for each Unique Viewer will be $4.8 equivalent ProCoin. Of which $20,000 as bidding prize used for bidding a good position on ProChain DApps.

User Alice noticed this task among the biddings on ProChain, and her account meet the requirements. Then Alice click on the task to learn more. After reading the ad for 30 seconds, at the bottom of the page Alice click on "complete the task", immediately get $4.8 equivalent ProCoins. And her friends on ProChain will received a message: "Your friend Alice just completed the task, get $4.8 in reward, would you like to learn more?" So more and more people complete the task and spread to their friends until the budget of $500,000 exhausted. When the campaign finished in putting up, the ProCoins corresponding to the bid of $ 20,000 will be allocated to Alice and other promoters who has completed the task in accordance with their sub-members.

In practice, not only advertisers can use CPM model to promote, they can also use CPC or CPA or CPS mode and even more.

Token Distribution

A team is developing a Dapp application, the token is called CAT. The team hopes to find the Dapp's seed users, and willing to put 10 million CAT tokens for pre-promotion. The team buy 100,000 PRO from the coin market, and the minimum amount required to create a campaign is 1PRO. All the other 99999PRO is set up for bidding prize. The team create a smart contract for token distribution. The one who watch the ad for 30 seconds can receive 1000 CAT with a total of 10,000 units.

ProChain user Bob noticed the task, watch the ad for 30 seconds, and then pop-up a "mission accomplished" button below. Bob gets 0.0001PRO after clicking, and sends a transaction claiming for the CAT token to the team. When the campaign finished, 99999 PRO will be distributed according to promoters' influence, and Bob can receive PRO by calling the smart contract function. And the team will send CAT tokens one by one to complete the purpose of seed users promotion.

PROCHAIN FOUNDATION AND ICO RELATED

Purpose for Crowdfunding

Raising funds through the ICO to initiate the ProChain project and distribute PRO tokens, all funds will be put into product development, team expansion, project initialization, inviting consultants and so on. As the project carry forward, the team will gradually release ProCoins for inviting and motivating high-level engineers to join the development team.

ICO Schedule

We provide 10%, 8%, 6%, 4%, 2% bonus for ProChain ICO with a gradual decay mechanism by the block height of Ethereum. Investors who put money into ICO at the start of the project will receive up to 10% bonus of the PRO tokens, and the bonus tends to decay to 0% as the ICO process forwarding. From the beginning of ICO, about every 5 days the bonus will reduce 2%

The total amount of the ProCoin is 10 billion, and the ICO lasts for 30 days. The crowdfunding target is 6 million EOS, with the minimum fund-raising amount of 3 million EOS. In the period of ICO, once the fund raised is more than 6 million EOS, the ICO process will be terminated. Not more than 6 million but more than 3 million EOS, according to the share of EOS to calculate the number of ProCoins with allocating all 6 billion tokens. In the premise of raising more than 6 million EOS, each EOS can convert to 1000 PRO; if we raise 5 million EOS, each EOS convert to 1200 PRO; if we raises 3 million EOS, every EOS could convert to 2000 PRO

Budget Allocation

Core Development Team 10%

Early Investors, Talent Developers, Consultants 10%

Operating 20% (Including 6% ICO bonus, firms subsidy 2%, new promoters subsidy 2%)

ICO Crowdfunding (60%)